Masyarakat Indonesia

Volume 39, No. 2, Desember 2013

LEMBAGA ILMU PENGETAHUAN INDONESIA
YAYASAN PUSTAKA OBOR INDONESIA
JAKARTA, 2014

MASYARAKAT INDONESIA
MAJALAH ILMU-ILMU SOSIAL INDONESIA

Volume 39 No. 2, Desember 2013

TABLE OF CONTENTS

ACKNOWLEDGMENTS

The Editors of the Special Edition of Masyarakat Indonesia in Honour of Professor Anne Booth would first of all express their great appreciation and heartfelt thanks to

- Professor Dr. Aswatini, Deputy Head, the Indonesian Institute of Sciences for the Social Sciences and Humanities for writing a foreword for the Special Issue and for her kind willingness to officiate at the launch of the Festschrift
- Associate Professor Budy P. Resosudarmo, Head of the Indonesia Project at The Australian National University, Canberra, for allocating part of the funds of the Indonesia Project, to pay for the return fare London - Jakarta of Professor Anne Booth.
- Dr. Siwage Dharma Negara, Chief Editor of Masyarakat Indonesia, and his associates at Masyarakat Indonesia for their competent and meticulous editing of the Festschrift.
- All the contributors to the Festschrift for their kind willingness to contribute a paper for the Festschrift.

Leiden and Jakarta, December 2013

The co-editors of the Festschrift:
J. Thomas Lindblad and Thee Kian Wie

FOREWORD

by

Deputy Chairman for Social Sciences and Humanities

Indonesian Institute of Sciences *(IPSK - LIPI)*

This edition of *Jurnal Masyarakat Indonesia* pays a tribute to Professor Anne Booth of the Department of Economics, School of Oriental and African Studies (SOAS), University of London, who retired by the end of 2013. Professor Anne Booth is an eminent scholar specialized in the economy and history of the Southeast Asian nations, with particular reference to Indonesia. Her book, 'The Indonesian Economy in the Nineteenth and Twentieth Centuries (1998), published during the period of Asian Financial Crisis, became an invaluable source of reference for other scholars interested in the economic and social history of Indonesia. Professor Anne Booth is also known for her monograph *Agricultural Development in Indonesia* (1988). She published two influential edited volumes: A. Booth, W.J. O'Malley and A. Weidemann (eds), *Indonesian Economic History in the Dutch Colonial Era*, (1990), which is widely regarded as the first survey of modern economic history of Indonesia, and A. Booth (ed.) *The Oil Boom and After; Indonesian Economic Policy and Performance in the Soeharto Era* (1992). In addition, her works span for more than four decades in which she has written a long list of influential contributions in journals and edited volumes.

Professor Anne Booth has consistently applied systematic quantitative macroeconomic analysis in combination with a more qualitative evaluation of government policy and economic theory in all her works. She gives careful attention to a balanced analysis of the colonial and the independent eras of Indonesian history, to draw parallels and make comparisons. By doing this, she is able to visualize a long-term view on economic development, an approach which has often been overlooked by economists and historians of a younger generation.

By way of tribute, it seems appropriate to reflect on and update some work of the Indonesian specialists and scholars which links to Anne Booth's previous works. This tribute has been prepared by two of Professor Anne Booth good friends, Dr. J. Thomas Linblad and Dr. Thee KianWie, who have been diligently contacting paper contributors, and vigorously reviewing the manuscripts. The group of contributors to this volume is distinguished in one way or another by close association with Professor Anne Booth, and this collection of their works is dedicated to her on the occasion of her retirement.

It is an honor for the Indonesian Institute of Sciences (LIPI) to celebrate the contributions of Professor Anne Booth to the advancement of knowledge and understanding about the Asian development, in particular the Indonesian economic and social development. I congratulate Professor Anne Booth for her long time contributions and achievements. And, on behalf of LIPI I would like to wish you all the best for your retirement!

Prof. Dr. Aswatini
Deputy Chairman for Social Sciences and Humanities
Indonesian Institute of Sciences (IPSK - LIPI)

IN MEMORIAM THEE KIAN WIE

J. Thomas Lindblad and Siwage Dharma Negara

Leiden University and Indonesian Institute of Sciences (LIPI)

This special issue of *Masyarakat Indonesia* was jointly prepared by Thee Kian Wie and Thomas Lindblad. It is singularly sad that Thee Kian Wie did not live to see this publication appearing in print. Pak Thee, as he was affectionately called by his many colleagues and friends, passed away after a brief illness on Saturday 8 February 2014, aged 78.

Thee Kian Wie was born in Jakarta on 20 April 1935. He was a student of economics at the newly founded *Fakultas Ekonomi* of the *Universitas Indonesia* in the 1950s, graduating with a Doctorandus degree in 1959. Right after graduating from the University of Indonesia, he started his professional career as an Administrative Officer, at the Indonesian Council for the Sciences (Majelis Ilmu Pengetahuan Indonesia or MIPI), which was a predecessor of LIPI. In 1962, he became a researcher at LEKNAS-LIPI. In 1976, Thee Kian Wie was promoted as a Senior Research Associate (*Ahli Peneliti Utama)*. For more than half a century, he remained attached to LIPI, even after his retirement in 2000, coming to his office at Jalan Gatot Subroto 10 in Jakarta daily almost up to the very end of his life. He was remembered as the longest serving researcher at LIPI. He did a Master in economics at the University of Wisconsin in Madison, USA, where he in 1969 obtained his PhD with a dissertation entitled *Plantation Agriculture and Export Growth; An Economic History of East Sumatra, 1863-1942* (Jakarta 1977). He served as an assistant director of LEKNAS-LIPI between 1974 and 1978 and as head of the *Proyek Penelitian Perspektif Perekonomian Indonesia* during the years 1975-1978, a study initiated and supervised by the late Professor Sumitro Djojohadikusumo, Minister of State for Research. When LIPI was re-organized in 1986, Thee Kian Wie became the first Head of Centre for Economic and Development Studies (PEP-LIPI). He served as the head of PEP LIPI from June 1986 until

July 1990, during which period he was able to send several young researchers to continue their postgraduate degree in the UK and Australia. Pak Thee resigned as the head of PEP LIPI in late June 1990 to accept a position as Visiting Fellow at the ANU's Indonesia Project. He was, amongst others, a guest professor at the Universitas Sriwijaya in Palembang, a frequent visiting scholar at the Australian National University in Canberra (1982/83, 1990/91, 1997, and 2007), a visiting fellow at the Netherlands Institute of Advanced Study in Wassenaar (1994/95) as well as a short-term visiting scholar with the International Centre for the Study of East Asian Development (ICSEAD) in Kitakyushu (2001). He had been a Senior Visiting Research Fellow at the Institute of Southeast Asian Studies (ISEAS), Singapore (2002), as a Sir Allen Sewell Fellow at the Griffith Asia Pacific Research Institute (GAPRI), Griffith University, Australia (2003) and as a Visiting Fellow at the Asian Development Bank Institute (ADBI) in Tokyo (2005).

Pak Thee was an extraordinarily prolific writer, covering a wide range of topics in economics and economic history. Between 1972 and 2007, he published eight books, nine collective volumes, 17 scientific papers as well as 45 book chapters and 38 academic articles in English next to numerous articles in Indonesian journals and newspapers. His last book was entitled *Indonesia's Economy since Independence*, published by ISEAS, Singapore in 2012. He was honoured at his 65th birthday with a special issue of the *Bulletin of Indonesian Economics Studies* (vol. 36, no. 1, April 2000) and at his 75th birthday with a collective volume by historians, entitled *Merajut Sejarah Ekonomi Indonesia*, edited by J. Thomas Lindblad and Bambang Purwanto (Yogyakarta 2010).

Pak Thee was honoured on various occasions for his substantial contributions to scholarship in economics and economic history. In 2002 he was the recipient of the *Bintang Jasa Utama* and the *Bintang Jasa Nararya* of the Republic of Indonesia. In 2004 he was awarded an honorary doctorate (*Doctor Honoris Causa*) from the Australian National University in Canberra. In 2006 followed the Habibie Award for contributions to economic research in Indonesia and in 2008 the Sarwono Prawirohardjo Award for his achievements in economic research and many years of service to LIPI. *Kompas* celebrated him as *Cendekiawan Ekonomi Kompas* in 2008 and in 2010 he was appointed honorary member (*erelid)* of the Royal Netherlands Institute of Southeast Asian and Caribbean Studies (KITLV).

Pak Thee was not only an economist and economic historian of unusually high standard with a very impressive record of publications. He was above all a humble, humourus, energetic and warm-hearted human being, a splendid teacher, a good colleague and a dear friend. Generations of young scholars, both Indonesians and foreigners, have over the years benefitted from his generous guidance. Among foreign and Indonesian colleagues, he was famous for his unfailing loyalty and exceptional reliability, notably in promptly answering letters, later e-mails. Many of his young colleagues at LIPI and elsewhere will remember Pak Thee as a kind mentor and a role model who always encouraged them to pursue postgraduate study abroad to enable them to improve their knowledge. He always said that "Going abroad is not a right, it is a duty" to his young colleagues. He had a big hope that his younger colleagues in Indonesia will become much better scholars than he was. His great passion for reading and writing was famous to his colleagues and friends, with whom he always generously shared many of his 'mickey mouse' papers, articles and books. Thee Kian Wie made many friends - in Indonesia, Australia, the Netherlands, and elsewhere. They have all suffered a great loss and will cherish his memory with respect and affection.

A FOREWORD BY THE GUEST EDITORS: PROFESSOR ANNE BOOTH, EMINENT AND PROLIFIC SCHOLAR, GENEROUS FRIEND AND COLLEAGUE

J. Thomas Lindblad and Thee Kian Wie

Leiden University and Indonesian Institute of Sciences (LIPI)

This Festschrift in honour of Professor Anne Booth on the occasion of her impending retirement from the Department of Economics at the School of Oriental and African Studies (SOAS), University of London, is to celebrate Anne's formidable scholarly achievements and her generosity in sharing her research findings with her many colleagues, friends, and students.

University Education

Born in Wellington on the North Island of New Zealand, Anne, as her friends and colleagues call her, received her BA (Honours in Economics) at the Victoria University of Wellington in 1967. She subsequently pursued her postgraduate study in economics at the Australian National University (ANU) where she, under the guidance of the redoubtable Professor H.W. Arndt, wrote her doctoral dissertation on *The Ipeda Land Tax in Indonesia.* Anne received her PhD in economics in 1976.

Job Experience

After finishing her Ph.D. study, Anne took up a position as Visiting Lecturer at the Hasanuddin State University in Makassar, South Sulawesi. She served as Lecturer at the Department of Economics of the National University of Singapore from 1976 to 1979. She subsequently returned to ANU where she worked from 1979 to 1984 as Research Fellow at the Department of Economics at the Research School of Pacific Studies. During this period, Anne, together with her colleague, Peter McCawley, edited and wrote several chapters in the book *The Indonesian Economy during the Soeharto Era* (Booth & McCawley 1981). This was the first major book in English on the Indonesian economy during the Soeharto era, setting high academic standards for serious economic research on the Indonesian economy.

In 1984 Anne was promoted to Senior Research Fellow in the Department of Economics, a post she held from 1984 to 1991. In 1988 Anne took a one-year leave from ANU to take up a position as Chief Technical Adviser for the Employment Creation Strategy Project, with the Jakarta Office of the ILO/UNDP office in Jakarta. In this capacity, Anne was responsible for commissioning a series of reports on aspects of employment strategy in Indonesia, including a report on the garment and plywood industries in Indonesia, prepared by Thee Kian Wie, Ahmad Hamid and Sukarna Wiranta**.** During this period, Anne prepared two reports herself, one on employment in agriculture, and another on agricultural development in Indonesia.
In early 1991 Anne was appointed to the chair of Professor of Economics at the Department of Economics in the School of Oriental and African Studies (SOAS), University of London, a post she has held up to retirement.

Consultancies and Advisory Appointments

Anne has conducted several consultancies, including participation as a consultant in February 1978 in the World Bank Mission to Indonesia on 'Problems and Prospects of the Food-crop Sector'. From December 1980 to February 1981 Anne worked as a Consultant from to the UK's Overseas Development Administration and Indonesia's Department of Finance on
'Central-Local Contributions to the Financing of Agricultural Development'. Anne also participated in several seminars on central-regional financial relations in August 1980 and November 1981, held under the auspices of Indonesia's Ministry of Finance.

In 1985 Anne participated in a World Bank Mission to Bangladesh which lasted from September through October. Anne's participation in this Mission enabled her to gain a deeper understanding of the economic problems of other developing countries in Asia, besides her deep knowledge of the Indonesian economy.

In 1992 ILO/UNDP appointed Anne as Team Leader for an ILO/UNDP Comprehensive Mission on 'Employment Strategy and Human Resource Development' in Papua New Guinea (PNG). Anne edited the final report of this Mission which was subsequently published by ILO/ARTEP in 1993. This consultancy gave Anne a greater knowledge of the economic and social problems facing the largest country in the Southern Pacific region.

Publications

Anne has been an exceptionally prolific scholar, having published five monographs (Booth & Sundrum 1985; Booth 1988; Booth 1998; Booth 2007; Booth 2009). In addition, she edited or co-edited four volumes (Booth & McCawley 1981; Booth 1992; Booth & Moskey 2003; Both, Manning & Thee 2012). All nine books path-breaking and form an invaluable source of reference for other scholars interested in the economic and social history of Indonesia and other Asian nations.

Next to editing the volume of the Indonesian economy in the Soeharto era, Anne also wrote three chapters, one on fiscal policy, together with Peter McCawley; one on income distribution, co-authored with R.M. Sundrum, and a concluding chapter, co-authored with Peter McCawley (Booth & McCawley 1981). In the volume on Indonesia during the oil boom, Anne also wrote a chapter on fiscal policy, together with Mukul Asher, another chapter on the service sector in co-operation with Jennifer Alexander, and a third chapter on income distribution and poverty (Booth 1992). In the volume dedicated to Joan Hardjono, Anne wrote a brief introduction together with Thee Kian Wie as well as a perceptive chapter entitled 'The Performance of the Indonesian Agricultural Sector: Twelve Questions and Some Tentative Answers' (Booth, Manning & Thee 2012). This book received a favourable review by Tim Scott in *TEMPO* Weekly of 25 November 2012, and by Arianto Patunru in the *Bulletin of Indonesian Economic Studies* of April 2013.

Articles

In addition to the books mentioned above, Anne has over the past fifteen years published 21 book chapters, 21 articles in international, refereed journals and two other articles (Booth 2001; Booth 2005; Booth forthcoming).

Anne, a Generous Friend and Colleague

Anne has not only been an eminent and prolific scholar, but above all a generous friend and colleague. When she offers comments of her friends' and colleagues' books or articles, Anne only offers constructive comments or suggestions, never negative, let alone destructive comments.

Anne has never written critical book reviews, as she just refrains from writing critical book reviews, when she thinks that a book is badly written or contains erroneous analyses or conclusions.

Anne has also freely given her books, book chapters and journal articles to her friends and colleagues, interested in her perceptive analysis of the economic issues, challenges and performance of the Southeast Asian countries, particularly Indonesia, South Korea and Taiwan.

Anne is known for setting rigorous standards in scholarship and precision. As an individual, she has won widespread appreciation for her good heart.

BIBLIOGRAPHY

Books

Booth, Anne. 1988. *Agricultural Development in Indonesia*. Sydney: Allen & Unwin.

--------. 1998. *Indonesian Economic Development in the Nineteenth and Twentieth Centuries: A History of Missed Opportunities.* London/Basingstoke: Macmillan.

--------. 2007. *Colonial Legacies: Economic and Social Development in East and Southeast Asia.* Honolulu: University of Hawai'i Press.

--------. 2009. *The Economic Performance of the ASEAN Economies from the Mid-1990s.* London: Forum press.

Edited works

Booth, Anne and McCawley, Peter (editors). 1981. *The Indonesian Economy during the Soeharto Era.* Kuala Lumpur: Oxford University Press.

-------. (editor). 1992. *The Oil Boom and After. Indonesian Economic Policy and Performance in the Soeharto Era.* Singapore: Oxford University Press.

--------. and Moskey, P. (editors). 2003. *The New Poverty Strategies: What Have They Achieved? What Have We Learned?* London: Palgrave Macmillan.

--------. Manning, Chris and Thee Kian Wie (editors). 2012. *Land, Livelihood, the Economy and the Environment in Indonesia. Essays in Honour of Joan Hardjono*, Jakarta: Yayasan Pustaka Obor Indonesia.

Selected Articles

Booth, Anne. 2001. "The Historical Development of the Indonesian Statistical System".

-------. 2005. "Did It Really Help to be a Japanese Colony? East Asian Economic Performance in Historical Perspective".

-------. Forthcoming. "Accumulation, Development, and Exploitation in Different Colonial and Post-Colonial Contexts: Taiwan, Indonesia, and the Democratic Republic of the Congo, 1900- 1980". *Economics and Finance in Indonesia.*

THE INDONESIAN ECONOMY DURING THE SOEHARTO ERA: A REVIEW

Peter McCawley

Arndt-Corden Department of Economics,
College of Asia and the Pacific.
Australian National University

ABSTRACT

At the beginning of the 1970s it was easy to believe that the road ahead for Indonesia was difficult. But as the decade unfolded, the changes across the Indonesian economy, and the sustained growth, surpassed all expectations. Numerous dramatic events seized Indonesian and international attention during the 1970s including corruption issues, the 1972 rice crisis, the *Malari* riots of early 1974, and the impact of the first oil boom including the Pertamina crisis. Anne Booth and I reviewed these developments in our edited collection of articles on *The Indonesian economy during the Soeharto era*. Looking back, our edited volume captured the excitement of the 1970s and, perhaps, was rather too cautious in looking towards the further gains that changes in the next few decades would bring to Indonesia**.**

Keywords: Indonesian economy, Soeharto era, Crisis

INTRODUCTION

Over three decades ago Anne Booth and I cooperated to edit *The Indonesian Economy during the Soeharto Era*. The collection (Booth and McCawley 1981) was one of the first major surveys of economic developments in Indonesia during the early part of the *Orde Baru* period. We prepared our edited collection at the end of the 1970s, a decade during which Indonesia experienced both turbulent economic times and much economic progress. As a contribution to recognizing the remarkable contribution that colleague Anne Booth has made towards the study of both the Indonesian economy and global development issues, it seems appropriate to revisit the view of the Indonesian economy that we presented together at the end of president Soeharto's first decade in office. Looking back, our edited volume captured the excitement of the 1970s and, perhaps, was rather too cautious in looking towards the further gains that changes in the next few decades would bring to Indonesia.

THE 1970S IN INDONESIA

At the beginning of the 1970s it was easy to believe that the road ahead for Indonesia was difficult. There had been a recovery of sorts in the late 1960s, and in 1969 a new five-year plan, *Repelita I* (*Rencana Pembangunan Lima Tahun I)* had been launched. Nevertheless the challenges ahead looked very daunting, partly because the resources available to support any sustained development program seemed so meagre. But as the 1970s unfolded the changes across the Indonesian economy, and the sustained growth, surpassed all expectations. To be sure, there were many difficulties, and there were some bad policy mistakes. Yet throughout the decade, the Indonesian economy steadily grew in strength.

The Commission of Four. Looking back over the 1970s, the contrasts between the progress and the problems in Indonesia is striking. One of the first surprising events of the decade related to an issue which had plagued Indonesia for many years and which has continued to be a headline issue ever since – corruption. In January 1970, in response to student protests and press criticism, president Soeharto announced that a 'Commission of Four' would be appointed to report on corruption within the Indonesian civil service. Jamie Mackie summarized the mood of the day as follows:

> Corruption is not a new phenomenon in Indonesia. It was becoming almost endemic under the Sukarno regime … where financial accountability virtually collapsed because of administrative deterioration. … The change in the political temper of the country between 1965 and 1970 is also relevant. Corruption was a source of frequent complaints in the Sukarno era, but it was a relatively minor political issue since so many more contentious conflicts loomed much larger … Today, there are few other burning issues of comparable horse-power for opponents or critics of the regime. (Mackie 1970: 87-88)

The full contents of the report became available, perhaps in an unintended way, when the well-known Jakarta daily *Sinar Harapan* obtained a copy of the document and proceeded to publish it in full in July 1970. The following month president Soeharto, in his Independence Day speech to parliament, spoke of his determination to lead the fight against corruption personally. In retrospect, it can be seen that president Soeharto was doing what every president of Indonesia (and dozens, probably thousands of other political figures in Indonesia) has done since – boldly announce measures to investigate and curb corruption but, in the end, leave the nation deeply disappointed with the results.

1972 rice crisis. Another major problem arose for Indonesian economy policy-makers in 1972 when a serious drought occurred across Southeast Asia leading to low rice production in the region and pressure on rice prices. The dry season in 1972 was especially dry. However effective crop monitoring procedures did not exist so neither officials in the field nor policy-makers in Jakarta realized that there was a problem until prices started rising. By August and September it had become obvious that a shortfall in production was looming. To make matters worse, world rice stocks were at a very low level, world rice prices were rising quickly, and emergency imports of rice were hard to obtain. Within several months, market prices of rice doubled in some parts of Indonesia putting upward pressure on other prices as well and causing widespread hardship amongst poorer sections of the population.

The rice crisis of late 1972, and the sudden end to economic stability sent shock waves through senior echelons of the Indonesian government. The events of late 1972 underlined the fact that economic stability in Indonesia (and perhaps political stability as well) was still very fragile. The repercussions of the crisis had a number of implications for policy-making over the following few years.

For one thing, the Indonesian government increased the focus on the issue of food security (especially rice security). President Soeharto showed every sign of being aware of the maxim that ‘an army marches on its stomach’ (although, in this case, it was the nation). During October and November in 1973 president Soeharto regularly met with officials from the national rice agency BULOG (*Badan Urusan Logistik*, or the Logistics Board) and held sessions with the Economic Stabilisation subcommittee of cabinet to discuss the rice situation (Dwipayana & Sjamsuddin 1991: 490).

For another thing, new programs to strengthen food security were implemented which influenced the approach to rice policy in Indonesia for the rest of the decade and into the 1980s. For example, the nation-wide rice marketing and procurement systems were strengthened working through rural semi-cooperatives, BUUDs (*Badan Usaha Unit Desa*) and full cooperatives, KUDs (*Koperasi Unit Desa*). In addition, ambitious plans were announced to strengthen BULOG, including the goal of establishing a national buffer stock of one million tons of rice. And, indeed, considerable progress was made throughout the decade. Although the operations of BULOG were often the subject of much comment, including many suggestions of mismanagement and personal aggrandisement on the part of BULOG officials, by the end of the 1970s many of the goals had been substantially achieved. By 1979, an impressive network of modern warehouses with a total capacity of one million tons had been built across Indonesia.

Malari. The 1972-73 rice crisis also contributed to the rising tide of discontent across Indonesia in 1973 which erupted in the dramatic *Malari* (*Malapetaka Lima belas Januari*, or '15th of January disaster') riots in Jakarta and other major Indonesian cities in January 1974. During the several days of sustained rioting, thousands of students took to the streets in anti-government demonstrations, much damage was done, including looting of shops and burning of cars in large cities, and the armed forces along with tanks were mobilised to restore order. The nominal trigger for the riots was a visit by Japanese Prime Minister Tanaka to Jakarta in mid-January. However other causes included resentment over various aspects of economic policy, especially rising prices and resentment at Japanese commercial influence in Indonesia, and divisions within the Indonesian military (Wanandi 2012: 112).

The *Malari* episode quickly led to a change of mood in Indonesia, not least within the upper echelons of government. President Soeharto moved decisively to bolster his power. Key military personnel were reassigned and a number of daily newspapers and weekly magazines were banned. In discussing the implications of the *Malari* riots, Wanandi (2012: 119) notes that 'Never again did Soeharto allow his ministers, generals and advisors as much leeway.' There were swift adjustments in economic policy as well. There was a tightening of the rules on foreign investment to close down some sectors to foreign investment and a closer examination of the role of Japanese investment in Indonesia. These moves were intended to demonstrate that policies during the earlier part of the *Orde Baru* in the direction of liberalization of foreign investment policies had been sharply revised.

The first oil boom. But at the same time that the *Malari* riots were taking place a tectonic change in global economic conditions was occurring: the first great oil boom of the 1970s was underway. This change would transform the environment for growth and development in Indonesia for the rest of the decade. The price of oil had started climbing almost two years earlier. However the price of other commodities was rising as well and so for a time policy-makers both in Indonesia and around the world did not realise what was happening. In April 1972 the oil price received by Indonesia was around

$2.90 per barrel. One year later it was $3.70. By November 1973 it had risen to $6.00. And then it rose again, climbing to over $10.00 in January 1974. By mid- 1974 it was clear that the international economic environment was changing in a dramatic way. Writing in the *Bulletin of Indonesian Economic Studies* in July 1974, Heinz Arndt observed that

> The increase in the price of Indonesian crude oil … has transformed the country's economic prospects … It has added to the external resources for development on a scale undreamed of a year ago, resources which can and should be used over the next few years to promote the social objectives of *Repelita II.* (Arndt 1974: 1)

And to add to the amazing windfall, the pro-foreign investment policies introduced in the late 1960s had encouraged new investment in the oil sector in Indonesia, so the output of oil in Indonesia was rising rapidly as well. In

1966, oil production in Indonesia had been running at the modest level of around 470,000 bpd (barrels per day). By early 1974 production had expanded to nearly 1.4 million bpd. Thus in less than a decade, the price of oil had risen fourfold and production had risen threefold.

The impact of influx of 'petro-dollars' on this Indonesian economy during this period was dramatic. Oil revenues recorded in the budget rose more than tenfold between 1970 and 1977, from around Rp 100 billion (around $

260 million) in the 1970/71 budget to nearly Rp 1,700 billion (over $ 4,000 million) in 1976/77. Many of the students who were demonstrating against foreign investment in the *Malari* riots would, during the next few years,

soon themselves begin to benefit substantially from the boost to Indonesia's development prospects that the oil boom would bring.

But the receipts from the boom needed to be used well. And, broadly speaking, for much of the rest of the decade the oil revenues in Indonesia were indeed used relatively effectively. A number of other oil-exporting developing countries which benefitted from the oil boom did not spend the windfall of oil revenues so efficiently. However, in Indonesia much of the new revenue was used for development purposes in infrastructure and in rural development programs. These expenditures supported economic growth during subsequent decades.

The Pertamina crisis. The most dramatic exception to good public sector management during this period was the Pertamina crisis. The state-owned oil company Pertamina had been founded in 1968 from the merger of Pertamina and Pertamin, two state-owned enterprises which had carried on operations in the oil sector during the Sukarno era. By 1974 Pertamina had become perhaps the most well-known state-owned enterprise in Indonesia. Pertamina was led by a dynamic president director, Dr Ibnu Sutowo, who was known for his

'can-do' philosophy and record of delivering the goods. It was often said in Indonesia at the time that Pertamina was a 'state within a state' with a large budget that lacked transparency and which was often used for transactions outside of the national budget that president Soeharto saw as important.

It seems that the windfall of petrodollars during 1973 and 1974 tempted Ibnu Sutowo into high risk financial dealings (McCawley 1978). Programs were announced to expand Pertamina's activities into new and diverse activities such as programs with the state-owned steel firm P.T. Krakatau and rice estates in South Sumatra. And, of much higher risk again, Pertamina took on short-term borrowings in international credit markets, apparently judging that the loans could be easily refinanced whenever they fell due. It seems that these financing arrangements worked well during 1973 and 1974 until international capital markets began to tighten with the onset of a recession of a major recession in rich nations in late 1974. Ironically, a major factor contributing to the recession in rich nations was the very increase in oil prices that had benefited Pertamina so handsomely in the preceding months. Pertamina was able to manage the cash-flow problems for some time, including by drawing on government financing. However in March 1975 the company found itself unable to meet its financial obligations and the Indonesian government was called on to step in.

In the next few months it became clear that the debts that Pertamina had entered into were much larger than had first been realized. Early reports suggested that Pertamina's short-term debts were not less than $1.5 billion. Later in the year, *Bappenas* (National Planning Board) Minister Professor Widjojo Nitisastro made a comprehensive statement to parliament in which he reported that Pertamina's total debts appeared to exceed $2.3 billion (Widjojo 2010: 301). But towards the end of 1975 rumours began circulating in Jakarta that the true debts were much higher, and perhaps as high as $6 billion or more. In early March 1976 Ibnu Sutowo was removed from his post as president director of Pertamina. These developments attracted much attention in the international press and did much damage to Indonesia's economic and financial reputation during this period.

The speculation was finally ended in May 1976 when the Minister for Mining, Professor Mohamad Sadli, provided a frank and detailed statement to parliament. Professor Sadli reported that Pertamina had run up debts of over $10 billion and that the debts were in the process of being pruned. Professor Sadli discussed how the situation had got out of hand in the following terms. He said:

> It is true that the Government knew of, and moreover agreed to, various non- oil ventures being carried on by Pertamina … However, without the knowledge or agreement of the Government, Pertamina took on large and heavy financial commitments to finance business ventures … the majority of which were not economically justifiable nor directly connected with Pertamina's main activities; examples of these ventures include the hire-purchase of ocean tankers and other development projects which gave rise to large debts … (McCawley 1978: 12)

Professor Sadli went on to provide extensive details, and to outline measures that the government would take to overcome the problems. He later described the Pertamina problems as 'the greatest crisis I faced as Minister of Mining' (Sadli 2003: 134).

At the time, the Pertamina crisis was widely regarded as delivering a serious blow to the Indonesian economy. And, of course, the crisis reflected very serious errors of judgement and internal accountability within the Indonesian government. But seen within a longer-term context, the Pertamina crisis was a passing problem. In important ways, the Indonesian economy and Indonesian governance systems are surprisingly resilient. Within a few years the main damage caused by the Pertamina crisis had been largely overcome. And many institutions are resilient. During the next few decades, Pertamina re-established itself as one of the leading corporate firms within Indonesia.

These events, then, were some of the main developments in the Indonesian economy in the period up to 1978 discussed in *The Indonesian Economy during the Soeharto Era.* During the next few years, into the early 1980s, the Indonesian economy grew strongly at rates of around 6-7 per cent per annum in real terms (Hill 1994). In taking stock of developments in the Indonesian economy during the Soeharto era to that stage, Anne Booth and I found it helpful to consider both the changes and continuities that seemed evident. And since these changes and continuities (we singled out five of each for discussion) are perhaps as marked today as they were three decades ago, it is useful to revisit the issues and to consider what might be said about them.

CHANGES

New technologies. In our edited collection Anne and I observed that

> … one of the most important changes in Indonesia in the last decade has been the rapid introduction and adoption of new technologies in a broad range of economic activities and the impact they have had, particularly in rural areas... Intrusions of modern technology have also occurred in less expected areas. (Booth & McCawley 1981: 7)

The same comment about the importance of new technologies could surely be said today although, during the last decade or so, the impact of new technologies has been more pronounced in the services sector than in agriculture.

It is something of a paradox that although economic nationalists in Indonesia often emphasize the need as much economic self-reliance as possible, Indonesia has benefitted enormously from the influx of global technology in key areas. Two of the most striking areas where this is evident are in the electronic and telecommunications sector, and in the domestic air travel industry. In the electronic and telecommunications sector Indonesians across the nation have eagerly adopted all of the wonders of modern technology – computers, hundreds (probably thousands) of internationally-designed software programs, modern visual (TV) and sound systems, and especially mobile telephones. The adoption and widespread of mobile telephones, especially, has been quite remarkable. Even in far-flung parts of the archipelago, away from the towns and out in rural areas, local people use mobile phones for social and business purposes. Traders in rural markets use mobile telephones numerous times each day to check on commercial transactions -- and even travellers far out in the middle of the Java sea will use mobile phones to maintain contact with their families.

The transformation in the airlines sector, especially on domestic routes, has been just as astonishing. Indonesians are now on the move across Indonesia as never before. Between 2002 and 2012, domestic passenger movements carried by LCC (low-cost carrier) airlines in Indonesia increased at the extraordinary rate of 20 per cent per year. Airline terminals are bursting at the seams at major airports. The largest terminal in the country – the Soekarno-Hatta airport which serves Jakarta – was estimated to be operating at over 200 per cent of capacity in 2012. But somehow, most of the time, the systems continue to work. Flights are often delayed. Maintenance and standards are believed to often be below acceptable standards. But such is the priority that middle-class Indonesians now give to mobility that most travellers grumble a bit when things go wrong but, generally, put up with the inconvenience and risks and line up for flights anyway.

The rapid adoption of new technologies shows up in the national income figures. The share of the services sector – particularly the telecommunications and airline transport sectors – has grown rapidly during the past decade. The services sector, overall, now makes up over 50 per cent of GDP. This is a far cry from the situation in Indonesia in 1965 when output from agriculture contributed over 50 per cent of national income.

Institutional changes. Current development thinking places much emphasis on the importance of institutional change during the development process. In *The Indonesian Economy during the Soeharto Era,* Anne and I noted important institutional changes that had occurred during the 1970s. We pointed to the *Bimas* rice intensification program, other changes in the agricultural sector, and the changes in the political and governance systems during the Soeharto era. Commenting on changes in national management, we observed that

> …the political atmosphere of the day has affected the conduct of economic policies: trade union and labour activities have been suppressed; political activities have generally been closely controlled and the government-sponsored political organisation *Golkar* has been the dominant political party; and conditions for government bureaucrats have been substantially improved. … But the cost has been that healthy discussion of development strategies has been greatly limited, and social groups who feel aggrieved have found it more difficult than even to make their voices heard in policy-making circles.
>
> (Booth & McCawley 1981: 10)

Institutional arrangements in such things as the political atmosphere of the day and many of the procedures for the management of government have, today, been transformed since Anne Booth and I set down this description of the situation during the *Orde Baru*.

Two of the most sweeping changes during the Era Reformasi since 1998 have been widely commented on – these are the dramatic liberalization of the political system during the Era Reformasi and the 'big bang' decentralization of processes of government in Indonesia. There have been many other institutional changes as well in recent years at both the macro (nation-wide) level and at the micro level of individual institutions. But the two changes of a dramatic expansion of the democratic space combined with remarkable decentralization have done much to transform the entire process of governance of the nation during the past decade.

Attitudes towards development priorities. National attitudes towards development priorities changed sharply in the late 1960s between the Sukarno and Soeharto eras. During the Sukarno era there was much emphasis on the need to combat colonialist influences in Indonesia and to curb the negative influences of foreign capitalism. During the first decade of the Soeharto era priorities altered dramatically. Much more emphasis was given to economic goals of stability and growth and almost all of the talk of opposing neo-colonialism disappeared from the national dialogue.

Perhaps the distinguishing characteristic of *Era Reformasi* in attitudes towards development is that there has been a search for a middle ground between the priorities that the first two presidents of Indonesia set out for the nation. On the one hand, the need for sustained growth and for effective economic management is now widely accepted in Indonesia. On the other hand, the traditional nationalist concerns about the need to build up the strength of the domestic economy and the allegedly excessive influence of foreign investors in Indonesia are still evident. In recent years, senior ministers in Indonesia have tried to balance these concerns. A realistic evaluation of the alternative approaches would seem to be that both strands of thinking – a cautious and conservative approach toward economic management, and a radical view looking towards anti-capitalist reform – continue to vie for support within the senior echelons of government institutions in Indonesia today.

External economic constraints. Throughout the first two decades of the Indonesia's existence as a new nation there were recurrent balance of payments problems. But in the first decade of the Soeharto *Orde Baru* government the situation changed dramatically. First, the inflows of foreign aid and investment in the early period of new regime strengthened the capital account and permitted increased levels of much-needed imports. And then the inflows of petro-dollars from the first oil boom transformed the balance of payments. In the late 1970s, Anne Booth and I took the view that

> … it seems likely that the present reasonably healthy reserve situation will continue into the future – certainly balance of payments problems are unlikely to impose the same kind of restraint on policy-making as was the case in the fifties.
>
> (Booth & McCawley 1981: 12)

For a time after the mid 1970s – indeed for the next two decades – it seemed that the balance of payments was no longer a constraint on development programs in Indonesia. Because of the surplus on the capital account during this period, Indonesia was able to maintain a high level of imports to support development and to sustain a deficit on the current account.

A sea-change occurred when the Asian financial crisis hit in 1997-98. Suddenly, volatility in capital flows crippled the external account forcing a sharp devaluation of the rupiah and a sharp recession. The contraction in output in Indonesia 1998 was over 10 per cent of GDP.

For most of the period since the Asian financial crisis – in marked contrast to the two decades before the crisis – Indonesia has moved into surplus on the current account. Indeed, during the past decade it has become the accepted conventional wisdom amongst many policy-makers in Jakarta that a surplus on the current account is desirable and, amongst other things, reflects the strength of the Indonesian economy.

In fact it seems that there is little correlation -- either in Indonesia or in many other developing countries – between the surplus on the current account of the balance of payments and the overall growth rate. Some developing countries (such as China) grow rapidly while maintaining a surplus on the current account while others (such as India and Papua New Guinea) grow rapidly while maintaining a deficit. What is worrying, however, is that just in the last year or so – during 2012 and 2013 – some policy-makers in Jakarta appear to have become over-confident and have begun to take the view that Indonesia's external balance is so sound that the strength on the external account can be taken for granted. However this approach carries substantial risks. The risks became evident during the first half of 2013 when unexpected strains on the balance of payments led to a fall in foreign exchange reserves and a marked depreciation of the rupiah.

Perhaps the main lesson from Indonesia's experience with fluctuations in both the current account and the capital account since independence is that the Indonesian economy is vulnerable to external shocks. It would seem wise for policy-makers to aim to maintain foreign exchange reserves at comfortable levels and, in addition, to allow the foreign exchange rate to fluctuate reasonably freely when appropriate to help maintain equilibrium in the foreign current market. The alternative approach of trying to intervene heavily in the foreign exchange market when strains appear – which has been tried by authorities in Indonesia at various times – tends to fail. When Indonesian officials try to fight international markets, then international markets tend to win.

Internal economic management. The early and mid-1970s saw striking improvements in internal economic management. For one thing, the five-year planning process was strengthened with the preparation of *Repelita* I (*Rencana Pembangunan Lima Tahun* II, or the First Five Year Development Plan) covering the period 1969-1974. Perhaps more important from the point of view of regular economic management, the national budgeting process was significantly strengthened. National budgets became increasingly credible documents and the flow of economic statistics released by both the Ministry of Finance and the central bank, Bank Indonesia, became more reliable. And perhaps most important of all, president Soeharto appointed a team of respected 'economic technocrats' to the top economic positions within government.

This broad approach to economic management in Indonesia – of working to strengthen the bureaucratic processes, and of appointing policy-makers with strong economic skills – has endured since the late 1960s. It is true that there have been exceptions to the practice of appointing strong economists to the top ministerial positions. Nevertheless, the exceptions have been unusual. As a general rule the top team of economic ministers and advisers in Indonesia has, since the late 1960s, been consistently strong. Similarly, the quality of documentation about economic issues, including national budget transparency, has consistently improved. In this area of public governance, the reforms introduced during the early years of the *Orde Baru* administration have endured, and have strengthened over time.

CONTINUITIES

The edited collection which Anne Booth and I prepared identified five continuities in development policy in Indonesia. Looking back over these issues thirty years later, what is striking is how these subjects continue to resonate in public policy today. *Plus ca change, plus c'est la meme chose.*

Dualism. The phenomenon of dualism – that is, various types of divisions which mark sharp divisions across society – has long been a topic of discussion in the economic analysis of the Indonesian economy. In *The Indonesian Economy during the Soeharto Era,* Anne Booth and I suggested that

> … few contemporary observers would deny that the dualistic features of the Indonesian economy … are still obvious today, and have in many ways been aggravated by … technological change … The large inflow of capital since 1968 has served to accentuate the differences between the modern and traditional sector of the urban economy, while the increased use of new technologies in rural areas has probably increased the dualistic nature of the indigenous rural economy …

In recent years, if anything these divisions have become more marked. Today, it is appropriate to talk not so much of *dualism*, but rather *multiple* levels of economic, social and technical strata in Indonesia. These things are difficult to define and measure precisely but there are, perhaps, at least four distinct levels of economic society in Indonesia. These four levels are the following:

- The *EE sector.* The 'Elite and Expatriate' sector which can be seen in the malls, the expensive cars, and the gated accommodation that this sector lives in.
- The *upper middle class sector.* Citizens in this group live in comfortable and relatively safe accommodation in urban areas, often with air-conditioning, and usually own cars (often with drivers) and have regular staff to help maintain the household.
- The *urban rakyat*. This group includes the vast majority of *rakyat* (ordinary people) who live in the main urban areas of Indonesia. Standards of living across this group vary widely from families who are managing quite well to lower-income groups who live a precarious existence.
- The *rakyat*. Around 50 per cent of Indonesians live below the World-Bank nominated figure of $2.00 per day. The main part of the *rakyat* who fall into this group live outside of the largest urban areas and earn incomes wherever they can on a daily basis. Nearly all of the people in this group live and work in the 'informal sector'.

The phenomenon of dualism, and indeed the emergence of further structures within dualism, is perhaps even more evident today than was the case during the 1970s in Indonesia.

Indigenous entrepreneurship. The issue of *pribumi* entrepreneurs relates to the question of who owns and controls the Indonesian economy. There is a widespread feeling in Indonesia that although political independence from foreign domination was achieved in 1945, there is still too much foreign control over the Indonesian economy. On one hand, it is easy to sympathize with the idea that Indonesian entrepreneurs rather than foreign companies should be dominant in Indonesia. On the other hand, it is puzzling that so few large private firms controlled by Indonesian managers and owners have emerged and flourished since independence was achieved 1945.

In commenting on this issue Anne and I noted that one of the structural characteristics of the Indonesian economy was that it was dominated by thousands of 'micro-enterprises'. In the decades since then, some *pribumi* entrepreneurs have managed to establish expanding corporate firms, but the number of well-known successful *pribumi* entrepreneurs is not large (Booth 1998: 320). Further, it is widely-believed that many of them have done well through their links with government and political parties rather than through their commercial success in genuinely competitive market-oriented ventures.

This apparent shortage of large, successful *pribumi* entrepreneurs, therefore, gives rise to a policy dilemma – what should government do to foster the growth of an Indonesian business class? There does not seem to be any easy answer to this question. It is hard to imagine how a pro-*pribumi* policy along the lines of that adopted in Malaysia could work successfully in Indonesia because economic and social conditions in Indonesia are so different. Yet other, less ambitious approaches designed to assist small-scale entrepreneurs in Indonesia have seldom been particularly successful. In the meantime, virtually every political leader in Indonesia continues to pay lip service, as a routine matter, to the goal of promoting small-scale entrepreneurship across the nation.

Inward-looking and outward-looking attitudes. Ever since independence there has been tension within Indonesian economic policies between inward-looking protectionist attitudes and more outward-looking internationalized approaches. The pendulum swung markedly away from inward-looking approaches in the early years of the *Orde Baru* government, and then swung back again somewhat after the *Malari* riots. There was a movement back towards more liberalised policies, especially in the manufacturing sector, during the 1980s, and then a more inward-looking mood developed towards the end of the Soeharto period.

These tensions in economic policy have continued to the present day. Recently, during 2011 and 2012, several years of strong economic growth, there were signs of a drift towards more protectionist policies in several areas of economic policy. Interventionist measures were announced in the agricultural sector to assist domestic producers, and foreign companies operating in the resources sector were directed to increase the level of domestic processing of resources before export regardless of whether the value added to resource exports in this was profitable or not. But marked pressures emerged on the balance of payments in mid-2013 and there was a sudden market-determined depreciation of the rupiah. A policy package was announced in late August 2013 which emphasized the need for more internationally-competitive measures and which amounted to a move away from protectionist policies.

Fortunately, within limits, there are significant market-determined constraints in Indonesia which ensure that excessive levels of protection for tradable goods are difficult to maintain. The well-known quip that 'Indonesia was made for free trade' reflects the nature of Indonesia's geography where there are long borders open to neighbouring countries. In the past, when prices in regulated markets inside Indonesia have diverged too far from regional prices, smuggling of goods (in both directions, depending on the nature of the regulation in Indonesia) has ensured that Indonesian prices have not diverged too far from international prices.

However it is true that disagreements between inward-looking and outward-looking policy-makers occur in many countries. The tug of war between nationalist 'engineers' and internationally-minded 'technocrats' in Indonesia (as the groups are sometimes called) seems likely to be a feature of Indonesian policy-making for many years to come.

The economic role of government. Writing in our edited collection about patterns of government policy in Indonesia, Anne and I noted 'the absence of benign government intervention and the presence of malign intervention'. What we did not discuss in any detail are the practical restrictions imposed upon governments in Indonesia by the straitjacket of resource constraints that most branches of government must operate within.

A key problem that most parts of government in Indonesia must deal with is that their resources are very limited. At the national level, government spending in Indonesia in 2011 was less than $700 per capita. This compares with national expenditure in OECD countries such as the United States and Germany of around $20,000 per capita. Thus, for every $1.00 per person that the president of Indonesia can allocate to programs to support national priorities, the leaders of the United States and Germany can allocate around $30. The shortage of resources is stark at the provincial level in Indonesia as well. In 2011 the average level of per capita expenditure by provincial governments in Java (excluding the special case of Jakarta) was a remarkably low level of $24 per capita. Similar levels of government in rich OECD countries (in provinces, or province-like jurisdictions) often maintain levels of annual spending around $6,000- 8,000 per capita or more.

These figures are very sobering and prompt the question of what should be the role of governments in Indonesia given that their resources are so limited? It would seem that in order for governments in Indonesia to become more effective, governments need to define (and limit) their roles far more carefully than is currently the case. In particular, in planning for service delivery, key decisions are needed about which services will be provided *directly* by the government itself, or *indirectly* through reliance on service providers. More broadly, the extreme resource constraint facing most government agencies in Indonesia suggests that, often, agencies should move towards an improved regulatory role and reduce attempts to deliver services themselves.

Unemployment and poverty. The final area of continuity relates to problems of unemployment, poverty, and insecurity. Anne and I noted that these issues were 'related through a chain of circular causation' and that 'it is … difficult to point to any sizeable government program that is likely to have an impact on these problems'.

It is true that in some directions, significant progress has been made in addressing these issues since the late 1970s. Levels of absolute poverty have dropped markedly in Indonesia, and most measures of human welfare point to notable progress. Further, in contrast to the situation in Indonesia in the 1970s, governments at all levels now recognize that poverty-reduction must be a focus of policy and encourage public discussion about appropriate measures. Yet mass poverty remains a very serious problem in Indonesia. World Bank estimates are that close to 50 per cent of Indonesians live on less than $2 per day. And perhaps the most important lesson of the Indonesian development experience since independence is that the single most effective measure that can be taken to alleviate mass poverty in Indonesia is to promote sustained economic growth.

CONCLUSION

Looking back at the overall view presented in the edited collection of articles in *The Indonesian Economy during the Soeharto Era,* it is hard to avoid the impression that our view of the prospects of the Indonesian economy was too cautious. We perhaps underestimated the resilience and flexibility both of the economy overall, and of the institutions of government in Indonesia. And we were, arguably, too concerned about possible storm clouds ahead. For example, we recorded scepticism about the potential growth rate for Indonesia when we noted that

> … the official growth target for *Repelita III* (1979-1984) is 6.5 per cent and some observers feel this may be difficult to achieve.
>
> (Booth & McCawley 1981: 20)

In fact, the average growth rate of the Indonesian economy for the period from 1980 until the onset of the 1997-98 financial crisis was only slightly below 6.5 per cent (Van der Eng 2010). And at the conclusion of our collection, in surveying some of the potential problems ahead, we glumly observed that

> … to the extent that the problems are avoided rather than faced up to, the prospects for stable development in Indonesia over the longer term seem bleak.

But as things have turned out, and despite the continuing existence of quite a few of the problems that we identified, Indonesia has continued to grow and to develop. One of Indonesia's most well-known economists, Professor Mohamad Sadli, used to remind his friends that Indonesian policy-makers often have the useful ability of being able to 'muddle through'. And indeed, Sadli was surely right (cited in Thee 2003). The myriad of actors involved in the Indonesian economy have indeed muddled through remarkably well since Anne Booth and I prepared *The Indonesian Economy during the Soeharto Era* at the end of the 1970s. With luck, this pragmatic approach to economic management will provide similar success for many decades to come.

BIBLIOGRAPHY

Books

Booth, Anne. 1998. *The Indonesian Economy in the Nineteenth and Twentieth Centuries: A History of Missed Opportunities.* Basingstoke: Macmillan.

Booth, Anne & McCawley, Peter, editors. 1981. *The Indonesian Economy during the Soeharto Era*. Singapore: Oxford University Press.

Dwipayana, G. & Sjamsuddin, Nazaruddin. 1991. *Jejak langkah Pak Harto 28 March 1968 – 23 March 1973,* [In the Tracks of President Soeharto *28* March 1968 – 23 March 1973]. Jakarta: Citra Lamtoro Gung Persada.

Thee Kian Wie. 2003. *Recollections: The Indonesian Economy, 1950s – 1990s.* Singapore: Institute of Southeast Asian Studies

Wanandi, Yusuf. 2012. *Shades of Grey: A Political Memoir of Modern Indonesia 1965-1998.* Singapore: Equinox.

Widjojo Nitisastro. 2010. *Pengalaman Pembangunan Indonesia: Kumpulan Tulisan dan Uraian Widjojo Nitisastro.* Jakarta: Kompas Penerbit Buku.

Articles

Arndt, H.W. 1974. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies*. Vol. 10, no. 2.

Eng, P. van der. 2010. "The Sources of Long-term Economic Growth in Indonesia, 1880-2008". Explorations in Economic History, Vol. 47.

Hill, Hal. 1994. "The Economy". In: Hal Hill, editor, *Indonesia's New Order: The Dynamics of Socio-economic Transformation. Sydney:* Allen & Unwin.

Mackie, J.A.C. 1970. "Report of the Commission of Four on Corruption". *Bulletin of Indonesian Economic Studies*. Vol. 6, no. 3.

McCawley, Peter. 1978. "Some Consequences of the Pertamina Crisis in Indonesia". *Journal of Southeast Asian Studies*. Vol. 9, no. 1.

BY THE NUMBERS: MAKASSAR'S TRADE, CENTRALIZED STATISTICS AND LOCAL REALITIES[1]

Heather Sutherland

Vrije Universiteit Amsterdam

ABSTRACT

The valuable trade statistics provided by the Netherlands Indies government are a boon to researchers, but should not be accepted at face value. The extent to which shippers avoided registration is indicated by a comparison of Makassar's trade figures before and after it was made a free-port in 1847, while early twentieth-century data from Makassar itself show a significantly higher level of maritime traffic than Batavia's do. This suggests that central statistical series can seriously misrepresent local trade.

Keywords: Makassar's trade, Statistics, VOC

> *"As we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns - the ones we don't know we don't know...it is the latter category that tend to be the difficult ones."*
>
> *Donald Rumsfeld, U.S. Department of Defence briefing, 12 February2002*

INTRODUCTION

Innumerate historians such as myself are deeply grateful to scholars like Anne Booth who combine a mastery of economic theory and quantitative sources with a clear understanding of the weight of the past. Statistical series enable historians to trace underlying processes over time. But, alas, few such sources exist, and all – but particularly the older ones - are marked by the limited reach, specific aims and variable categorizations of their compilers. While new publications, such as the *Changing Economy of Indonesia* volumes, have

[1] I am grateful to Alex Claver for his comments and assistance, and to Thomas Lindblad for his careful editing.

helped make this tangled treasure trove of colonial statistics more accessible, regions with little documentation run the risk of being marginalized. It was only the publication of Edward Poelinggomang's work, with its trade and shipping figures, which allowed Anne Booth to include Makassar in her account of nineteenth-century economic growth outside Java (Booth 1998: 25-9; Poelinggomang 1993).

My purpose in this contribution is to explore some of the problems that arise when we begin to extract numbers from self-referring diachronic sources, and instead try to use them to describe actual local economies. My examples are drawn from the trade of Makassar, a vital East Indies port, from the 1700s to 1918. Although Makassar included a Dutch East India Company (VOC, 1602-1796) garrison settlement from 1669, the Southwest Sulawesi peninsula itself was only fully colonized after 1906. Documents and data produced by officials in this (proto-) colonial outpost of Dutch bureaucracy depicted not the world within which they operated, but those aspects of it that were within their political and managerial reach. Although the gap between paper and human realities might have been particularly wide in Makassar's case, I believe that they are illustrative of a much more general divergence that should be born in mind by anyone working on Western sources, particularly statistics. So in this piece I am more concerned with the information that is NOT there, than with the data provided.

STATISTICS IN THE DUTCH INDIES

Both the VOC and its successor, the Netherlands Indies government, tried to control and exploit trade, directing it towards their Batavia headquarters. But a strong trading tradition linked harbours with each other across the South China and Java seas and the more eastern Sulu, Sulawesi and Banda waters. The extensive archipelago was also open to penetration by outsiders, particularly the British. Batavia was unable to control evasion of customs regimes so the data it received ware partial at best.

As a transnational trading venture the VOC paid careful attention to its accounts, managed by the Bookkeeper-General,[2] and compiled endless lists on matters such as shipping. For the Company, information, like its maps,

[2] These accounts, covering 18,000 voyages and 250,000 commodity descriptions were digitalized.

was a commercial asset to be kept secret. The VOC archives are now an unrivalled source on early modern Indonesia. Gerrit Knaap and myself used the harbourmaster's registers of Makassar's eighteenth-century shipping and cargoes to examine sea-borne commerce, experiencing for ourselves the potential and problems of such material (Knaap and Sutherland 2004: 272). The registers enabled us to see patterns which would have been invisible to contemporaries, even to the officials who compiled them. Existing assumptions about the decline of trade under the VOC were modified, while the impact of Chinese commerce in Eastern Indonesia became clearer. Yet we were always aware of the limitations of the data, distortions created by fluctuating policies and levels of political control, shifts in supply and demand, as well as more local issues of competence and corruption.

It was only at the end of the 1700s that a more scientific appreciation of the public use of statistics began to emerge. This was exemplified for Java by early nineteenth-century administrators, particularly the Napoleonic Daendels (1807-1810) and British Raffles (1811-1816). The reforming Governor-General Van der Capellen (1818-1826) was very aware of the need for reliable data. Annual residency reports, now in the Jakarta archives, date from his period, as do the first published trade lists, on Java and Madura. A separate series for the Outer Islands followed (Verslag van den handel 1825-1871; Overzigt 1846-1869). Further statistical exercises in Java were intended to facilitate the land tax (*landrente),* but also exposed the inadequacy of existing data and collection methods. In the case of the trade statistics, the primary purpose was to document customs revenue, as the government was concerned that Singapore, founded by the British in 1819, was becoming too central to Indies shipping (Van de Graaff 1955: 97-8; Singgih 2003). After the Dutch constitutional reforms of 1848 parliament received an annual report on the colonies, which became a subject of political debate. The *Koloniaal Verslag* (Colonial Report), and its successor *Indisch Verslag* (The Indies Report), published detailed statistics from 1849 to the Second World War (Verslag van het beheer 1849-1866; KoloniaalVerslag 1867-1923; Statistisch jaaroverzicht 1923-1930; Indisch Verslag 1931-1940). Data on the colonies were also incorporated into the Netherlands' economic annual reports.[3]

[3] See http://archive.org/stream/staatkundigenst03unkngoog/staatkundigenst03unkngoog_djvu. txt

Reliance on early figures can lead to gross misinterpretations, particularly because numerical data seem so concrete and convincing that they give researchers a false sense of security. It was not until the late nineteenth century, as political control advanced, that numbers for the main colonial centres became less unreliable. As the central bureaucracy developed, different departments issued own data of their own, using varying categorizations and creating confusion (Statistiek van den handel 1870-1906; Statistiek van den handel, de scheepvaart (1871-1875). From 1874 the distinction between Java and the Outer Islands was dropped, and with it the detailed information on each administrative region's inter-insular traffic in various commodities. Only the trade between the Netherlands Indies and overseas was included. However, in 1879 imports and exports by private enterprise were again listed by province (Van den Berg 1907: 348-9). In 1892 a Central Office for Statistics was established in another attempt to impose order on the muddle. In 1907 Java and Madura were again separated from the Outer Islands, and in 1910 shipping became a separate series.

The need for international standardization was increasingly clear, but the Indies data were inadequately organized, as different levels or regions of shipping activity were included or excluded, and commodity categorizations varied. After 1912 an important change in trade data presentation exposed commercial sectors that had previously been unrecorded. Prior to this only traffic between different provinces and the first and last ports-of-call for steamships had been noted, but after 1912 intra-provincial shipping and packet-ships intermediate visits were also listed (Touwen 2002). The results were particularly revealing for transit ports like Makassar, a staple place for products brought in by coastal vessels (including a strong fleet of trading *perahu*) to await the KPM packets or foreign ships. In 1918 a new Instruction for the Compilation of Statistics for Trade and Customs was issued, but the resulting commodity name list was still unsatisfactory and was revised in 1925.Goods exceeding 1,000 guilders in value were divided into 16 aggregate categories. This standard was applied to Java from 1926 and the Outer Islands from 1928 (Clemens, Lindblad and Touwen 1992), and remained in force until the beginning of 1948.

Two simple points emerge from this brief review of statistical history: firstly, there is an impressive amount of material, and secondly, the process of compilation has always been problematic, even for those working at the higher levels of abstraction. This was even more apparent at the other end of the data gathering process. The situation of local Dutch officials was complicated in very different ways. They struggled to reconcile Batavia's demands for clarity with their often precarious political role and consequent limited access to reliable information. In outposts like Makassar this was very clear. The desire in particular to enforce a general Dutch customs zone, eliminating competition by independent regional ports, led to colonial rule after 1906.

MAKASSAR'S TRADE

During Makassar's long history commodity flows adjusted to take advantage of changing demand and supply conditions, access to capital, and technology. In the seventeenth century rice and slave exports predominated, while Indian textile imports were central. The court and its foreign merchant allies exploited the most profitable routes. By the mid-eighteenth century, however, Makassar had become a hub in the South China Sea trade. It was the essential entrepot, clearing house and processor for maritime commodities (particularly tripang) shipped from the south-eastern Indonesian islands to China. From 1746 until the 1820s exchange was dominated by the Amoy junk, with lesser connections to Canton and Macau. Chinese traders flourished and the VOC, quite outside the system, benefited from taxes. In theory, all voyages to the west of Batavia were prohibited. Yet a significant traffic continued to link Makassar with the Malacca Straits in defiance of Company rules; this trade is almost invisible in Dutch sources. The entrepreneurial Wajorese, alongside Mandarese and other Buginese played a key role, shipping textiles (Sutherland and Bree 1987), and products such as gambir, an ingredient in the widely-chewed betel-nut preparation *sirih*.

Makassar's Asian-led commercial boom continued through the 1780s. Tripang and rattan passed through en route to Amoy, slaves were sent to Batavia, money and Chinese commodities to Nusa Tenggara Barat and Timur. Java supplied arak, tobacco, and Indian textiles, while Sumbawa provided rice and raw cotton. The latter was also, along with Bonerate and Buton, a general rendezvous for the trepan fleets working the waters from the Flores Sea to the Sulawesi coast, and along the shores of Australia and Papua. Chinese and Malay merchants flourished, but the predominantly mestizo Europeans had to rely on supplying slaves to Batavia. Sulawesians were prominent in the southern seas. After making some rather heroic assumptions, Gerrit Knaap and myself concluded that trade over the entire period trade grew by 2.1 per cent, with a compound growth rate of ca.4 per cent after 1770 (Knaap and Sutherland 2004). This vigorous Asian economy contrasted with the political and economic decline of the Company in South Sulawesi, as Bone asserted its control over much of the peninsula, choking Dutch Makassar's access to slaves and rice (Jacobs 2006).

The increasingly peripheral role of the Dutch in Makassar was confirmed by the shift of East Indonesian trade to Singapore. Sea and forest products, and later agricultural commodities destined for China and Europe, were shipped there in exchange for textiles, opium and weapons. From the late 1830s coffee, promoted by local rulers and Dutch officials, proved a valuable and ultimately dominant commodity. Much was exported by the semi-official Netherlands Trading Association (NHM, Nederlandsche Handel-Maatschappij), but about one-third of the coffee harvest left directly from 'native' ports, by-passing Makassar.[4] In an effort to break these Singapore-centered networks, Makassar was made a (partially) free port in 1847 (Poelinggomang 2002). Dutch commercial institutions, private German and Dutch merchants opened offices in Makassar, focused on trade with Europe. The main exports were still coffee and tripang and forest products, while the chief imports were textiles, opium and yarns.

The Netherlands sought 'to impose a narrow bilateralism' on the Indies (Dick 1990: 296), with trade and shipping concentrated in Dutch hands and on Dutch ports, particularly Batavia. These efforts were strengthened by steam shipping, particularly the formation of the KPM (Koninklijke Paketvaart Maatschappij, Royal Packet Company) line (1888-1966) and, around the turn of the century, by direct shipping to the West. There was then a growing European interest in sea and forest products such as latex, rattan, pearls, mother-of-pearl, ebony and bird skins. At the end of the 1800s coffee was the dominant export, although copra was emerging. Textiles and opium were the chief imports. Within twenty years, however, copra had become the backbone of Makassar's exports, and non-textile manufactures made up a significant proportion of imports. By then Makassar's long-distance trade was integrated into the commercial networks of the mature colonial economy, while maintaining less visible, but crucial ties with Singapore, Hong Kong and Southern China.

[4] ANRI, Jakarta: Makassar. Vol. 7/7, 9/4. See Appendix, Trade.

CONTEXTUALIZING MAKASSAR'S TRADE STATISTICS

The archives in Jakarta, Makassar and The Hague contain many statistical fragments. But the data on Makassar are so scattered and variable, and give such a partial view of the processes described, that it is useless for large-scale analysis. Yet it is very valuable, if it can be critically contextualised, which is not always easy. To illustrate this I will give several examples of how the statistics recording Makassar's trade were shaped by political realities, government policy and/or changes in collecting procedures. Often varying sets of data were kept by separate officials for different purposes, and a large proportion of Makassar's traffic was either completely unrecorded or noted by local power-holders who kept no archives.

The VOC only had the legal right to control the trade of its own subjects[5], and could not interfere with people under other jurisdictions, such as those of local rulers. Moreover, since the Dutch harbourmaster did not tax vessels under c.2 tons, and since local coastal traffic (including hubs like Bira and Bonerate) was generally exempt, his brief only covered interregional trade by Dutch subjects. It is estimated that even in this sector c. 20 per cent trade was unreported (Knaap and Sutherland 2004: 8).

The king of powerful Bone was a crucial ally of the Dutch. He spent a couple of months a year at his court at Bontoala, just east of the city, and controlled much of the densely settled Makassar area. The Bugis kampung north of the fort included the quarter of the famously entrepreneurial Wajorese and the vigorous Bugis market. The Dutch had to accept their exclusion from these settlements for political reasons. Trading centres further north, like Mandar and Kaili, were also free of VOC control. Since the VOC anchorage enforced higher charges, the Bugis market was preferred by many traders, and consequently the most valuable imports, Indian textiles, were cheaper in Makassar than Batavia, which severely limited VOC imports into Makassar.

In 1767 the Company's harbourmaster at Makassar carried out an official enquiry into the 'present condition of trade, not only insofar as it concerns the small number of our inhabitants, but all the principle places of commerce in this Government'. He sought the true cause of the collapse of our sales,

[5] These included immigrant communities like Chinese and Malays, and *kampung* inhabitants not under independent lords.

and why it is that the native can obtain English goods[6] in better quality and for a lower price than the Company is able to deliver, as well as to why native woven goods are preferred to those which the Company brings'. His report describes *perahu* from Wajo and Mandar (both regions with a strong weaving tradition) carrying local textiles to Riau, at the strategic southern end of the Malacca Straits, where they were sold for Spanish dollars. These they took north, to the Malay sultanates of Kedah and Selangor, where the coins were more valuable. They then purchased 'English' cloth for sale in Sulawesi and further east. Wajorese and Mandarese were also doing brisk business with the Anglo-American country traders from India who sought sea and forest products to exchange for tea in China. They frequented the coasts of Kalimantan, Sulawesi and Sulu (Warren 1981).[7] It is highly probable that some inhabitants of Makassar participated in this trade. Just up the coast from Makassar, for example, the settlement of Soreang was linked by pack-horse trails to the inland lakes, and from there, by the Cenrana river, to the East Coast harbours (Poelinggomang 2002: 136-8; Knaap and Sutherland 2004:20). In reality the VOC only controlled traffic between their main settlements, particularly those in Java and in Maluku.

During the second half of the eighteenth century the VOC harbourmaster was not the only person monitoring Makassar's trade. The revenue-farmer, who paid an annual sum to the Company for the right to collect customs duties, was also losing income because of the Bugis trade. He reached an accommodation with the Bone ruler in 1774, paying him for the right to tax shipping in his areas, and accepted a Bugis 'assistant' for customs collection in Makassar. There were then three officials extracting income from the harbour, and at least the farmer and the harbourmaster kept books. The apparently meticulous Dutch records have survived in part, but only fragments from the farmer's administration. The two sets of accounts 'barely correlate', partly because of different collection methods and payment calculations (Sutherland and Bree 1987; Knaap and Sutherland 2004: 30-6).

6 This refers to products of British India, such as textiles and opium.

7 Nationaal Archief, The Hague: VOC. Vol. 3243, ff.73-81.

MAKASSAR AS A FREE PORT: A BOOM IN TRADE AND STATISTICS

As was noted above, Makassar was made a (semi-) free port in 1847, and the trade statistics were duly transformed. Commodity flows which had been bypassing the port became more visible. Although the supply of many products fluctuated naturally, it is nonetheless clear that between 1846 and 1847 trade boomed. Traders' calculations were determined by a number of factors, and for most *perahu* captains the balance shifted in favour of Makassar. The avoidance of the risks of the sea passage and easy access to cargoes were no longer outweighed by harbour costs. The port had always been particularly convenient for the *perahu* skippers of Eastern Indonesia, and Chinese merchants there were experts in assessing products like *tripang*. However, for commodities from west of the Malacca Straits, such as textiles and opium, Singapore was cheaper.

Between 1846 and 1847 Western textile imports rose almost tenfold, Western yarn imports increased sevenfold, whereas Western textile exports more than doubled in value (Table 1). Textile arrivals from Eastern Indonesia almost doubled as well with exports rising to three times the level in the preceding year. Opium traffic trebled, mother-of-pearl imports and exports increased at extreme rates; other marine commodities followed suit, though less dramatically. Tortoiseshell and *tripang* imports rose threefold and by about 50 per cent respectively, exports fivefold and by more than 150 per cent. Rice imports fell by about 20 per cent, while exports climbed to six times the level that had prevailed in 1846. The overall change in registered commodities between the years 1846 and 1847 amounted to 145 per cent among imports and 123 per cent among exports. The increase in the value of total registered trade between the years 1847 and 1848 was far less impressive on both accounts.

Table 1
Makassar's Trade in Selected Commodities, 1846-1848.
(value in guilders)

Products	**Imports**			**Exports**		
	1846	**1847**	**1848**	**1846**	**1847**	**1848**
Coins	191	198	99	243	131	185
Coffee beans	29	71	76	12	137	68
Mother-of-pearl	5	100	88	5	96	113
Opium	55	185	188	58	155	185
Rice	100	80	55	21	134	108
Textiles (Indone-sian)	44	86	128	36	107	178
Textiles (Indian)	6	13	172	16	16	27
Textiles (Western)	76	721	755	75	179	251
Tortoiseshell	18	53	44	23	106	115
Tripang	112	155	209	102	248	238
Yarns (Western)	17	118	123	-	-	-
Total (selected)	655 (**60%**)	1,780 (**67%**)	1,938 (**67%**)	591 (**68%**)	1,309 (**68%**)	1,289 (**61%**)
Total (registered)	1,084 (**100**)	2,659 (**245**)	2,885 (**266**)	868 (**100**)	1,933 (**223**)	2,104 (**242**)

Source: Overzigt 1846-1849: report on 1848.

Notes: Total selected commodities in value (thousand guilders) and as a percentage of all registered commodities. Total registered commodities in value (thousand guilders) and as a percentage of the 1846 level (1846=100).

Source: Overzigt 1846-1849: report on 1848.

Notes: Total selected commodities in value (thousand guilders) and as a percentage of all registered commodities. Total registered commodities in value (thousand guilders) and as a percentage of the 1846 level (1846=100).

The impact of the 1847 opening of Makassar created a corresponding drop in Singapore's trade with Sulawesi between the 1845/46 and 1846/47 seasons, declining in value from 1,002,080 to 604,866 Spanish dollars, a loss of around 40 per cent. The number of *perahu* sailing to the British port declined, and never recovered. But the increase in square-rigged shipping between the two ports compensated for this loss, and the sixteen years after 1847 formed the peak years for Singapore-Sulawesi trade, before Singapore's economic crisis of the early1860s (Wong 1960: 102-5, Table IX: 22). Meanwhile, Makassar became the clearing house for the *perahu* traffic (Wong 1960: 222).In terms of ships large enough to be counted, Singapore was a more important trading partner for Sulawesi, particularly for the independent states, than was Makassar. Much of the coastal and regional traffic evaded Dutch controls (Poelinggomang 2002: 145-7). Indeed, it has been estimated that colonial officials failed to register about two-thirds of goods traded in Makassar around 1840 (Dick *et al.* 2002: 94-5).

CENTRAL VERSUS LOCAL STATISTICS

The figures for Makassar's mid-nineteenth century trade by Batavia in the *Overzigt* and the port's own harbour administration generally agree, although the latter are often higher. This was the case, for example, in 1860 when local import and export data were respectively 11 and 22 per cent higher (Table 2). But problems generally arose within, rather than between, sources. However, as more data becomes available, inconsistencies emerge.

Table 2
Comparison of Central and Local Registration of Makassar's Trade, 1854-1860. (value in thousand guilders, percentage = local registration as a proportion of central registration)

Year	*Overzigt* Imports	Exports	1860 Annual report Makassar Imports	%	Exports	%
1856	4,473	4,066	4,517	101	4,240	104
1857	4,013	4,097	4,498	112	4,530	111
1858	4,199	4,016	4,968	118	5,241	131
1859	5,740	5,709	6,347	111	6,714	118
1860	7,870	5,067	8,736	111	6,162	122

Sources: Overzigt 1856-1860, as given in Poelinggomang 2002. Annual reports on Makassar's trade in: ANRI, Jakarta: Makassar. Vol. 9/1.

If we juxtapose import and export figures from Batavia (to 1908) and Makassar (from 1910), there appears to be a very sudden jump in reported trade between the two years (Tables 3 and 4). This is somewhat unexpected, as the free-port status of Makassar was abolished in July 1906, and the considerable growth in Makassar's trade was usually attributed to its free port status ('Makassar'

1879). The *Overzigt* figures do show an increase by 1908, but the difference in scale between these numbers and the local data from 1910 is considerable, as is the continuing gap between the harbourmaster's statistics and those given by Cool (1911-1918), using Batavia's data (Cool 1921).

Table 3
Makassar's Trade as Reported by the Government, 1895-1908. (value in thousand guilders)

Year	Imports Exports	
1895	5,668	5,779
1900	4,292	9,282
1903	4,313	8,630
1905	4,168	9,651
1906	6,458	10,261
1907	5,515	10,533
1908	6,476	10,914

Sources: Koloniaal Verslag 1895-1908: Vol. II.Poelinggomang 2002.

Table 4
Imports and Exports of Makassar as Reported in Various Sources, 1910-1918 (value in thousand guilders)

Year	Harbour Imports Exports		Cool Imports Exports		***Encyclopaedia*** **Imports Exports**	
1910	15,583	35,658				
1911	17,060	34,618	8,229	18,341		
1912	18,687	33,348	11,116	15,697		
1913	24,650	34,704	18,905	15,712	14,157	18,635
1914	20,709	33,695	10,615	17,003		
1915	17,239	27,161	10,355	15,415		
1916	14,765	25,092	9,039	12,563		
1917	17,225	20,115	16,827	13,420		
1918	18,225	15,810	11,933	8,438		

Sources: Jaarverslag Haven 1925; Cool 1921; Encyclopaedia 1918: 'Makassar'.

The authoritative Netherlands Indies *Encyclopaedia*, which drew its material from the 'Statistisch jaaroverzicht' in the *Koloniaal Verslag* over 1905, and agrees with Poelinggomang, gives different 1913 totals from Cool, and indeed could indicate an error in his figure for exports. The Makassar port administration's data for 1910 are more than twice as high for imports than those given in the central 'Statistisch jaaroverzicht' for 1908; on the export side the difference was even larger. In 1911 the port figures are about twice those reported by Cool. Three years later, in 1914, the difference was still of the same order of magnitude in both flows of trade. By 1918 the port's recorded imports were one-third higher than Cool's data, and for exports larger still, virtually twice as high. These discrepancies would seem to suggest that the official figures may have grossly underestimated both imports and exports. Clearly, different shipping is being listed.

If we want to understand the actual circumstances of Makassar's commerce we need to have some idea of what is, and is not, being counted. The change in registration practice in 1912 is an obvious possible cause of these discrepancies, particularly as some ports issued retrospective data, so there were two sets from 1903 to 1912 (Knaap 1989: 72). But the movement in the data sets is similar. Both show a sharp increase in imports between 1912 and 1913, with World War I soon reducing imports to pre-1912 levels. There is no striking change in exports.

Attempts to compare port shipping figures with central data can also be disconcerting, even if we limit our comparisons to steamship arrivals. Numbers run roughly parallel for years, before diverging and re-converging. Comparing the figures given in three sources, Poelinggomang, Touwen and the port statistics, we see that they are roughly of the same order of magnitude until 1907, when they go their separate ways. The Makassar harbour reports show roughly double the number of steamship arrivals as the other sources, which draw on the Batavia statistics (Table 5).

Table 5
Arrivals of Steamships in Makassar, 1907-1911. (number of vessels)

Source	1907	1908	1910	1911
Poelinggomang	314	202		
Touwen	304	212	225	325
Makassar Port	342	407	497	485

Sources: Poelinggomang 2002: Appendix IV, Table 2; Touwen 2001: Tables 5k, 6k; Jaarverslag Kamer van Koophandel 1912.

The situation for *perahu* (sailing vessels) is just as complex. Three different authors come up with different figures reflecting their sources (Table 6).

Table 6
Perahu Shipping in Makassar in Selected Years, 1905-1933.

Source	Total movement 1905	Total movements 1908	Total 1927	Total 1933
Statistiek	414	393		
Makassar data	2,052	4,140	5,871	7,930
Malewa			4,944	6,986

Sources: Statistiek van den handel 1906, as given in Poelinggomang 2002: 304; Asba 2007: 86 [Makassar data]; Malewa 1938, as given in Singgih 2003: 172.

CONCLUSION

The Netherlands Indies trade statistics provide a seductive wealth of information on different ports and commodities. When analysed within their own frame of reference, as a series or for comparisons within the data sets, they are an invaluable resource. The three examples sketched above come from the periphery of the colonial state and a period in which most of the region was still controlled by virtually independent rulers. Approximate data is only to be expected. Nonetheless, the proportion of unreported trade is very large, so that the material must be critically contextualised if it is to be used for the specifics of local history.

Even for regions, such as Java, where bureaucracies were stronger and sources both more voluminous and reliable, numbers should be treated with great caution. Data were filtered through several administrative levels with variable degrees of knowledge. Moreover, officials were not always willing to be open. The swings created by policy changes or shifts in compilation criteria create further distortions. The level of 'unknown unknowns' is so high that we run the risk of perceiving a commercial landscape that is created by the data, and consequently likely to be very different from the reality.

BIBLIOGRAPHY

Books

Asba, A. Rasyid (editor). 2007. *Kopra Makassar: Perebutan Pusat dan Daerah: Kajian Sejarah Ekonomi Politik Regional di Indonesia*. Jakarta: Yayasan Obor Indonesia.

Berg, N.P. van den. 1907. *Munt-, crediet- en bankwezen, handel en scheepvaart in Nederlandsch-Indië. Historisch-statistische bijdragen*. The Hague: Nijhoff. Booth, Anne. 1998. *The Indonesian Economy in the Nineteenth and Twentieth Centuries. A History of Missed Opportunities*. London: Macmillan.

Cool, Wouter. 1921. *The Ports of the Dutch East Indies*. Brussels: International Association of Navigation Congresses.

Dick, Howard, Houben, Vincent J.H., Lindblad, J. Thomas and Thee Kian Wie. 2002. *The Emergence of a National Economy. An Economic History of Indonesia, 1800-2000*. Crows Nest, NSW: Allen & Unwin.

Graaff, E.A. van de. 1955. *De Statistiek in Indonesië*. The Hague/Bandung: Van Hoeve. Jacobs, Els M. 2006. *Merchant in Asia. The Trade of the Dutch East India Company during the Eighteenth Century*. Leiden: CNWS Publications.

Knaap, Gerrit and Sutherland, Heather. 2004. *Monsoon Traders: Ships, Skippers and Commodities in Eighteenth-Century Makassar*. Leiden: KITLV Press. Malewa, Nadjarmoedin Daeng. 1938. *De Indonesische prauwvaart in het interinsulair verkeer*. [No place].

Poelinggomang, Edward L. 2002. *Makassar Abad XIX: Studi tentang Kebijakan Perdagangan Maritim*. Jakarta: Gramedia.

Singgih Tri Sulistiyono. 2003. *The Java Sea Network: Patterns in the Development of Interregional Shipping and Trade in the Process of National Economic Integration in Indonesia, 1870s-1970s*. PhD dissertation, Leiden University.

Warren, James Francis. 1981. *The Sulu Zone: The Dynamics of External Trade, Slavery and Ethnicity in the Transformation of a Southeast Asian Maritime State*. Singapore: Singapore University Press.

Articles

Dick, Howard. 1990. "Inter-Island Trade, Economic Integration and the Emergence of the National Economy". In W.J. O'Malley, Booth, Anne and Weidemann, Anne (editors), *Indonesian Economic History in the Dutch Colonial Era*. New Haven: Yale Center for International and Area Studies.

"Makassar". 1879. "Makassar als vrijhaven". *Indische Gids*. Vol. 1, No. 1.

Poelinggomang, Edward L. 1993. "The Dutch Trade Policy and Its Impact on Makassar's Trade". *Review of Indonesian and Malaysian Affairs* [RIMA], Vol. 27, No. 1-2.

Sutherland, Heather and Bree, David S. 1987. "Quantitative and Qualitative Approaches to the Study of Indonesian Trade: The Case of Makassar". In T. Ibrahim Alfian *et al.* (editor), *Dari Babad dan Hikayat sampai Sejarah Kritis: Kumpulan Karangan Dipersembahkan kepada Prof.Dr. Sartono Kartodirdjo*. Yogyakarta: GadjahMada University Press.

Wong Lin Ken. 1960. "The Trade of Singapore 1819-69", *Journal of the Malay(si)an Branch of the Royal Statistical Society* [JMBRAS]. Vol. 33, No. 4.

Statistical reports and reference works

Clemens, A.H.P., Lindblad, J. Thomas and Touwen, L. Jeroen. 1992. *Changing Economy in Indonesia. Vol. XIIB. Regional Patterns in Foreign Trade 1911-1940*. Amsterdam: Royal Tropical Institute.

Encyclopaedie. 1918. *Encyclopaedie van Nederlandsch-Indië. 2nd edition.* [4 vols.]. Leiden: Brill.

Indisch Verslag. 1931-1940. *Indisch Verslag. Vol. 2. Statistisch jaaroverzicht van Nederlandsch-Indië*. Weltevreden: Landsdrukkerij.

Jaarverslag Haven. 1925. *Jaarverslag der Haven van Makassar 1924*. Makassar: Landsdrukkerij.

Jaarverslag Kamer van Koophandel. 1912. *Jaarverslag van de Kamer van Koophandel en Nijverheid te Makassar over het jaar 1912*. Makassar: Kamer van Koophandel en Nijverheid.

Knaap, Gerrit J. 1989. *Changing Economy in Indonesia. Vol. 9. Transport 1819-1940.* Amsterdam: Royal Tropical Institute.

Koloniaal Verslag. 1867-1923. *Koloniaal Verslag*. The Hague: Algemeene Landsdrukkerij.

Overzigt. 1846-1869. *Overzigt van den Handel en de Scheepvaart in de Nederlandsche Bezittingen in Oost-Indië, buiten Java en Madura*. Batavia: Landsdrukkerij.

Statistiek van den handel. 1870-1906. *Statistiek van den handel en de in- en uitvoerrechten in Nederlandsch-Indië*. Weltevreden: Visser.

Statistiek van den handel, de scheepvaart. 1871-1875. *Statistiek van den handel, de scheepvaart en de in- en uitvoerregten in de bezittingen buiten Java en Madura*. Batavia: Landsdrukkerij.

Statistisch jaaroverzicht. 1923-1930. *Statistisch jaaroverzicht van Nederlandsch-Indië*. Weltevreden: Landsdrukkerij.

Touwen, Jeroen. 2001. *Shipping and Trade in the Java Sea Region, 1870-1940*. Leiden: KITLV.

Verslag van den handel. 1825-1871. *Verslag van den handel, de scheepvaart en de inkomende en uitgaande regten op Java en Madura*. Batavia: Landsdrukkerij.

Verslag van het beheer. 1849-1866. *Verslag van het beheer en den staat der Nederlandsche bezittingen en koloniën in Oost- en West-Indië*. Utrecht: Kemink.

Archival sources

Arsip Nasional Republik Indonesia (ANRI), Jakarta: Makassar. Vol. 7/7, 9/1, 9/4. Nationaal Archief, The Hague: VOC. Vol. 3243.

Websites

http://archive.org/stream/staatkundigst03unknoog.

Touwen, Jeroen. 2002. "Accelerations in Java Sea Trade. Foreign and Domestic Trade and Shipping in Late Colonial Indonesia, 1870-1940". In *Indonesia – Economic Growth and Institutional Change Programme*. Amsterdam: International Institute of Social History. http://www.niwi.knaw.nl.

WHY WAS THE DUTCH LEGACY SO POOR? EDUCATIONAL DEVELOPMENT IN THE NETHERLANDS INDIES, 1871-1942

Ewout Frankema

Wageningen University, The Netherlands

ABSTRACT

This contribution builds upon Anne Booth's extensive work on the differentiated evolution of colonial education systems in East and Southeast Asia. The article probes further into the underlying causes of the poor Dutch legacy. It is basically argued that the spread of popular education was not only hampered by a lack of financial commitment, but also by notable inequalities in the allocation of funds for education and a great reluctance to support initiatives in investment in private education, which, I think, should be interpreted as the result of the metropolitan commitment to secular colonial rule in an overwhelmingly Islamic society.

Keywords: Colonialism, Education, Inequality, Islamic Society

INTRODUCTION

One of the highlights of Anne Booth's impressive scholarly *oeuvre* is her book *Colonial Legacies. Economic and Social Development in East and Southeast Asia*, published in 2007. This comparative study of the long-term impact of colonial rule can be regarded as the culmination of decades of research on a wide range of topics relating to Indonesian historical development, a research agenda that she has extended to the entire region of East and Southeast Asia, an agenda that has recently incorporated the Asia-Africa comparison, too (Booth 2013).Apart from assessing the highly important questions of colonial legacies, *Colonial Legacies* is exemplary for Booth's lucid style of presentation style, her crystal-clear way of synthesizing large sets of comparative socio-economic data, her subtle application of political economic theory in order to differentiate between the general and the specific, and her fine-grained intuition for identifying the key factors in path-dependent development processes.

One of the recurrent themes in *Colonial Legacies* is the differentiated evolution of colonial education systems in East and Southeast Asia. The literature in the 1990s on the 'East Asian miracle' had singled out Asian education systems as one of the primary determinants of a particular 'Asian model' of modern economic growth (World Bank 1993, Birdsall, Ross & Sabot 1997, Cummings 1995, Campos & Root 1996). By contrast, Booth argues that the orthodox view suffers from gross overgeneralization (Booth 2003: 148-149; Booth 1999). Whereas in East Asian countries such as Japan, Taiwan and South Korea education clearly preceded rising demand, there is much less evidence that growth leaned heavily on *exante* investment in education among the Southeast Asian Newly Industrializing Economies.

This point is particularly relevant to Indonesia, which inherited one of the poorest, if not *the* poorest colonial education system in Southeast Asia (Booth 2003: 159). In her earlier work Booth discussed the weak Dutch legacy in education as part of a history of 'missed opportunities' (Booth 1998). Although there has been a rapid catch-up in access to primary and secondary schooling in Indonesia since independence, the quality of the Indonesian educational system is still extremely poor. In various rounds of PISA surveys, conducted between 2000 to 2012, Indonesian students scored at the bottom of international reading, science and mathematics scales (OECD 2013). This low international ranking may, at least partially, be attributed to the quantity-quality trade-off invoked by the rapid expansion of schooling since the early 1970s, when substantial oil revenues started to flow into the education system. Yet, for the deeper causes we have to step back into the colonial era.

That the Dutch legacy was poor is not a new insight. This was already observed and commented upon by contemporaries (Brugmans 1938, Hartgerink 1942, Furnivall 1943). The question *why* Dutch education policies differed from those in neighbouring colonies is not that simple. A complete answer would require, amongst others, an analysis of both supply and demand factors, a closer inspection of religious issues and related conceptions of gender roles, a closer look at the role of Christian missionary schools and a review of political debates on the function and implementation of education programs in the mother country.

This contribution does not pretend to offer an all-embracing answer to the *why* question, but it seeks to exploit the comparisons with other colonies in Asia and Africa colonies arguing, first, that the spread of popular education was not only hampered by a lack of financial commitment by the Dutch colonial government, but also by notable inequalities in the allocation of funds to education and a reluctance to support private education investment initiatives, for instance in the case of the Tiong Hoa Hwee Kwan primary schools set up by the ethnic Chinese community in the Netherlands Indies in March 1900. In addition, I argue that we should interpret such reluctance in the context of a metropolitan commitment to the principle of *laïcité* (laicism, also often denoted as *secularism*). The idea of *state neutrality* in religious affairs was scrupulously maintained in an overwhelmingly Islamic society.

SOME STYLIZED FACTS

In comparison to the development of formal education in the other Northeast and Southeast Asian countries the Indonesian experience can be sketched by a number of 'stylized facts'. First, the expansion of education under Dutch colonial rule remained far below its maximum potential. If the colonial government would have accepted the budgetary consequences of the educational policies adopted by, for instance, the Americans in the Philippines or the Japanese in Taiwan and Korea, access to all levels of education would have opened up much faster. In his classic study on *Educational Progress in Southeast Asia*, Furnivall (1943) neatly sums up the varied performance before 1940 (Table 1). Together with French Indochina and British Burma, the Netherlands Indies recorded the lowest enrolment rates in primary education, not to mention the virtually negligible enrolment in post-primary education. A comparison with Thailand, the only country in the Southeast Asia that developed an educational system under an independent administration –which is not the same as saying that it was isolated from foreign influences - also endorses the poor Dutch legacy.

The 'unrecognized schools' in the second column of Table 1 refer to schools that were not officially recognized by the colonial authorities. In the Netherlands Indies the lion's share of these schools consisted of Islamic boarding schools (*pesantren*) and mosque schools (*madrasah*), offering classes in religious philosophy and spiritual training (meditation), Koran recitation (in

Arabic), martial arts, and a variety of manual skills (Steenbrink 1974). Among the schools set up by indigenous Indonesian leaders, mention should also be made of the *Taman Siswa* schools established in Batavia on 3 July 1922 by Suwardi Sujaningrat, known as Ki Hadjar Dewantara. I will get back to the complicated relationship of the Dutch colonial government with the Islamic schools below.

Table 1
Gross Enrolment Rates of Total Population in Southeast Asia, 1936-1939

	Recognized primary schools	Recognized and unrecognized primary schools
Netherlands Indies	3.4	4
Malaya	6	7.8
Burma	3.9	5.5
Thailand	9.7	10.7
Indo-China (Fr.)	2.1	2.5
Taiwan (Jap.)	11.2	11.4
Philippines (US)	10.8	11.5

Source: Furnivall 1943: 111.

Note: Recognized schools are schools recognized by the colonial authorities, but not necessarily receiving state subsidies. The information provided by Furnivall on the unrecognized schools excluded from official statistical records is based on 'educated guesses'.

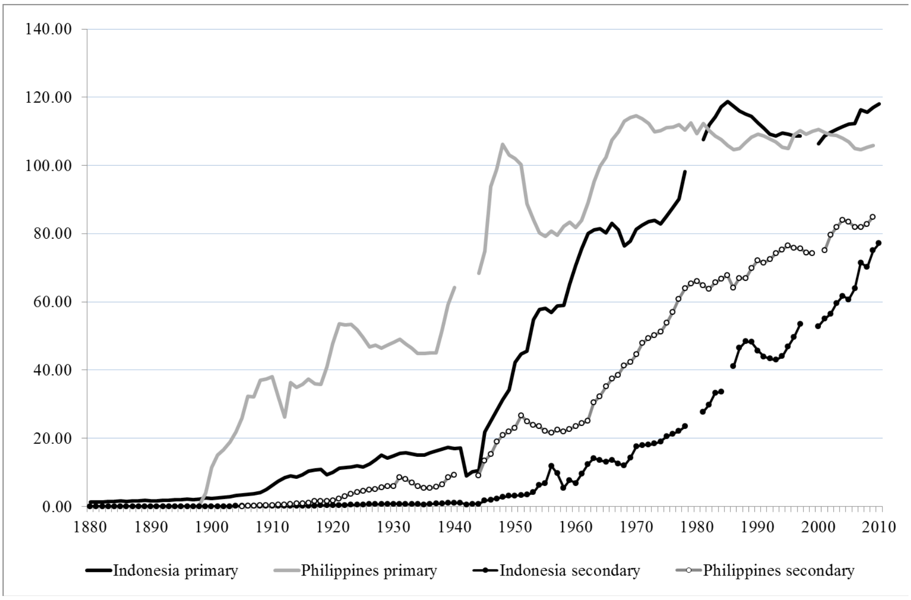
Although the British are often regarded to have pursued more 'benign' educational policies than other colonial powers, I have elsewhere argued that this claim is difficult to maintain in view of the vast intra-imperial differences in educational development across British Africa (Frankema 2012). This argument can be extended to Asia as well. The major distinction in educational investment was not between the various European colonial powers, but rather between the European colonial powers on the one hand, and non-European colonial powers on the other. Indeed, British investments were quite meagre compared to the Japanese and American involvement in education. The British hardly had a better record than the French or the Dutch, especially if we consider that access to primary education in British India - not included in Furnivall's study, but by far the largest British colony in the region - was more or less comparable to the Netherlands Indies up to 1940 (Van Leeuwen 2007: 265-268).

The comparison of primary and secondary school enrolment rates between Indonesia and the Philippines (Figure 1) reveals a second, important stylized fact. There was a clear break in the long-term development of school enrolment expansion after Indonesian independence, which did not occur in the Philippines. The looming prospect of independence after the defeat of Japan initiated a mere revolution in Indonesian educational access. Although the data constructed on the basis of official statistics may overstate the actual increase, there can be little doubt that this big push to school enrolment constituted a break with the colonial pattern. Secondary schooling expanded at exponential rates during the 1950s and, not much later, tertiary school enrolment rates started to take off as well. This change in the trend should not only be regarded as a rapid increase in supply, it also reflected the perceived economic value of basic skills, such as literacy and numeracy, spurring *demand* for schooling. Changing prospects of social mobility emerged after the demise of the 'old' colonial elites, opening up lucrative vacancies in administration and business, while rapid public sector growth was adding a large number of well-paid jobs (Ricklefs 2008).

A third stylized fact refers to a number of structural inequalities in the colonial education system. The gender gap in school enrolment was comparatively large. Around 1920 primary school enrolment rates of boys and girls in Japan had been close to parity, whereas in colonial Indonesia the ratio was at best 4 to 1 (Van Leeuwen 2007: 264-265, 270-271). In the Philippines the gender gap was much smaller as well, with rates of 1.3 to 1 in primary schools (Statistical Bulletin 1926). Furthermore, there existed a peculiar type of regional inequality. Literacy rates were higher in the outer regions than in the central areas. In 1930 indigenous male and female literacy in islands outside Java stood at 13.4 and 4.0 per cent respectively against 9.7 and 1.4 per cent in Java. Interestingly, for the Chinese minority rates were the opposite, with 33.2 and 7.7 per cent in the islands outside Java and 47.5 and 16.0 per cent in Java (Furnivall 1943:76). These figures reveal the impact of the long-term presence of Christian missionary schools in the outer provinces. Apparently, the increased investment in mass education in the first decades of the twentieth century had been insufficient to brush away this missionary legacy.

Gross primary and secondary school enrolment rates in Indonesia and the Philippines, 1880-2010

Figure 1
Gross primary and secondary school enrolment rates in Indonesia and the Philippines, 1880-2010



Source: Indonesia 1880-1969: van Leeuwen 2007: 264-266, 1970-2010: World Development Indicators 2012; the Philippines 1898-1970: Mitchell 2007, 1971-2009: World Development Indicators 2012.

Note: The figure excludes enrolment in unrecognized schools. School enrolment rates for the Philippines up to 1970 were computed by dividing total numbers enrolled from *Handbook of Philippine Statistics, 1903-1959* and Mitchell (2007), by a constructed age-group share of 15-18 per cent of total population for the primary school-age (6-11 years) and 10-12 per cent for the secondary school-age (12-15 years). Total population figures from Maddison 2010.

Finally, there existed considerable gaps in ethnic enrolment and literacy rates. Of course, most of the Dutch children and a large part of the Indo-European children were enrolled in European schools, where they were taught the standard Dutch primary school curriculum. But there was also a considerable gap between the Chinese and Indonesians. This gap shows up much clearer in literacy rates, than in the officially recorded school enrolment rates. This may point to an important role for home education among the Chinese, which would square with the fact that the Chinese were the first to exert pressure on the colonial authorities for support of the expansion of Chinese schools.

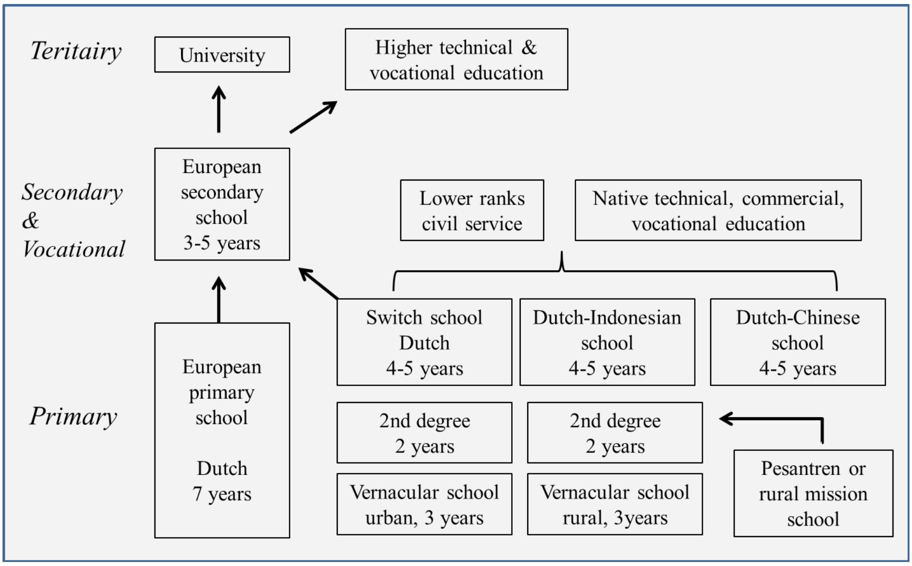
Such structural inequalities are important for the argument I wish to develop in the remainder of this article, as they reflect the outcome of a heated political debate on how to integrate popular indigenous education into the existing, more advanced, but also rather expensive system of European education which had been designed for the children of the Dutch, Chinese and indigenous elites. Until the late nineteenth century popular education (*volksonderwijs*) had been left almost entirely to the private market. One of the central issues was whether or not the indigenous Islamic schools and the Christian missionary schools had to be integrated into the system of public education. Should they be eligible to state funding or not? If yes, what demands would then be posed with respect to the curriculum and to which extent should the colonial state get involved in teacher training? All these questions emerged against the background of the fundamental question of how the Dutch state, and hence the colonial state, was to secure neutrality in religious affairs, that is pursuing the principle of laicism.

The end result of this political and ideological debate, which was mainly conducted in the metropolis rather than in the colony, was a highly differentiated system of education in which European schools were (p)reserved for the elites, while popular education was expanded via secular village schools (*desa*-schools) operating a vernacular education program, serving as a cheap and basic alternative to Western education (Brugmans 1938: 302-317, Lelyveld 1996), while the existing Islamic and Christian missionary schools were largely excluded from the system of public education. Below I argue that the failure of the colonial government to capitalize on private school initiatives was one of the reasons for the slow spread of mass-education.

The state-funded Dutch-Chinese school (*Hollandsch-Chinesche School*; HCS) was established in 1908 to prepare children of the Chinese minority for a position at intermediary levels of business and public administration. The state-funded Dutch-Indonesian School (*Hollandsch-Inlandsche School*; HIS) was founded in 1914 in response to growing discontent regarding the limited opportunities for Indonesian children and the privileged position of the Chinese. As Figure 2 shows these new school types created the opportunity to advance into European secondary and tertiary education (Van der Veur

1969). Yet, for the large majority of Indonesian children two or three years of education in a *desa* (rural)-school was the maximum they could obtain before the 1940s, and the children who actually completed these three years of schooling still formed a 'fortunate' minority within their generation (Boone 1996).

Figure 2
The educational system in the Netherlands Indies in the 1920s



Source: Frankema 2013: 159.

COLONIAL INVESTMENT IN EDUCATION

A brief survey of the development and distribution of educational expenses shows how Dutch colonial education policies worked out in practice. In 1864 the Dutch metropolitan government adopted the so-called *comptabiliteitswet*, a law stipulating that the annual government budget of the Netherlands Indies had to be ratified by the Dutch parliament. The tightening of metropolitan control on colonial fiscal affairs resulted, amongst others, in the establishment of a new department of education (*Department van Onderwijs, Eeredienst en Nijverheid*) with a separate budget. In 1871 the Dutch parliament adopted a new education law that sought to uniform the highly scattered and diversified indigenous educational systems across the archipelago, and expand the number of teacher training schools under the supervision of the colonial administration (Hartegerink 1942: 17-21).The budget for public schooling was raised in steps from ca. 300,000 guilders in 1864, to roughly 3 million by the early 1890s. These reforms resulted in a gradual expansion of public schools catering almost exclusively to the higher social classes.

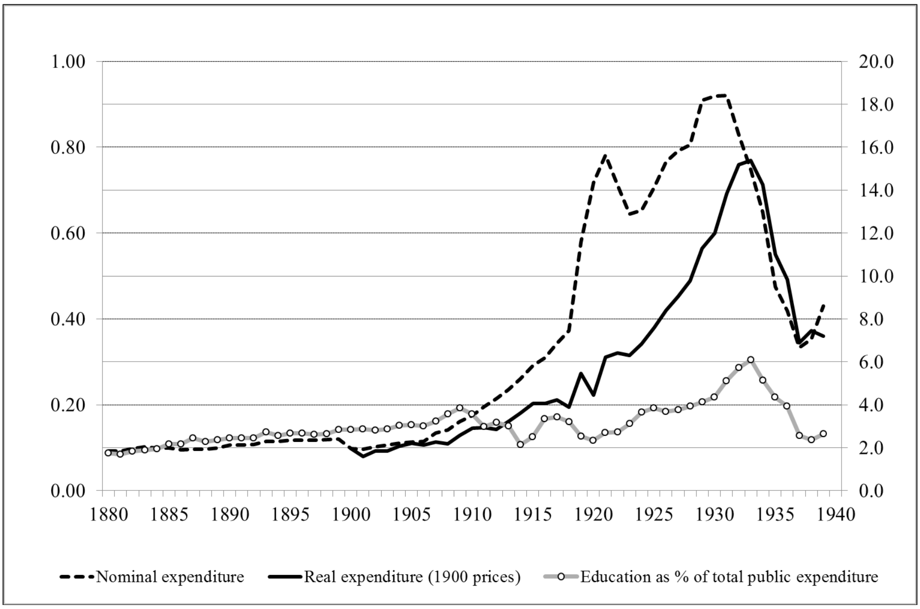
Figure 3 shows the nominal and real per capita public expenditure on education on the left-hand axis. The right-hand axis shows the education expenses as a percentage share of total public expenditure in the period 1880-1940. There was a marked increase in investment on education after when the government started to push the expansion of *desa* schools. These outlays possible because of tax reforms implemented during the 1890 1900s and 1910s, resulting in an impressive increase in the overall colonial budget and a heavier tax burden on the indigenous population (Meijer Ranneft & Huender 1926, Butcher &Dick 1993). Nevertheless fact, funding allocated to education still hovered around 2-3 per cent in 1920, before rising to about 6 per cent during the 1920s. The 1920s represents the only decade in which the Ethical Policy, launched in 1901, was backed up by a genuine commitment tore-allocate public resources towards education. This commitment quickly gave way to austerity measures in the wake of the worldwide economic depression in the 1930s. The share of education in total expenditures dropped to the level of the 1880s, whereas real per capita expenditures fell by more than 50 per cent, from 0.77 Dutch guilders at 1900 prices in 1933 to 0.34 in 1937.

From a global comparative perspective, a share of expenditure on education in the range of 3-6 per cent of the total budget was far from impressive. An allocation of that size was in fact common among British and French colonies in Africa (Frankema 2011, 2012). This may be compared to Japanese investment in colonial education in the first two decades of the twentieth century, where the share of educational expenditure went as high as 10-24 per cent of the budgets for Taiwan and Korea (Booth 2007:72). The Dutch investment effort looks quite bleak.

Table 2 shows that expenditures on education in the Philippines after 1898 were much larger as well. Converting Dutch guilders and Philippine pesos into US dollars using current exchange rates, per capita expenses on education in the Philippines appear to have been five times higher in 1908 ($0.06 versus

$0.30)and still, in 1929, about 3.5 times higher than in the Netherlands Indies ($0.37 versus $1.31).[1] This difference cannot be explained by a lesser fiscal capacity in the Netherlands Indies. In both colonies per capita government revenue oscillated around $2-3 in 1910, $5-6 in the 1920s and $4-5 in the 1930s (Booth 2007: 73).

Figure 3
Per capita public expenditure on education (left, guilders) and expen- diture on education as a percentage share of total public expenditure (right), 1880-1940



Sources: Nominal education expenditure from Van Leeuwen 2007 [original figures in *Jaarcijfers voor het Koninkrijk der Nederlanden (Koloniën)* 1880–1922 and *Statistisch jaaroverzicht van Nederlandsch-Indië* 1923–1939]; total government expenditure: Creutzberg 1976. Real expenditure based on a retail price index from Van der Eng 2002.

Interestingly, expenditure per student enrolled in 1908 was considerably higher in the Netherlands Indies. This difference reflects the evolution of the colonial education system in the Netherlands Indies in the late nineteenth century, which specifically targeted the children of the Dutch elite (Hartgerink 1942).

[1] The peso/dollar exchange rate was fixed at 2:1 throughout the years 1908-1929, as was the guilder/rupiah rate at 1:1. The guilder/dollar rate of exchange remained stable at 2.5:1.

Scarce funds were spent selectively, whereas in the Philippines the focus was on popular education right from the start of the American intervention. The push for popular education after 1907 did not result in a major shift in priorities. European schools kept receiving much more funding per student than indigenous village schools or Chinese schools. In other words, the expansion of mass-education was financed by budgetary expansion rather than by a redistribution of public resources. Indeed, the large inequality in the distribution of education expenses remained in place throughout the colonial period, and in 1929 the funding gap between European primary schools and indigenous primary schools had even grown larger, in both absolute and relative terms, than it had been in 1908 (Table 2). In 1929, one-half of the budget allocation for education was spent on European education, whereas these schools catered to only 10 per cent of total enrolment (Van Leeuwen 2007). It should be noted, though, that these government funds were increasingly absorbed by Indonesian (elite) children as they formed a growing majority in the European primary schools and started to outnumber Dutch children in the secondary schools during the 1920s (Van der Veur 1969: 14).

Table 2
Colonial Education Expenditure in Indonesia and the Philippines in 1908 and 1929

	1908		1929	
	Indonesia	Philippines	Indonesia	Philippines
Education as % share of total expenditure	3.6%	17.5%	4.1%	19.7%
Education expenditure per capita	0.06	0.30	0.37	1.31
Education expenditure per student	8.3	4.5	13.5	1.44
Expenses per student, European primary	19.9		34.3	
Expenses per student, Dutch-Chinese primary	5.4		8.1	
Expenses per student, Indigenous primary			5.5	

Sources: Indonesia: 1908: *Jaarcijfers voor het Koninkrijk der Nederlanden (Koloniën),* 1929: *Statistisch Jaaroverzicht van Nederlandsch-Indië.* Enrolment and population data for the Philippines: *Handbook of Philippine Statistics, 1903-1959.* Expenditure data on the Philippines 1908 and 1929: Bureau of the Census and Statistics, *Statistical Bulletin of the Philippines 1,* 1918, and *Yearbook of Philippine Statistics,* 1946.

The bottom-line, however, is that in comparison to the program of mass-education in the Philippines, where a standard English-language curriculum of four years, followed by three years of intermediate level schooling, was the norm, the spread of popular education in the Netherlands Indies was hampered by an unequal allocation of public funds. In the Philippines parents were not only obliged to register their children at a local school, the central government and municipalities also took care of free school materials and made a considerable investment effort in running teacher training schools to balance demand and supply. In addition, there were very few American children draining the budget. Although the mandatory use of English at public schools has been much criticized, it did generate a uniform system of education with a certain quality standard (Furnivall 1943). The duality in the education system of the Netherlands Indies closely corresponded with the language of instruction. In a colonial system where knowledge of Dutch formed the key to social and economic mobility, the opportunities to climb the social ladder were tightly controlled via the education system.

EXPLAINING THE POOR LEGACY

To understand *why* the Dutch left such a poor legacy it is useful to confront the account of changing priorities of colonial administration over the period 1870-1942 with some of the particularities of the educational system in the Netherlands as well as the Indies, especially with regard to the metropolitan debate on financing of confessional schools and the colonial perception of the blessings and curses of the growing Islamic education movement.

Inconsistent colonial policies are more likely to arise when the long-term priorities of colonial rule are not clearly spelled out. The colonial subject was perceived as 'an alien' as well as 'a relative', and the question to which extent this 'alien relative' should be treated as 'equal' or 'distinctively different' was highly contested. The Dutch never seriously contemplated a merger of Dutch and Indonesian affairs into a single state system, nor did they envisage a separation of both countries into sovereign states. The Netherlands Indies were conceived as both geographically and culturally too distant from the metropolis to become a constituting part of the kingdom. Yet, the idea of future Indonesian independence strongly conflicted with the long history of the Dutch presence in Southeast Asia and the widespread conviction that the colonial connection was of vital importance to the economic and political standing of the metropolis.[2] Indeed, when the Dutch were forced to recognize Indonesian

[2] The well-known Dutch saying *Indië verloren, rampspoed geboren* - freely translated as 'loss of the Indies means disaster'- neatly conveys this idea.

independence in late December 1949 and withdraw their army, they still had to make a beginning with the mental adaptation to the profound changes in political reality that had taken place in the 1940s (Dick *et al.* 2002; Ricklefs 2008).

Compared to the Philippine experience, the poor Dutch legacy should be seen against the background of very different conceptions of the history, objectives and long-term sustainability of colonial rule. Having fought a war of independence themselves, the Americans regarded colonial rule in the Philippines as a temporary phenomenon with the main purpose of preparing Philippine society for a politically independent government based on the American values of democracy and liberalism. Mass education was the principle means of achieving this goal. Even though the spread of popular education was one of the focal points of the Ethical Policy, launched by Queen Wilhelmina in 1901, the benefits of this target remained contested. Yes, the colonial authorities needed a steady supply of educated state employees, doctors, engineers and technicians, as well as a growing sense of participation by the indigenous population. But at the same time many colonial and metropolitan politicians feared that expanding education would fuel anti-colonial sentiments and undermine the colonial order in the long run (Lelyveld 1996). Such fears about a growing 'white-collar proletariat' were not unjustified: the rising nationalist movement engaged increasing numbers of young Indonesian intellectuals, who would play a key role in the struggle for independence (Frankema 2013).

The lack of an explicit long-term view on the purpose of the colonial relationship also comes to light in comparison to the Japanese approach. The Japanese clung to the idea of assimilating the Taiwanese and Koreans into Japanese society. The Japanese considered full-fledged Japanese education as the key to achieving this goal. Hence, the language of instruction had to be Japanese, the curriculum was Japanese and many teachers were Japanese as well. Obviously, geographical proximity played a key role in the different Dutch-Japanese approach. The French administered Algeria as an integral part of France, whereas Indochina was part of an overseas empire. And the embedding of Ireland as a constituent part of the United Kingdom obviously also differed from the way in which British Indian territories were integrated into the British Empire.

But Dutch uncertainty on the guiding principles of the colonial relationship increased during the second half the nineteenth century. During the heydays of the Cultivation System (1830-1870), the rather simple belief that the colony existed for the benefit of the metropolis had prevailed. However, with the gradual abolishment of the Cultivation System and mounting criticism of the explicit aim of exploitation, the discussion on how to reform the colonial relationship opened up a vast range of issues for reconsideration. In the sphere of education it was widely agreed upon that the colonial state had to start making more substantial investments, but whether these should be targeted at the sons of indigenous chiefs or at the common people remained a point of debate among liberals of various persuasion. Conservatives dissented in their judgment of the blessings and curses of Islamic education. And who was going to pay for this? (Hartgerink 1942: 17-21).

Private education initiatives were a special bone of content. In the first half of the nineteenth century the colonial authorities largely neglected the development of Islamic schools, but controlled settlement of Christian missionaries with a license system in order to avoid possible conflicts over missionary activities in orthodox Islamic areas. The government gave financial support to missionary schools in the Outer Islands, notably the Minahassa (North Sulawesi)) and the Moluccas, where the Protestant missionaries had a strong position.[3] However, the *subsidie ordinantie* (subsidy ordinance) of 1871 prohibited state subsidies for confessional schools in the Netherlands Indies. This was part of an attempt to bring the finances of colonial education in line with metropolitan policy principles. These principles originally stemmed from the education reform of 1806, when the Kingdom of Holland was a vassal-state of the French Republic. It contained three tenets: education officially became a state responsibility; public schools had to conform to state control of their curriculum and adopt a grade-based teaching system; and, finally, applying the principles of laicism, public schools were allowed to teach secular or general Christian virtues, but not to teach orthodox Catholic or Protestant views (Veld 1987).

These three cornerstones of educational policy were vehemently defended by the liberals, who dominated the political spectrum for most of the nineteenth

[3] As Portuguese and Spanish traders, soldiers and missionaries had been active in these areas since the sixteenth century, Dutch Protestant missionaries initially concentrated their efforts on these areas to drive out 'papal heresies' (Hartgerink 1942).

century, but they were continuously contested by the confessional parties. The political struggle over these issues, the so-called *schoolstrijd* (school controversy), would dominate the political debate in the Netherlands for more than a century. In 1848 the confessional parties managed to secure the freedom of establishing private religious schools, subject to regular quality checks executed by state inspectors. However, an amendment to this law in 1857 stipulated that only secular public schools would be eligible to state funding, thereby reconfirming the principle of *laïcité*. This amendment invoked a new struggle over the issue of education finance that lasted for nearly six decades. The dispute was finally settled in 1917 when the confessional parties accepted the introduction of universal male suffrage in return for equal financial support to public secular and religious schools.[4]

The consequences of the Dutch *schoolstrijd* for the development of education in Indonesia were far-reaching. Since the colonial government was no longer allowed to support religious schools, they lost the opportunity to spread mass-education through private-public co-financing of village schools. To see the implications we make a quick sidestep to several African colonies, where education was largely supplied by missionary schools and financed by a combination of church funds (donations), local investments (often in-kind or in-labour) and varying levels of state subsidy. At the eve of the Second World War enrolment rates in, for example, the Belgian Congo or British Nyasaland (present-day Malawi) exceeded 30 per cent, whereas the government budgets allocated to education were nothing compared to the Netherlands Indies (Frankema 2012; 2013, Dunkerley 2009). Per student expenditure in Nyasaland in 1938 did not even exceed $0.50, almost thirty times less than in the Netherlands Indies. Yet, primary school enrolment rates in 1938 were about 35 per cent against 17 per cent in the Netherlands Indies. Of course, the rapid rise in enrolment rates in these African colonies was only possible because of large concessions to quality, but that is not the point to make here. What this shows is that colonial states with limited budgets had options to tap into, and build upon, private education initiatives.

The subsidy ordinance of 1871 sent a considerable number of missionary schools into financial difficulties. Some had to close their doors and others were taken over by the local government and transformed into public schools

[4] Two years later, in 1919, this was extended to universal adult suffrage.

(*gouvernementsscholen*). Since the colonial authorities could now rightfully claim state neutrality in religious education, they could easily continue to refuse support to Islamic schools, which they viewed with suspicion. Colonial officials maintained that Islamic teachers paid insufficient attention to basic skills of reading, writing, and algebra. More importantly, however, the Islamic schools were also considered as a potential breeding-ground for anti-colonial conspiracies. Leaders of the Islamic nationalists belonged almost without exception to the educated class of Islamic scholars (*ulama*) and the Muslim reform movement that emerged in the Minangkabau (Central Sumatra) during the 1900s stood at the basis of the *Sarekat Islam*.

The *Taman Siswa* (garden of pupils) was another influential nationalist movement aiming at uniting and emancipating Indonesians of various social classes through a schooling campaign. The colonial government accused the *Taman Siswa* movement of communist sympathies. A number of laws in the 1920s and 1930s sought to prevent the spread of so-called *wilde scholen* (wild schools), thought to spread subversive ideas. The Wild School Ordinance of 1932 stipulated that all teachers working in unrecognized schools should register themselves with the local authorities and undergo a 'quality check' by an official state representative. The protest against the ordinance was fierce, and the government had to repeal the law only a few months later (Tsuchiya 1987: 151-197).

Ironically, it was the expansion of Islamic schools in the late nineteenth century that enhanced the re-appreciation of missionary education by a new generation of Dutch politicians, as missionaries could help to constrain Muslim activism in the Outer Islands (Noer 1973: 162-175). In addition, the idea that the missionary schools could serve as a cheap alternative to the more expensive public schools also gained ground. Hence, the subsidy ordinance of 1871 was repealed in 1895. In 1909 Hendrikus Colijn, the leader of the confessional party ARP (*Anti Revolutionaire Partij*) and later prime minister of the Netherlands (1925-26 and 1933-39), even went as far as to suggest that missionary schools should be leading in the spread of popular education. In his view the educational philosophies of the missionary schools aligned much better to the daily life experiences of the people in the *desa*.

At the turn of the century public schools were again outsourced to the missionaries. But despite this re-appreciation, the missionaries were not in a position to occasion a major breakthrough. When the government handed back the public schools in Minahassa to the NGZ (*Nederlandsch Zendings Genootschap*), the largest Dutch Missionary Society, the local population protested vehemently as they feared the handover would involve a serious loss of quality. Indeed, the secular vernacular village schools became the cheap alternative to the *gouvernments scholen* the Dutch were looking for, but to which extent they offered better quality than the average missionary school is a question still unanswered. What seems certain, however, is that the incapacity of the Dutch to 'make up their mind' on how to organize the development of popular education resulted in a waste of time and resources.

CONCLUSION

Building upon Anne Booth's extensive work on the differentiated evolution of colonial education systems in East and Southeast Asia, I have attempted to probe a bit further into the underlying causes of the poor Dutch legacy. I have argued that the spread of popular education was not only hampered by a lack of financial commitment, but also by serious inequalities in the allocation of the education budget and a general reluctance to support private education investment initiatives. This resulted in a 'missed opportunity' to open up access to education to Indonesians at much faster pace than what was achieved in practice.

Instead of repeating the details of the argument, I prefer to point at two possibilities for future comparative research á la Booth. First, it is interesting to note that the Dutch commitment to the principle of *laïcité* is shared in common with the French, but not with the British or the Belgians. In this respect it would be worthwhile to study possible similarities between French colonial education policies in Indochina and sub-Saharan Africa, and those discussed above. In many cases (not all), the French displayed a similar reluctance towards missionary education and, contrary to the British, the French were also less inclined to support the expansion of private schools through state subsidies.

Second, it would be interesting to explore more deeply the particularities of colonial educational policies in Islamic areas. In Sub-Saharan Africa there existed a sharp divide in the spread of both public schools and Christian missionary schools in Islamic and non-Islamic regions (Frankema 2012). In Nigeria, for instance, the British permitted missionary activities in the south, but prohibited them in the Islamic north. The Dutch controlled missionary settlement with a license system and also differentiated between the Outer Islands and Batavia on the one hand, and the core Islamic areas in Java and Sumatra on the other. The comparison with other Asian countries with large Islamic communities, such as British Malaya or British India, would be illuminating as well.

BIBLIOGRAPHY

Books

Birdsall, Nancy, Ross, David and Richard Sabot (editors). 1997. *Pathways to Growth. Comparing East Asia and Latin America*. Washington, DC: Inter-American Development Bank/Johns Hopkins University Press.

Booth, Anne. 1998. *The Indonesian Economy in the Nineteenth and Twentieth Centuries: A History of Missed Opportunities*. London: Macmillan.

Booth, Anne. 2007. *Colonial Legacies. Economic and Social Development in East and Southeast Asia*. Honolulu: University of Hawaii Press.

Brugmans, I.J. 1938. *Geschiedenis van het Onderwijs in Nederlandsch-Indië*. Groningen: Wolters.

Butcher, John G. and Dick, Howard W. (editors), 1993. *The Rise and Fall of Revenue Farming: Business Elites and the Emergence of the Modern State in Southeast Asia*. New York: St. Martin's Press.

Campos, José Edgardo L. and Root, Hilton L. 1996. *The Key to the Asian Miracle: Making Shared Growth Credible*. Washington, DC: Brookings Institution.

Creutzberg, P. 1976. *Changing Economy in Indonesia. Vol. II. Public Finance 1816-1939*. The Hague: Nijhoff.

Dick, Howard, Vincent J.H. Houben, J. Thomas Lindblad, and Thee Kian Wie Thee. 2002.

The Emergence of a National Economy. An Economic History of Indonesia, *1800-2000*. Crows Nest, NSW: Allen & Unwin.

Dunkerley, Marie Elizabeth. 2009. *Education Policies and the Development of the Colonial State in the Belgian Congo, 1916-1939*. PhD dissertation, University of Exeter.

Furnivall, J.S. 1943. *Educational Progress in Southeast Asia*, *I.P.R. Inquiry Series*. New York: Institute of Pacific Relations.

Hartgerink, H.J.H. 1942. *De Staten-Generaal en het Volksonderwijs in Nederlandsch-Indië, 1848-1918*. Groningen: Wolters.

Leeuwen, Bas van. 2007. *Human Capital and Economic Growth in India, Indonesia and Japan: A Quantitative Analysis, 1890-2000*. PhD Dissertation, University of Utrecht.

Meijer Ranneft, J.W., and Huender, W. 1926. *Onderzoek naar den Belastingdruk op de inlandsche bevolking*. Weltevreden: Landsdrukkerij.

Mitchell, B.R. 2007. *International Historical Statistics: Africa, Asia & Oceania, 1750-2005*. [5th ed.]. Basingstoke: Palgrave Macmillan.

Noer, Deliar. 1973. *The Modernist Muslim Movement in Indonesia, 1900-1942*. [Edited by Wang Gungwu]. Singapore: Oxford University Press.

Ricklefs, M.C. 2008. *A History of Modern Indonesia Since c. 1200*. [4th edition ed.]. Basingstoke: Palgrave Macmillan.

Steenbrink, K.A. 1974. *Pesantren, Madrasah, Sekolah. Recente Ontwikkelingen in Indonesisch Islamonderricht*, PhD dissertation, Katholieke Universiteit Nijmegen.

Tsuchiya, Kenji. 1987. *Democracy and Leadership: The Rise of the Taman Siswa Movement in Indonesia*. [Translated by Peter Hawkes]. Honolulu: University of Hawaii Press.

Veld, Theodorus. 1987. *Volksonderwijs en Leerplicht: een Historisch Sociologisch Onderzoek naar het Ontstaan van de Nederlandse Leerplicht, 1860-1900*, PhD dissertation, University of Leiden.

Veur, Paul W. van der. 1969. *Education and Social Change in Colonial Indonesia. Progress and Procrastination in Education in Indonesia prior to World War II*. Athens, Ohio: University of Ohio.

Wal, Simon L. Van der. 1963. *Het Onderwijsbeleid in Nederlands-Indië 1900-1940: Een Bronnenpublikatie*. Groningen: Wolters.

World Bank. 1993. *The East Asian Miracle. Economic Growth and Public Policy*. Washington, DC: World Bank.

Articles

Boone, A. Th. 1996. “Onderwijs en Opvoeding in de Nederlandse Koloniën 1595-1975”. *Pedagogisch Tijdschrift,* Vol. 21, No. 2, pp. 87-99.

Booth, Anne E. 1999. “Education and Economic Development in Southeast Asia: Myths and Realities”. *ASEAN Economic Bulletin,* Vol. 16, No. 3, pp. 290-306.

Booth, Anne, E. 2003. “Education, Equality and Economic Development in Asian-Pacific Economies”. In: Martin Andersson and Christer Gunnarsson (editors). *Development and Structural Change in Asia-Pacific.* London: Routledge Curzon, pp. 148-169.

Booth, Anne. 2013. “Varieties of Exploitation in Colonial Settings: Dutch and Belgian Policies in Indonesia and the Congo and Their Legacies”. In: Ewout Frankema and Frans Buelens (editors). *Colonial Exploitation and Economic Development: The Belgian Congo and the Netherlands Indies Compared*. London: Routledge, pp. 60-87.

Cummings, William K. 1995. “The Asian Human Resource Approach in Global Perspective”. *Oxford Review of Education*, Vol. 21, No. 1, pp. 67-81.

Eng, Pierre van der. 2002. “Indonesia’s Growth Performance in the 20th Century”. In: Angus Maddison, D.S. Prasada Rao and William Shepherd (editors). *The Asian Economies in the Twentieth Century*. Cheltenham: Elgar, pp. 143-179.

Frankema, Ewout H.P. 2011. “Colonial Taxation and Government Spending in British Africa, 1880-1940: Maximizing Revenue or Minimizing Effort?”. *Explorations in Economic History,* Vol. 48, No. 1, pp. 136-149.

Frankema, Ewout H.P. 2012. “The Origins of Formal Education in sub-Saharan Africa: Was British Rule More Benign?” *European Review of Economic History,* Vol. 16, No. 4, pp. 335-355.

Frankema, Ewout H.P. 2013. “Colonial Education and Post-colonial Governance in the Congo and Indonesia”. In: Ewout Frankema and Frans Buelens (editors). *Colonial Exploitation and Economic Development: The Belgian Congo and the Netherlands Indies Compared*. London: Routledge, pp. 153-177.

Lelyveld, J.E.A.M. 1996. “Koloniale Pedagogiek in Nederlands-Indië”. *Pedagogisch Tijdschrift,* Vol. 21, No. 2, pp. 101-114.

Statistical sources

Handbook of Philippine Statistics 1903-1959. Manila.

Jaarcijfers voor het Koninkrijk der Nederland (Koloniën). 1880-1922. The Hague.

Statistical Bulletin of the Philippines. 1918, 1926. Manila: Bureau of the Census and Statistics.

Statistisch Jaaroverzicht van Nederlandsch-Indië. 1923-1939.Weltevreden: Landsdrukkerij.

Yearbook of Philippine Statistics. 1946. Manila.

Websites

Maddison, Angus. 2010. Historical Statistics on World Population, GDP and Per Capita GDP, 1-2008 AD. http://www.ggdc.net/maddison.

OECD. 2013. Programme for International Student Assessment (PISA). http://www.oecd.org/pisa/pisaproducts.

THE INDONESIAN ECONOMY DURING THE JAPANESE OCCUPATION[1]

THEE Kian Wie

Indonesian Institute of Sciences (LIPI)

ABSTRACT

This article is written as one of many tributes to Professor Anne Booth of the Department of Economics, School of Oriental and African Studies (SOAS), University of London, who will retire by the end of 2013. This tribute is certainly warranted as Anne Booth is without doubt a redoubtable scholar specialized in the economy and history of the Southeast Asian nations, particularly Indonesia. The article starts with discussing developments in the Netherlands Indies in the 1930s, which is followed by a discussion of developments in the Netherlands Indies on the eve of the Japanese invasion. The article then discusses political developments in Japan in the 1930s; followed by a discussion of the start of the Pacific War and the fall of the Netherlands Indies. The main focus of the article concerns the Indonesian economy during the Japanese occupation of Indonesia (March 1942 – August 1945).

Keywords: Japanese occupation, Indonesian economy, Netherlands Indies

INTRODUCTION

In an act, which in hindsight is difficult to explain, on 8 December 1941, the Netherlands government, in exile in London after the German army had occupied the Netherlands in early May 1940, declared war on Japan. The question arises whether this was based on the strong confidence that the Netherlands government could rely on the support of the United States and Great Britain in defending the Netherlands Indies?

---

[1] Paper for the Festschrift in Honour of Professor Anne Booth.

The declaration of war happened even before the United States had declared war on Japan after the sudden Japanese attack on Pearl Harbor on 7 December 1941. In the Netherlands Indies, Governor-General Tjarda van Starkenborgh Stachouwer, announced on radio that the country was now at war. Because of this, all men on mandatory service were ordered to be present at their assigned place of mobilization on 12 December (Nieuwenhuis 1979: 11-12). On 8 December 1942 around 2,000 Japanese citizens living in the Netherlands Indies were arrested as a precautionary measure (De Jong 2002: 31).

News circulated in the Netherlands Indies that after the attack on Pearl Harbor, the Japanese army had already landed in British Malaya and was rapidly approaching Singapore, considered to be an impregnable fortress, and that Japanese planes had attacked Hong Kong. On 10 December 1941 the radio also reported that Japanese planes had torpedoed two large British battleships, the 'Prince of Wales' and 'Repulse' off the east coast of British Malaya. This news greatly worried the government and many people in the Netherlands Indies (Nieuwenhuis 1979: 12).

DEVELOPMENTS IN THE NETHERLANDS INDIES IN THE 1930s

Like the rest of the world, the Netherlands Indies experienced a serious economic crisis in the early 1930s. As an exporter of primary commodities, it was especially hard hit when the industrialized countries cut back imports of raw materials. The cost-cutting measures taken by the Netherlands Indies government caused widespread unrest, not only among the Indonesian population who suffered the most, but also among the Europeans who were increasingly threatened by unemployment and a drop in their living standards (De Jong 2002: 23). The large European-owned large estates (cultivating tobacco, rubber, oil palm, and Manila hemp) in Sumatra's East coast (now North Sumatra province) had to lay off hundreds of thousands of their workers, many of whom Javanese. As a result, almost all of them returned to Java.

The severity of the crisis in the 1930s is indicated by the fact that between 1928 and 1934 the export volume fell by almost 4 per cent per annum, export prices by almost 20 per cent and real money supply by more than 2 per cent per annum. It is estimated that GDP of the Netherlands Indies fell by 3.4 per cent per year over these years (Booth 1998: 39).

The worldwide economic depression of the 1930s was triggered in the United States by various factors, including the mechanization in wheat production, retained high selling prices by provision of large credits, cost reduction measures in manufacturing in the United States industries, and particularly, excessive speculation on New York's stock exchange. Not surprisingly, on 29 October 1929 a serious financial and economic crisis broke out which in a short time spread to the whole world (Gonggrijp 1949: 211), including the Netherlands Indies.

The Netherlands Indies suffered severely as it was the only debtor country in the world which only waited with depreciating its currency against gold until September 1936. As a result, the Indonesian smallholders in the islands outside of Java, particularly in Sumatra and Kalimantan, who cultivated export crops, such as rubber, pepper, coffee, maize, and forest products, became much poorer when the prices of their export crops declined by 60-75 per cent, while their expenditures did not drop as much. Not surprisingly, the circulation of money in the villages declined tremendously (Gonggrijp, 1949 217-218).

The indigenous smallholders were not burdened by fixed costs and therefore more competitive than the large estates. Whereas the plantation rubber exports were regulated by individual export licenses according to basic production quotas, smallholder rubber exports were regulated by a special export tax. This tax reduced the internal price in order to keep the peasant rubber exports as a constant fraction of total rubber exports. The ratio was fixed in favour of the plantations, since the output capacity of peasant rubber exports had expanded rapidly as a result of new rubber plantings during the boom period of 1925-1926. These young rubber trees had not yet reached maturity by 1929, the year on which the ratio was based. Because rubber exports proved to be highly price-elastic, the variable export tax generated the desired degree of restriction (McFadyean 1944: 96).

This was the situation when in September 1931, B.C. de Jonge was appointed Governor-General of the Netherlands Indies. As an extreme conservative, De Jonge had not the slightest sympathy with the aspirations of the Indonesian nationalist movement (De Jong 2002: 23). In response to a demand by Indonesian nationalists to grant autonomy (not independence!), he stated: 'We have been here for three hundred years, and we will be here for another three hundred years!' This statement clearly reflected the feelings or even the conviction among many Dutchmen that the possession of the Netherlands Indies was taken for granted (Wertheim 1995: 154).

Based on this statement, President Sukarno said, and other Indonesians even today say, that Indonesia was colonized by the Dutch for three hundred years, which historically is totally wrong. This statement would have implied that when Cornelis de Houtman landed in the port of Banten in 1596, he and his four ships had swept over the entire Indonesian archipelago like a tsunami!

The only positive measure taken in response to the aspirations of the Indonesian nationalists was the appointment of the Visman Commission by Governor-General Tjarda van Starkenborgh in mid-September 1940. This commission was given the task of 'enquiring into the wishes, movements and views among the different nationalities, classes, and levels, as to the constitutional development of the Netherlands Indies, and in connection with that, the position of the various groups in the population' (De Jong 2002: 28).

THE NETHERLANDS INDIES ON THE EVE OF THE JAPANESE INVASION

After the German invasion of the Netherlands, several Indonesian organizations in Batavia issued manifestos calling on their members to stand behind the colonial government and support the authorities. Following the German invasion, and particularly after the declarations of loyalty from Indonesians, some kind of goodwill gesture might have been expected from the Indies government. However, no such gesture was forthcoming. The Governor-General took the view that no fundamental policy changes could be initiated as long as the war continued, and thus let the opportunity pass. The Boven Digoel internment camp in western New Guinea stayed in place, and the nationalist leaders Sukarno, Hatta, and Sjahrir were not released from exile (De Jong 2002: 27-28).

Meanwhile, the serious economic crisis experienced by the Netherlands Indies led the Indies' government to resort to measures such as import quotas and a licensing system for the import of Japanese products. Import restrictions were seen as particularly necessary because of the growth of Japanese imports, especially textiles which were both displacing European imports and harming domestic production. In fact, most of the arguments, which were used to justify the adoption of quantitative restrictions on imports, were basically concerned with the so-called Japanese threat (Booth 1998: 44).

The increasing share of Japanese imports in the total imports entering the Netherlands Indies led to a large deficit in the bilateral trade with Japan since Japan purchased much less products from Japan. The strong competition from Japanese ships in the international and interisland shipping of the Netherlands Indies caused great concern among the Netherlands Indies government (Gonggrijp 1949: 240-241). On the other hand, the lower prices of the imported Japanese products, due to the substantial devaluation of the yen, greatly benefited the Indonesian population These lower prices were largely due to the lower wages of the Japanese factory workers and greater efficiency of Japanese manufacturing due to modernization (Gonggrijp 1949: 228).

The quantitative restrictions on the Japanese imports elicited sharp protests by the Japanese government. To try to deal with these protests, the Netherlands Indies government sent an invitation to the Japanese government for a conference in Batavia. The Japanese delegation was led by Nagaoka, while the Dutch delegation was led by J.W. Meijer Ranneft, vice-president of the Council of the Netherlands Indies. On his arrival in Batavia on 3 June 1934, Nagaoka issued a statement that the relationship between Japan and the Netherlands Indies should be based on the principle of 'co-existence and the common welfare' (of both peoples) (Gonggrijp 1949: 241).

For the Japanese at stake was not only Japan's share of the Netherlands Indies imports, but also the colonial distribution system, with the Dutch insisting that not more than 25 per cent of Japanese imports could be handled directly through Japanese residents in the colony. After tough and protracted negotiations, the Hart-Ichizawa agreement was finally signed in April 1937 (Dick *et al.* 2002: 159).

POLITICAL DEVELOPMENTS IN JAPAN IN THE 1930s

In the early 1930s the Japanese military elite, determined to extend the country's sphere of influence, came to power in Japan. Japanese expansionist ambitions on Asia inevitably led to conflict with China and the Western powers. In 1937 war broke out when units of the Japanese Kwantung army, stationed near Beijing, were fired on by units of the Chinese army while on exercise. This incident led to full-scale war between Japan and China, which continued for almost nine years until the end of the Pacific War on 15 August 1945 (Morishima 1984: 130) The bloody Pacific War only ended when Japan surrendered unconditionally to the Allies after American planes had thrown an atomic bomb on Hiroshima on 6 August 1945 and a plutonium bomb on Nagasaki on 9 August 1945, and after the Soviet Union had declared war on Japan, despite the neutrality pact that Japan had signed with the Soviet Union.

When war broke out with China, the Japanese army had confidently anticipated that the Chinese army would immediately surrender. However, the Japanese army found itself barely maintaining a front that stretched across an immense geographical area under tenacious Chinese resistance. The Japanese army had established the North China Development Corporation and the Central China Promotion Cooperation and was drawing up plans to develop coal, iron ore, salt, and other natural resources, and bring them to Japan for use in munitions plants. Unfortunately for Japan, there was no prospect of bringing the war with China to a quick resolution (Nakamura 1994: 106). Given these conditions, one might ask why Japan became embroiled in a war with the United States, Great Britain, and the Netherlands? (Nakamura 1994: 106).

From an economic perspective, the Japanese reasons for going to war with the Western powers were that China would not surrender to Japan, as it was supported by the United States and Great Britain. Hence, Japan applied pressure in occupied China by blockading Britain's lease territory in Tianjin during its occupation of China. As a result, relations with the United States and Britain, which had already deteriorated, steadily worsened. In fact, America announced that it was abrogating the U.S.-Japan Treaty of Commerce and Navigation. This abrogation was a momentous step, as this treaty had contained provisions which granted Japan a most favoured nation status. Once this Treaty was revoked, United States would be free to restrict or ban exports to Japan, including a ban on the export of machine tools and the most important resources for which Japan depended on America, including petrol, crude oil, and scrap iron (Nakamura 1994: 107).

After Japan had occupied the southern part of French Indochina in July 1941, the United States, Great Britain, and the Dutch in the Netherlands Indies imposed a total embargo on oil exports to Japan. As a result, Japan now faced a serious dilemma, since both its army and navy were greatly dependent on imported oil with only about a two-year supply available. Victory in China had to come soon, or Japan's aggression against China would grind to halt.

In facing the need to act quickly and decisively, Japan faced two choices. One was to stop the war with China and withdraw its troops as America had demanded, and settle back to profit economically from the war in Europe, as it had done during World War I. The second choice for Japan was to take another step forward in establishing an economic empire in Asia without the attendant costs of conquest, if it could disentangle itself from the war with China (Reischauer 1981: 209).

But economic self-interest did not turn out to be the decisive factor. To Japan's military, withdrawal from China seemed a national loss of face that could not be tolerated. On the other hand, the United States insisted that no settlement could be arranged with Japan until the gains of Japan's aggression in China since 1931 had been relinquished. The other alternative for Japan was to go south, break America's tightening blockade by seizing the resources of Southeast Asia, ,particularly the oil of the Netherlands Indies. With this move Japan could thus achieve at one great blow the much-wanted Greater East Asia Co-Prosperity Sphere. In taking such a step, Japan had secured its rear by signing a neutrality pact with the Soviet Union in April 1941 (Reischauer 1981: 209).

THE START OF THE PACIFIC WAR AND THE FALL OF THE NETHERLANDS INDIES

Repeating the strategy during its war with Russia in 1904-1905, Japan began the war with the United States when its torpedo and dive bombers launched a brilliantly successful surprise attack on Pearl Harbor on the island of Oahu in Hawaii on Sunday, 7 December 1941 (Buruma 2004: 111). This attack crippled the American navy with a single sharp blow, virtually eliminating its battleship fleet. Unfortunately for the Japanese, they missed the aircraft carriers, which were to prove a far more important weapon in the subsequent war. However, the attack on Pearl Harbor cleared the way for an easy attack of Southeast Asia (Reischauer 1981: 211), including Indonesia.

Actually, before the Japanese attack on Pearl Harbor, Admiral Yamamoto Isoroku, the architect of the attack, had warned Prime Minister Konoe that Japan could successfully challenge the United States for one year at the most. But what urged Yamamoto to go along with the attack on Pearl Harbor? The most likely explanation is not a *Führer's Diktat*, as in Nazi Germany's attack on the Soviet Union in June 1941, but weakness, even paralysis, at the highest levels of the Japanese government. If few Japanese deeply desired a war with the Western powers, nobody, except possibly the Emperor himself, was able or willing to stop it (Buruma 2004: 115).

Be that as it may, on 7 December 1941 hostilities commenced with the Japanese attack on Pearl Harbor. The war progressed far more advantageously for the Japanese than originally anticipated. Within six months, Japan had occupied Burma, Thailand, British Malaya, Singapore, the Philippines and Borneo, as well as Celebes, Java, and Sumatra in the Netherlands Indies. To the east, Japan had not only landed in parts of New Guinea, but even occupied the Solomon Islands southeast of New Guinea (Nakamura 1994: 111).

The chief targets of the Japanese operations in the Netherlands Indies were the oilfields at Tarakan off northeast Kalimantan, Balikpapan in East Kalimantan, and Palembang, in South Sumatra. In the night of 10-11 January 1942 about 6,000 Japanese troops landed at Tarakan. The oil wells had already been put out of action and the oil tanks set on fire. The demoralized troops of the Royal Netherlands Indies Army, KNIL (*Koninklijk Nederlands-Indisch Leger*) in Tarakan surrendered on the morning of 12 January (De Jong 2002: 35).

Other parts of the Netherlands Indies were already occupied in early 1942 by Japanese troops. With the fall of Singapore on 15 February 1942 to the Japanese troops and the battle in the Java Sea, when the combined ABDA (American, British, Dutch, Australian) naval forces under command of Dutch Rear Admiral Karel Doorman lost the battle of the Java Sea on 27 February, the fate of the whole Indonesian archipelago was sealed (Van den Doel 2001: 62).

In the evening of 28 February 1942 and the early morning of 1 March 1942 Japanese troops landed on four places on the north coast of Java without any hindrance. A few days later the situation for the Dutch army, including the KNIL, was already quite hopeless, also because the Indonesian population did not provide any support. In fact, in many places in Indonesia, including Batavia, Magelang and other cities, the Japanese army was welcomed enthusiastically by the Indonesian population (Van den Doel 2001: 62).

After a resistance of only nine days, on 8 March 1942, Lieutenant-General Ter Poorten, the Dutch commander-in-chief in the Netherlands Indies, signed an instrument of unconditional surrender to Japan in the Kalidjati airport in West Java, Hence, on that date the collapse of Dutch power in the Netherlands

Indies was complete with the capture and detention of the Governor-General, the symbol of Dutch power in the Netherlands Indies. Other important Dutch officials of high rank, among them Van Mook and Van der Plas, were able to escape to Australia (Sastroamijoyo 1979: 92-93). Hence, on that date the existence of the Netherlands Indies ended *de facto* (Van den Doel 2001: 62).

THE INDONESIAN ECONOMY DURING THE JAPANESE OCCUPATION

The Japanese occupation of Indonesia from March 1942 to August 1945 is widely regarded as a watershed in modern Indonesian history. While this notion may indeed be true for the political developments that were yet to come, the Japanese invasion also marked the beginning of economic hardship, instability and disintegration (Van Zanden & Marks 2012: 133).

Immediately following the Japanese occupation in early Marechg 1c942 the Japanese authorities requisitioned the houses of Dutch citizens to provide accommodation for the Japanese military, later also for so called Japanese 'economists'. Male citizens from countries with which Japan was at war , and thus were considered 'enemies', were put in camps, while Dutch women and their children were also put in camps, and were only allowed to take their most necessary furniture and clothes, and other utensils which they could carry. Eurasians, who could show or indicate to the Japanese authorities that they for more than 50 per cent were descendants from the indigenous Indonesian were exempted from being placed in the interned camps. But because they lacked adequate earnings to cover their basic needs, most of them had to sell any of their valuable possessions, so that by the end of the Japanese occupation, their possessions had been reduced considerably (Van Horn & Van der Maar, 2000: 11).

Economic performance during the Japanese occupation was weak at best. Initially the reason for the Japanese invasion was to secure the supply of strategic raw materials to Japan, in particular petroleum, rubber, tin, and other metals. However, by the middle of 1943, damage to Japanese shipping by Allied submarines forced the Japanese administration to put a greater emphasis on economic self-sufficiency in the different regions, so that the demands on imports and shipping were minimized (Van Zanden & Marks 2012: 134).

During the Japanese occupation, one of the main purposes of the Japanese occupation policy was the complete elimination of Western (predominantly Dutch, but also some American and British) presence and influence in Indonesia. In Java the Dutch governing elite was put into internment camps in March and April 1942, among them the Dutch Governor-General, all heads of government departments, public servants of the Department of the Interior, several senior police officers, teachers, physicians, judges, and lawyers. Many other Dutchmen also lost their jobs and income. In addition, several symbols of the Dutch presence in Indonesia were removed, such as the statue of Jan Pieterszoon Coen and the Van Heutsz monument in Batavia, which was renamed Jakarta (Van den Doel 2001: 69), a name that has since been retained.

The detention of the Dutch officials meant that the Japanese government administration was lacking leadership, because the Japanese army did not have sufficient manpower to fill the vacant positions with their own people. To fill the vacancies in the government administration, they appointed Indonesians whom they considered sufficiently capable and experienced to head the government offices in all fields and to exercise full responsibility. Naturally, the Japanese officials held the highest positions, and acted as the supervisors of their Indonesian officials (Sastroamijoyo 1979: 93).

The Japanese officials only acted in matters closely connected with the problems or needs of their war, while the Indonesian officials were given the task of speeding up the wheels of the civil administration. However, over time their duties were extended, and they had to assist their Japanese superiors in activities directly connected with the war effort, for instance, the gathering of food (rice, eggs, meat, etc.) and the provision of forced labour (*romusha*) (Sastroamijoyo 1979: 93). So for the first time in Indonesia's modern history, Indonesian administrative officials were given the opportunity and responsibly to head Indonesia's government offices and departments.

In response to food shortages, stringent rationing applied to most basic consumer goods, especially food and textiles. As a means of control, registration was linked to the newly formed neighbourhood associations, called *tonarigumi* in Japanese. These *tonarigumi* were established in Japan in the 1930s In Japanese-occupied Java these *tonarigumi* were introduced in April 1943, and named *Roekoen Tetangga* (R.T.) (Burgers 2010: 316); they have survived until the present day.

In response to food shortages, stringent rationing was introduced over most basic consumer items, especially food and textiles. As a means of control, registration was linked to the newly formed *tonarigumi.* The daily .ration of rice was set nominally at only 200 grams per adult, with the balance of carbohydrates made up of corn and soybean. Only sugar, which no longer had an export market, was in plentiful supply. Urban dwellers therefore had just enough to eat, even if they could not enjoy their preferred diet (Dick *et al.* 2002: 166).¨

The Japanese occupation also led to the destruction of a considerable part of Indonesia's physical infrastructure, for instance harbours, railroads, and oil installations. The interisland shipping industry, consisting of steamships and motorized vessels, was halved. Hence, the outcome of the Japanese occupation was that the communications infrastructure with overseas countries was practically cut off. Only the transport and communications with Japan remained which, understandably, were totally dominated by the requirements of Japan's war machine. The roads in Indonesia were badly maintained, if at all. Moreover, all motor cars were confiscated by the Japanese. For this reason, the transport and communications with abroad, but also within Indonesia, was totally disrupted (Burger 1975: 160).

Food production declined considerably, as reflected by the fact that immediately after the Japanese occupation rice production as a percentage of the average production for the period 1937–1941 was 68 per cent, for maize 34 per cent, for cassava 44 per cent, for potatoes 73 per cent, for soybeans 40 per cent, and for peanuts 36 per cent. The total nutritious value of this lower production was only around 60 per cent of the pre-war level. The Japanese authorities also attempted to make every district in Java self-sufficient in food supplies in view of the transport difficulties. Unfortunately, these efforts were unsuccessful, because the local conditions were not adequately taken into account and because the mandatory deliveries were often sabotaged by the Javanese population (Burger 1975: 160).

It was the damage to Japanese shipping by Allied submarines that forced the Japanese authorities to emphasize economic self-sufficiency. The so-called cultivation crops, such as rubber, coffee, tea, and quinine, which had been directly connected with the world market, were cut off from their traditional export markets (Van Zanden & Marks 2012: 134).

In retrospect, people in Java almost unanimously state that during the Japanese occupation they suffered from terrible shortages of rice, and urban people often gave testimony of seeing many people dying on the street, even though by the end of the Dutch period, Java had become self-sufficient in rice (Kurasawa-Inomata 1997: 111).

Remaining Japanese archives also show that in 1944 and early 1945 the socio-economic conditions had deteriorated to such an extent that the death rate was much higher compared with the Dutch period. It is also difficult to establish exactly what the main causes of death were, but it is likely that that malnutrition directly and indirectly increased the death rate. Japanese statistics from the Semarang Central hospital show that during the six months between February 1943 and September 1943, 832 persons were treated for starvation and 366 persons died in the hospital (Kurasawa-Inomata 1997: 111).

The Japanese occupation authorities also desperately needed coal, and had to seek it at all cost. They, therefore, decided to open a new railway line, connecting Bayah on the south coast of Banten, to the existing rail line. This railway project was very ambitious and difficult to carry out, because it had to be completed in a very short time, while construction materials and tools were in short supply. To construct this railway line, the Japanese authorities recruited millions of *romusha*, euphemistically referred to as 'economic soldiers' (Van den Doel 2001: 70).

Work started in February 1943, and large numbers of *romusha* were recruited for this project. Up to its completion in April 1944, a total of 120,000 people had been mobilized. Meanwhile, in the coal-mining project of Bayah, 15,000 *romusha* were working, of whom about 400 to 500 died every day (Kurasawa-Inomata 1997: 120).

CONCLUSION

The general picture of economic conditions during the Japanese occupation is thus appalling, when taking into account the suffering of millions of Indonesians who were subjected to forced labour by the Japanese authorities, combined with a terrible famine in 1944/45. By the end of the war, the lack of maintenance and Japanese damage formed the worst problems. In addition, large parts of the railway network had been shipped to Malaya and Thailand, and bridges were broken into pieces and sold as scrap iron, while river mouths had not been dredged. The total loss and damage to the Indonesian economy was estimated at 2.3 billion guilders (in 1942 prices), which amounted to roughly 50 per cent of GDP of the Netherlands Indies in 1941. It would therefore require a long period of time to rehabilitate the economy, including Indonesia's physical infrastructure, and to restore the economy to normal peacetime conditions (Van Zanden & Marks 2012: 136).

On the other side of the ledger, it is certainly true that without the Japanese occupation, it would have taken a much longer time for Indonesia to become independent. The reason was that the Netherlands Indies government acted harshly against any expression or action which it considered inflammatory. Indonesian nationalist leaders, who were considered dangerous because they disturbed or threatened peace and order (*orde en rust*), including Sukarno, Mohammad Hatta, and Sjahrir, were not only imprisoned, but also exiled to faraway places, such as Flores, Bencoolen, Banda, and Boven Digoel in what was then Dutch New Guinea (present-day Papua).

Another positive consequence of the Japanese occupation was that many Indonesians, who during the Dutch colonial period, occupied lower positions in the Dutch colonial bureaucracy, gained valuable experience and skills in running a modern bureaucracy. This experience and skills proved to be very valuable when Indonesia became independent.

BIBLIOGRAPHY

Books

Booth, Anne. 1998. *The Indonesian Economy in the Nineteenth and Twentieth Centuries: A History of Missed Opportunities.* London: Macmillan.

Burger, D.H. 1975. *Sociologisch-economische Geschiedenis van Indonesië. Vol. II* [Sociological-Economic History of Indonesia]. Amsterdam: Royal Tropical Institute.

Burgers, Herman. 2010. *De Garoeda and the Ooievaar: Indonesië van Kolonie tot Nationale Staat.* [The Garuda and the Stork: Indonesia from Colony to Nation-State]. Leiden: KITLV Press.

Buruma, Ian. 2004. *Inventing Japan, 1853-1964.* New York: Modern Library.

Dick, Howard, Houben, Vincent J.H., Lindblad, J. Thomas & Thee Kian Wie. 2002, *The Emergence of a National Economy: An Economic History of Indonesia, 1800- 2000*, Crows Nest, NSW: Allen & Unwin.

Doel, H.W. van den, 2001. *Afscheid van Indië.* [Farewell from the Indies]. Amsterdam: Prometheus.

Gonggrijp, G. 1949. *Schets Ener Economische Geschiedenis van Nederlandsch-Indië* [Sketch of an Economic History of the Netherlands Indies]. Haarlem: Bohn. Jong, L. de. 2002, *The Collapse of a Colonial Society: The Dutch in Indonesia during the Second World War.* Leiden: KITLV Press.

McFadyean, A. 1944. *The History of Rubber Regulation, 1914–1943.* London: Allen & Unwin.

Morishima, Michio. 1984. *Why Has Japan 'Succeeded? Western Technology and the Japanse Ethos.* Cambridge: Cambridge University Press.

Nakamura, Takafusa. 1994. *Lectures on Modern Japanese Economic History, 1926–1994.* Tokyo: LTCB International Library Foundation.

Nieuwenhuis, Rob. 1979. *Een beetje oorlog – Java 8 December 1941 – 15 November 1945* [A little bit of war – Java 8 December 1941 – 15 November 1945]. Amsterdam: Querido.

Reischauer, Edwin O. 1981. *Japan: The Story of a Nation.* [Third Edition]. Tokyo: Charles E. Tuttle Publishers.

Sastroamijoyo, Ali. 1979. *Milestones On My Journey: The Memoirs of Ali Sastroamijoyo*, *Indonesian Patriot and Political Leader.* C.L.M. Penders, editor. St. Lucia, Qld.: University of Queeensland Press.

Van Horn, N.A. and R. Van der Maar, 2000, *Inventarisatierapport Haalbaarheidsonderzoek Indische Tegoeden – Verricht in Opdracht van de Technische Commissie Haalbaarheidsonderzoek Indische Tegoeden* ((Inventory Report on Indian Property – Carried out by Order of the Technical Commission on the Stocktaking of Indian Property), 31 August.

Zanden, Jan Luiten van & Marks, Daan. 2012. *An Economic History of Indonesia, 1800–2010.* London/New York: Routledge.

Articles

Kurasawa-Inomata, Aiko. 1997. "Rice Shortage and Transportation". In Peter Post and Elly Touwen-Bouwsma, editors. *Japan*, *Indonesia and the War: Myths and Realities*. Leiden: KITLV Press, 111–133.

Wertheim, W.F. 1995. In Remco Meijer, editor. *Oost Indisch doof: Het Nederlandse debat over de dekolonisatie van Indonesië.* [East Indian Deaf: The Dutch Debate about the Decolonization of Indonesia]. Amsterdam: Bert Bakker, 153-162.

A MALAYSIAN PERSPECTIVE ON DECOLONIZATION: LESSONS FOR INDONESIA?[1]

J. Thomas Lindblad

Leiden University

ABSTRACT

The great regime change in Indonesian history, represented by independence and decolonization, had profound implications for the state apparatus, in particular in its relationship to the economy. This contribution seeks to widen our perspective on such change in Indonesia by reviewing evidence from the experience of adjacent Malaysia. Particular attention is given to the indigenization of the government bureaucracy - Indonesianisasi in Indonesia, Malayanization in Malaysia - before as well as in the immediate aftermath of independence. Our findings underscore the recent consensus in the international literature that the way in which the process of decolonization occurred had enormous consequences for subsequent performance. This article argues that Indonesia could have reaped considerable benefit if in a position to apply the Malaysian model of indigenizing the institution of the state.

Keywords: Decolonization, Indigenization, Malayanization, Indonesianisasi

INTRODUCTION

Anne Booth has on several occasions demonstrated the utility of a comparative approach in gaining a better understanding of economic development in Asia, recently also extending her scope of analysis to include an African nation as well (Booth 2007, 2013, forthcoming). The need to get away from a one sided national account and view the entire process of decolonization in a wider perspective is all the more urgent since this process unfolded at about the same time and under comparable circumstances in many countries, on

[1] This article reports on findings from a research project entitled ‘State and Economy in Modern Indonesia’s Change of Regimes’, financially supported by Netherlands Organisation of Scientific Research, NWO (Nederlandse Organisatie voor Wetenschappelijk Onderzoek) and executed at Leiden University during the period 2009-2013. Full report in ‘State and Economy’ 2013.

occasion neighbours of one another like Indonesia and Malaysia (Le Sueur 2003). There is an increasing consensus in the international literature that the way in which independence was achieved and decolonization proceeded was to have a dramatic impact on performance of both state and economy for years, if not decades to come (Marks 2010; Acemoglu, Johnson & Robinson 2011). Has Malaysia fared far better than Indonesia because the transition to independence was so much smoother? It is an intriguing question that prompts us to look at the mechanisms of change during decolonization in either country in some detail. This contribution does so by focusing on one vital aspect of decolonization: the change of the state bureaucracy from one being dominated by representatives of the metropolitan mother-country to one run by nationals of the newly independent nation-state, a transformation known in Indonesia as *Indonesianisasi* and in Malaysia as Malayanization.

The Malaysian model of indigenization of the government services, applied in British Malaya turning first into Malaya, then Malaysia, offers a counter image to simultaneous developments in Indonesia. Does such a model suggest the possibility of an alternative course of events in Indonesia, radically different from what actually took place? That is the key question addressed here. It is worth noting that indigenization of the public services does not seem to have attracted much attention among either contemporary or later observers. The official history of Malaysia, to cite but one example, explains political developments before and around after independence in minute detail without hardly any mention of the far-reaching reform of the government bureaucracy at the time (Zainuddin 2004: 546-661). The Dutch-language account of the situation in Indonesia after the transfer of sovereignty in December 1949 similarly only touches in passing on the continued presence of Dutch officials in the Indonesia (Meijer 1994). It would appear as though the authorities wished to convey the impression that all representatives of the former metropolitan mother-country simply vanished overnight, easily replaced by indigenous subjects. That is not how things happened.

This contribution starts out with a digression on the wider context of decolonization in Indonesia and Malaysia, including pre-war initiatives anticipating what was to come after 1945. This is followed by an elaboration of how Malayanization was put into practice from the establishment of the Federation under British rule in 1948.[2]

DUTCH DEBT AND BRITISH BENEFIT

Indonesia and Malaysia are known as nations of a remarkably different constitutional structure despite sharing many cultural traits and a common historical heritage. Yet, during a short period of time, from December 1949 to August 1950, they both possessed the identity of the federal state. The crucial difference between the two lay in the direction of change during the adjustment of regime due to changing circumstances. Indonesia was moving away from the federal construction of the RIS (Republik Indonesia Serikat, Republic of the United States of Indonesia) onto the current unitary state, which arguably in no small measure has contributed to holding the vast and widely diverse archipelago together throughout seven decades since independence. Malaysia, then Malaya, on the other hand, had in February 1948 replaced the unitary state of the Union of Malaya, inaugurated in April 1946, with a federation.

The changes in terms of constitutional setup, from RIS to RI in Indonesia and from Union to Federation in Malaya, were instigated and pushed through by the dominant nationalist forces in a society respectively giving substance to and preparing for independence. Both formed reactions to a constitutional solution imposed by the metropolitan colonial power. In Malaya, Sir Edward Gent's Union concept aimed at creating a modern kind of colony with equal rights for all, regardless of ethnic origin. This idea did not sit comfortable with the conservative Malay elite, although the nine sultans had at the time, either unthinkingly or by persuasion, acquiesced to the idea (Lau 1991: 109-126). The newly founded UMNO (United Malays National Organization) under leadership of Dato Onn bin Jaafar and now backed up by the sultans, insisted on a revision of the constitution and was instrumental in drawing up the blueprint for a federation (Harper 1999: 83-93).

In Indonesia, H.J. van Mook's conception of an agglomeration of the RI, six semi-autonomous states (*negara*) and a host of asserted constitutional

[2] The section on Malayanization draws heavily on information gathered from primary documents available in the National Archives of the United Kingdom, Kew, near London. I am greatly indebted to my assistant Thomas de Greeve for his help in consulting these archival sources.

entities (Cribb 2000: 160) proved acceptable to all three parties present at the Round Table Conference in The Hague (late August – early November 1949), where the conditions of the transfer of sovereignty were negotiated (Lindblad 2008: 72-73). The Netherlands government had its way (but not for long), the associated regions under Dutch control, BFO (*Bijeenkomst Federaal Overleg*) only stood to gain, and the RI delegation, chaired by Vice President Muh. Hatta, acquiesced in order to secure the main prize, independence. It is revealing that the confidential minutes of the Indonesian delegates at the Round Table Conference hardly ever touch upon the constitutional arrangement imposed by the Dutch.[3] In the event, one semi-autonomous state after the other merged into the RI between the transfer of sovereignty on 27 December 1949 and the celebration of the first five years of Indonesian independence on 17 August 1950.

The critical difference between Indonesia and Malaysia during decolonization lay, of course, in the attitude adopted and policies pursued by the metropolitan power. The British actively co-operated with the Malay elite in formulating the premises of independence, although envisaging a longer period of preparations than the Malay leadership. In 1948, the Colonial Office expected the path to self-government in British Malaya to last for another quarter of a century, but this time span was later revised downwards, to fifteen years, still longer than Dato Onn and his likes wanted (Darwin 1988: 157-158). In the event, UMNO, then under Tunku Abdul Rahman, had its way. Independence was celebrated in the presence of high-ranking colonial officials in Kuala Lumpur on 31 August 1957, twelve full years after Indonesia.

The contrast with the Dutch in Indonesia could scarcely have been bigger. The stubborn insistence on trying to restore colonialism by virtually any means after 1945 resulted in two military attacks, in July-August 1947 and December 1948-January 1949, much violence, countless awkward compromises and a profound rupture in Dutch-Indonesian relations with grave consequences for the immediate future (Meijer 1994; Van den Doel 2000; De Jong 2011). The very fact that Indonesian independence had been declared merely two days after the Japanese surrender in 1945 meant that the Netherlands government faced a radically other situation than the British in Malaya. The Dutch confronted a rival state in the Indonesian archipelago, seeking and increasingly gaining viability and international credibility (Lindblad 2008: 57), whereas the

[3] Arsip Nasional Republik Indonesia (ANRI), Jakarta: Delegasi Indonesia. Vol. 1251.

British joined forces with the Malay elite in fighting Communist insurgents within the territory of the colony (Harper 1999: 151-194).

The terms of independence differed, too. At the Round Table Conference, the Indonesians accepted not only to a constitutional setup that seemed far from appropriate for their nation, but also a financial and economic agreement (Finec) of great importance to the future relationship between Indonesia and the Netherlands. Indonesia assumed responsibility for paying off the sizeable accumulated debt of the Netherlands Indies to the Netherlands, an amount of 4,500 million guilders ($11,925), which arguably represented a heavier burden bequeathed to a former colony than almost anywhere in the world (Clerx 1992: 65; Dick *et al.* 2002: 171). In addition, private Dutch firms were guaranteed the security of continued operations in Indonesia, including the possibility of remitting profits to the mother-country (Meijer 1994: 46-47). The latter provision recurred at the independence of Malaya, but the former one did not.

The British perfectly well realized the great economic importance of Malaya to the Commonwealth in general and to private British business in particular. Political manoeuvring in Malaya leading up to independence was observed with alarm by British businessmen. At long last, they became convinced that the Alliance forged at the time of the general elections in 1955 between the UMNO, the MCA (Malayan Chinese Association) and the MIC (Malayan Indian Congress) formed no threat the foreign capital (White 1996: 155-168). It was no coincidence, also, that Malaysia immediately upon independence joined the British Commonwealth.

British policies vis-à-vis Malaya show above all how keen the UK government was to keep good relations with a Malay elite of undisputed reputation in its defence of capitalism. Rather than letting the now independent state take over any debts, the British government made provisions for war damage payments to residents of Malaya, many of them British subjects. In addition, an interest-free loan of £160 million ($445 million) and a 'free gift' of £20 million ($56 million) were offered.[4] The order of magnitude was clearly a far cry from the obligations taken on by the Indonesian state. Nevertheless, such variations in sheer money terms do convey, I believe, a fundamental difference in outlook with respect to decolonization.

[4] Cambridge University Library: British Association of Malaya. Vol. IV/34^2, VIII/8.

Ideology played a role as well in the Cold War environment that surrounded decolonization. The Sukarno administration had in September 1948 won American trust by crushing the Communist uprising in Madiun, but a belief in a sustained anti-Communist stance as with the Malay elite in Malaya failed to develop in Indonesia during the 1950s. The rhetoric of President Sukarno grew increasingly socialist-sounding and anti-Western. Meanwhile, the conflict with the Dutch about the western half of the island New Guinea (West Irian, now Papua), left unresolved at the Round Table Conference, escalated, eventually, in December 1957, culminating in the takeover of virtually all remaining private Dutch firms operating in Indonesia and a speeded-up departure of thousands of Dutchmen (Lindblad 2008: 177-186). It is an often overlooked historical footnote that the original protest against the British-imposed scheme of the Union of Malaya came from the left-wing MNP (Malay Nationalist Party), strongly influenced from Indonesia, pursuing the ideal of 'Greater Indonesia' (*Indonesia Raya*), and eventually ending up under Communist control. The solidly anti-Communist UMNO grabbed the initiative whereas the MNP disappeared into oblivion, gaining the dubious honour of being the first political party to be forbidden by the authorities in Malaysia (Harper 1999: 86-87, 125-126; Lau 1991: 214-247, 2003: 190).

Neither Indonesia nor Malaysia could draw on a pre-war record of active preparations for independence anywhere comparable to the Commonwealth of the Philippines, where the first president, Manuel Quezon, was elected already in 1935. Such action stood in stark contrast to the statement by Governor-General B.C. de Jonge of the Netherlands Indies at the time that the Dutch needed to stay on for another 300 years in Indonesia, a conviction reiterated in Queen Wilhelmina during the Japanese occupation, albeit with the time span reduced to 100 years (Lockhart 1963: 276; Van den Doel 2000: 61). In British Malaya, constructive thinking about future arrangements were clearly accelerated by the war and the movement towards independence for India, resulting in the allegedly modern variety of colonialism embodied in sir Edward Gent's concept of the Union of Malaya.

Unwittingly or not, some early initiatives taken by the colonial authorities did in fact anticipate decolonization. This applied in particular to an indigenization of the public service, a matter that was later to play a crucial role in substantiating independence, and, indeed, the prime focus of this contribution. Although constitutionally only the most exalted office in the colonial hierarchy, that of Governor-General, could not be assumed by an Indonesian, in practice the lower ranks of the bureaucracy were almost exclusively filled up by Indonesians, whereas Dutchmen virtually monopolized all higher positions. But an awareness was cautiously growing that the lopsided ethnic composition of the government apparatus needed to be redressed. In the early 1930s a policy awkwardly labelled 'Indianization' (*Indianisatie*) was formulated. One common device to enhance the Indonesian proportion above the lowest category of civil service was to extend the salary scales of the medium-rank category allowing to accommodate well-paid Europeans as well as less well-paid Indonesians. Progress remained unimpressive, partly because of the overall budgetary cuts during the worldwide economic depression of the 1930s. By the late 1930s, the hierarchical composition of the civil service in the Netherlands Indies was still dramatically skewed (Lindblad 2008: 35-36).

Interestingly, just about the time when the Dutch conceived a policy of 'Indianization', a committee was appointed to study the balance between British and Malay officers in the Malayan Civil Service (MCS), the highest-ranking category of colonial officials, in the Federated Malay States, FMS (Perak, Selangor, Negeri Sembilan, Pahang). This committee, labelled the Pyramid Committee, brought out its report in February 1932, recommending Malayanization by reducing the number of posts reserved for UK nationals from 29 to 17, whilst increasing the number of unreserved posts from 49 to 53, including an increase of Malays in senior ranks from 17 to 36. Malayanization was to be achieved by recruiting fresh Malay cadets, promoting capable Malays from the Malay Administrative Service (MAS) at the echelon below the MCS, and by regarding some reserved posts. Salaries for British and Malays were to be the same at junior levels but British received higher pay in senior ranks. Five years later, in 1937, the necessary caution in implementing the recommendations of the Pyramid Committee were spelled out. 'We are under no obligation to appoint Malay officers, or so to promote them. Ability is the deciding factor,' an official verdict read. By that time, the number of FMS unreserved posts had been reduced to 37 due to abolitions and transfers.[5]

Significantly, the pre-war discussion on Malayanization of the colonial bureaucracy only concerned the balance between British and Malays. A proposal by Chinese and Indian representatives in the FMS Legislative Council, the Malayan counterpart of the People's Council (*Volksraad*) at

5 National Archives, Kew. Vol. FCO 141/7428

Batavia, to let qualified Chinese and Indians enter the MCS was, in the words of the reporting British official, 'easily rejected'.[6] It was precisely this tendency of the British rulers to prioritize relations with the Malays at the expense of Chinese and Indians, that was abandoned in sir Edward Gent's concept of a 'modern' colony, which elicited such vehement opposition from the Malays.

THE MALAYSIAN MODEL

During the Indonesian Revolution, the archipelago was for all intents and purposes, as said, divided between two states, the nation-state of the Republic with its capital temporarily moved to Yogyakarta, and the agglomeration of semi-autonomous states under Dutch control run by a hastily forged alliance between returning Dutchmen and local elites. The latter saw an accelerated indigenization of the civil service, at all ranks, whereas the embryonic bureaucracy in Yogyakarta was obviously staffed exclusively by Indonesians. There was, however, an acute awareness of bottlenecks in available know-how, as illustrated by the choice of central bank when the RIS came into existence in 1949. Significantly, the Sukarno administration then opted for the Dutch-controlled Java Bank (De Javasche Bank) rather than the Republic's 'own' Bank Negara Indonesia, BNI (State Bank of Indonesia) in Yogyakarta (Lindblad 2008: 67, 85-86). Apart from the constitutional, financial and economic conditions of the transfer of sovereignty, the Republic also accepted the obligation to pay salaries at European levels to 17,000 Dutchmen retained in government service. By the end of 1952, three full years after the transfer of sovereignty, most Dutchmen at senior posts had departed. Nevertheless, even in 1955 there were still some 600 Dutchmen working in highly specialized functions of the government apparatus (Meijer 1994: 169, 176). In Indonesia, indigenization of the civil service at the time of decolonization was dictated by political necessity and the logic of an early declaration of independence, not by the Dutch.[7]

6 National Archives, Kew. Vol. CO 1022/107.

7 Too little is known about the gradual departure by Dutchmen from the Indonesian bureaucracy in the first half of the 1950s. A forthcoming PhD dissertation, to be defended by Farabi Fakih at Leiden University, is expected to provide important insights into this matter.

The situation was completely different in Malaya. In 1952, four years after the federation had come into being, the British High Commissioner, sir Gerald Templer, publicly stressed the urgency of Malayanization of the MCS (Popence 1970: 157). The first step, however, was to reconsider the pre-war demand by Chinese and Indians to be admitted into the MCS. In November 1952, the sultans accepted a quota of admitting one non-Malay for every four Malays. In its argumentation for the proposal, the ministerial committee delicately pointed out that almost five times more non-Malay Asians than Malays had in 1951 passed the Cambridge School Certificate.[8]

Meanwhile, training of Malayans for government service was speeded by granting scholarships. Numbers of scholarships rose, at the University of Malaya in Kuala Lumpur, from an average of 42 over the years 1946-1952 to 77 in 1953, and for overseas training, mostly in Britain, from 100 to 244 over the same period.[9] At the same time, the Indonesian government began granting scholarships for overseas study, preferably at non-Dutch locations such as the United States. One of the first, and arguably the most famous recipient, Widjojo Nitisastro, delivered his inaugural lecture as a professor economics at the University of Indonesia in Jakarta in August 1963, inadvertently also introducing the 'Berkeley mafia' into Indonesian economic policy-making (Nitisastro 2011: 3-17).[10]

In May 1953, the important decision made to appoint a committee to 'investigate and explore avenues' for qualified Malayans to 'as far as possible' replace expatriate staff in government service. The committee was installed in July 1953, with Tunku Abdul Rahman as its chairman and counting prominent members such as Abdul Razak bin Hussein (later Malaysia's second Prime Minister), Colonel H.S. Lee, who financed much of the campaigning for the general elections in 1955, V.T. Sumbanthan (soon to serve as president of the MIC), and sir David Watherstone, representing the British interest. The committee met very frequently, allegedly 55 times in its first year of functioning alone, and brought out reports in both October 1954 and March 1956.[11] In 1954 a similar committee was set up in Singapore, chaired at first by

8 National Archives, Kew, Vol. CO 1022/107.
9 National Archives, Kew. Vol. CO 1030/229.
10 Again, detailed information is expected in the forthcoming PhD dissertation by Farabi Fakih at Leiden University.
11 National Archives, Kew. Vol. CO 1022/108.

A.W. Frisby, from April 1955 by sir Han Hoe Lim, widely known as 'sir Roger Lim' in Singapore high society (*Straits Times* 2 April 1955).

The first interim report of the Committee on Malayanization of the Government Service observed that there were 'very few Malayans at present with necessary qualifications for higher posts'. The report advised strongly against promoting Malayan candidates with insufficient qualifications or an 'artificial creation of vacancies to hasten Malayanization'. As a consequence numbers of expatriates were estimated to still be as high as 1800 in 1956, only dropping to 1450 in 1960, with some foreign officials still required for specialized services up to 1965. Some 300-500 Malayans needed to graduate each year to replace both British officials and retiring Malayans.[12] Press reactions were not altogether favourable. The report was found 'not a particularly easy document to follow' and errors in statistics were spotted (*Straits Times* 20 and 22 October 1954).

The political parties were winding up to the general elections in July 1955, the first ever in Malaysia, indeed preceding independence by two years. The Alliance, in which the UMNO, MCA and MIC joined forces, now urged for speedy Malayanization, notwithstanding the presence of prominent Alliance figures on the committee. Measures to be taken included Malayanization already in the first term of office, offers of level on abolition terms to expatriates, no further recruitment of expatriates without special consent and extended training facilities. Sir Donald MacGillivray, the last British High Commissioner in Malaya and the one most intimately involved in preparing for independence, privately asserted that the Alliance leaders themselves realized that such demands were 'a bit of window-dressing'; 'they themselves knew it was not yet practicable.'[13]

The situation in Singapore was not deemed to be much better. Between 1949 and 1954, the number of expatriates in the top category of civil servants, labelled Division I, only dropped from 349 to 335, whereas during the same period the number of Asians had increased from 119 to 268. In other words, Malayanization had only been accomplished by enlarging the bureaucracy, not by replacing high-ranking officials. The committee headed by sir Han Hoe Lim urged for a thorough review of training and recruitment from bottom up

[12] National Archives, Kew. Vol. CO 1030/230

[13] National Archives, Kew. Vol. CO 1030/230.

rather than 'dramatic appointment to higher positions of unqualified Asians'. A financial problem was foreseen should large numbers of expatriates demand abolition compensation as they were replaced by locals (*Straits Times* 25 April 1955).[14]

The second report of the Committee on Malayanization in Kuala Lumpur appeared in March 1956.[15] It contained a majority report, described as a 'coordinated and orderly blueprint' for future action, as well as a minority report, allegedly written by a member of the MCS. The report of division services offered an overview of the situation as it had developed since 1947 and what could be expected at independence (Appendix I). It is apparent that preciously little had been attained in terms of indigenization of the public service at the time of the Malayan Union, with the sole exceptions of medical and education services due to a fair number of non-European doctors and teachers. The overall share of Malayans in ranks designated as division I in 1947 amounted to a mere 8 per cent with no locals at all in higher functions in customs, engineering, land survey and taxation. Between 1947 and 1955, promotion of Malayans brought the indigenous share up to about one-quarter, still particularly high (46 per cent) in health services and education, yet alarmingly low in the Public Works Department, customs, telecommunications, the Malayan Railway, agricultural services and engineering, varying between 5 and 11 per cent. Substantial improvement was in the near future considered essential in the police force, public works, the railways, engineering, land survey, and the judiciary. Nevertheless, the overall share of Malayans in those ranks of the civil service would in the foreseeable future still be less than 30 per cent. In some services like engineering it was even unlikely that a full Malayanization could be achieved before 1965.[16]

14 National Archives, Kew. Vol. CO 1030/232.

15 The following draws on documents in: National Archives, Kew. Vol. FCO 141/7485. See also *Report* 1956.

16 Appendix I combines data from two different documents attached to the report of the Committee on Malayanization, entitled respectively 'Summary of progress in Malayanization (from 1947 to mid-1955)of division service' and 'Analysis by departments of progress & prospects of Malayanization of cadres in which expatriate staff are serving'. Variations in numbers of posts and numbers of Malayan civil servants are due to the different time perspective adopted. Projections for the situation at independence in 1957 incorporate foreseen retirements and some reorganization.

The report considered three policy options: replacing expatriates by Malayans without usual qualifications, Malayanize as fast as availability of suitable and qualified Malayans would permit, and appointing Malayans whenever vacancies occurred by normal retirement by both expatriate and locally recruited staff. The committee recommended the second option as the first one would inevitably lower standards whereas the third one could easily result in a less regulated process due to an initial shortage of qualified Malayan candidates and a possible shortage of vacancies after 1960.

The report subsequently considered the issue of replacement of departing expatriate staff by Malayans. In 1957, division I of the civil service was expected to number in total 2750 individuals, including 1650 expatriate and 800 Malayan staff on permanent contract. The service was scheduled to expand, reaching 2900 by 1960, whereas the Malayan contingent because of retirements declined to 650. Full Malayanization would require new appointments of no less than 2250 Malayans (2900 minus 650). Yet, the number of expected graduates over the years 1956-1960 was only 1250, resulting in a shortage of 1000 persons that could not be alleviated any earlier than during the following five-year, 1960-1965, assuming a continued rate of Malayan graduations at 250-300 per year. Starting July 1957, those on permanent contract were to be offered the choice between a new five-year contract, followed by retirement, and immediate departure with financial compensation. Considering the normal age of retirement, 52 years, the option of a five-year contract was not likely to prove attractive to expatriates below 45, who would possibly prefer taking compensation and seek employment elsewhere. Both the availability of sufficiently qualified Malayans and the conditions of departure of expatriates called for a process of Malayanization in stages, spread out over the entire period 1957-1965. Such a scheme was, as far as known, not even discussed in Indonesia.

The blueprint for Malayanization entailed a differentiation between categories of government services by expected rate of Malayanization. Three categories were defined: the 1960 or above-average group, the 1962 or average group, and the 1965 or below-average group (Appendix II). The service where full Malayanization could be most readily achieved was the police force, the single largest contingent within the 1960 group. The MCS was included in the 1962 group, which, importantly, implies that public administration would only after five years of independence be fully executed by Malayan nationals. Specialized functions in engineering, mining and medicine were brought together in the 1965 group. By this scheme, slightly less than one-quarter of the civil service (22 per cent) would be Malayanized by 1960, another one-half (54 per cent) by 1962 and the remainder by 1965. According to the blueprint, all administrative and non-professional functions would be filled by Malayans within five years of independence.[17]

In June 1956, the Committee's recommendations were accepted by the Council of Ministers of Malaya, which then proceeded to install three new committees, one on general policy with regard to Malayanization, chaired by Tunku Abdul Rahman, Chief Minister since the general elections in 1955, a Public Service Committee to consider promotions and appointments of Malayans, and a so-called Working Party to handle compensation to departing expatriate staff. A Malayan director of personnel was also appointed. Amidst all determined action by the Malayan cabinet, there was cautious criticism behind the scenes. Department reactions varied from a 'loss of efficiency' in auditing, 'grave concerns' in postal services and 'unpredictable outcomes' in the tax office, whereas the presence of expatriates was deemed 'indispensable' for the quality of education. A major weakness in the majority report of the Committee was, according to critics, 'the assumption that overseas officers can be retained as long as needed and then required to retire.' The Working Party on Compensation was instructed to offer full compensation only if the government had consented to the expatriate's leaving; otherwise he would get only half compensation.[18]

Various issues of implementation were discussed at some length after the general policy guidelines had been formulated. One of the most intricate matters concerned the compensation paid to departing expatriate civil servants. Estimates indicated that full compensation without any restrictions would involve a total cost of M$35 million, which amount was reduced to M$23.5 by applying a ceiling of five times annual basic pay. A further reduction still was attained by restricting full payment to officers with eight years or more of service, a criterion borrowed from similar schemes in the Gold Coast and Sudan. Elaborate negotiations with staff associations followed and

17 National Archives, Kew. Vol. CO 1030/230. Appendix II is based on a document entitled 'List of service proposed for retention'. Designations by category differ slightly from the documents attached to the 1956 report.

18 National Archives, Kew. Vol. FCO 141/14640

a compromise was reached with maximal compensation at 4.96 times basic annual pay at age 39 and eight years of service required to receive the full amount.[19] It goes without saying that no such scheme was ever discussed in the case of indigenization of the public service in Indonesia after the transfer of sovereignty, at any rate not with obligations for the Indonesian government.

The general committee on Malayanization policy attempted to predict actual paths of compulsory 'Malayanisable' retirements by expatriate staff. Numbers of departures by stage of implementation were as follows: in Malaya 653 in 1957/60, 811 in 1960/62 and 349 in 1962/65; in Singapore 206, 113 and 14 over the same periods. The net result in 1965 was zero in Malaya and 54 in Singapore. No reason was given for the discrepancy in the implementation resulting in a faster start but a later competition in Singapore as compared to Malaya.[20]

All these developments were followed by the greatest attention at the Colonial Office in London. Its view on the 'basic problem of Malayanization' was contained in an official letter dated October 1956: 'No independent country wishes to see its public service staffed otherwise than to its own nationals. Malayanization is in this sense based on realism. No independent country will wish to see its standard of administration suffer, particularly during the early years of independence which will be so important in turn bearing on the future, either by too hasty discarding of the fund of experience which has been acquired by the present generation of expatriate officers and which cannot in the nature of things be transferred as on stroke to the Malay successors or by the lowering of the basic standard.'[21] It is especially interesting to note that a direct link is laid between assertion as an independent nation-state and the unique needs of the country in the immediate aftermath of independence. It would appear that Indonesia could have benefitted greatly from such insightful judgment.

In the event, Malayanization proceeded in a gradual and smooth fashion. Between 1957 and 1960, 23 departments, primarily in administration, were covered with 17 more services following between 1960 and 1962. In the latter year, five full years after independence, the Federation counted 400 expatriates out of a total employment of 2900 officers in Malaya, a number corresponding to a non-Malayan share of 14 per cent (Tilman 1964: 68). This

---

[19] National Archives, Kew. Vol. FCO 141/14636.
[20] National Archives, Kew. Vol. FCO 141/14640.
[21] National Archives, Kew. Vol. FCO 141/7485.

outcome may be compared with the situation in Indonesia in 1955, ten years after independence and six years after the transfer of sovereignty, when there were still 600 Dutchmen working for the Indonesian public service, mostly in highly specialized functions (Meijer 1994: 176).

Malayanization on occasion entailed the promotion of junior Malayans in positions above senior expatriates, a situation familiar from the civil service in Indonesia during the early 1950s, in which, allegedly, remaining Dutchmen only grudgingly accepted the authority of their Indonesian superiors (Higgins 1952: 48). In Malaya, the 'inevitability' of the situation apparently was accepted or at any rate tolerated 'philosophically and with good humour', to quote a contemporary observer on the spot. His final verdict at the time of the formation of the Federation of Malaysia in 1963 conveys a similar optimism: 'the system is still working, not always precisely as it did in the colonial environment, but it is effectively serving the present needs of society' (Tilman 1964: 66, 137). It is far from certain that the same can be said about Indonesia.

A brief epilogue to Malayanization occurred in the eastern regions on the island of Borneo that upon independence joined the Federation in 1963. A committee installed by the Council *Negri* in Sarawak in 1957, studied the task of so-called 'Borneoanisation' of public service, and in 1960, the Sarawak colonial authorities accepted the committee's recommendation that no new overseas staff should be appointed until local candidates had been heard (*Sarawak by the Week*, 7-13 August 1960). The Sarawak civil service at the time numbered 254 posts, held by 194 expatriates and 43 locals (there were 17 vacancies). Of the locals, one-half were Chinese. The Sarawak Intelligence reported that many Dayaks feared that 'too rapid a pace of Borneoanisation may lead to Chinese getting all most important jobs in government'.[22] In early

1963, merely months before the Federation came into being, a lengthy report was brought out by a British former director of auditing in Malaya arguing for a speedy localization of government services in both Sarawak and North Borneo by means of adjusting the pay structure to locally recruited staff and not appointing any more expatriates. The British participation in mapping this very last leg of Malayanization met with a certain uneasiness in London. Such matters should now be handled by Malaysians.[23]

22 National Archives, Kew. Vol. CO 1030/1146.
23 National Archives, Kew. Vol. FCO 1030/1142, FCO 1030/1562.

CONCLUSION

Decolonization is a type of regime change that involves much change and much remaining the same. It is this precarious balance between continuity and discontinuity that makes it a fascinating topic of study for historians (Lindblad 2013). Hardly anywhere is the trade-off between what must be replaced and what to retain as tangible and as concrete as in the ethnic make-up of the civil service. Indigenization touches at the essence of giving substance to independence. This article has confronted the Indonesian experience with that of neighbouring Malaysia, then Malaya.

Different from in Indonesia, indigenization in Malaya proceeded in a planned and very orderly fashion, surrounded by more harmony that one under the circumstances would perhaps expect. The dimensions of the task were in no measure inferior to what had to, and was, accomplished in Indonesia. Yet, the general framework was dramatically different, most conspicuously with respect to the attitude adopted by the metropolitan power. The British rendered support on terms set by the emerging Malaysian political elite, in the Alliance representing all three major ethnic groups. The Malaysians responded with a pace of change that met with consent and understanding at the Colonial Office.

One of the tasks of the historian is to speculate, with the benefit of hindsight, whether viable alternatives could, at least in part, have availed themselves. Anne Booth has made a lasting contribution to the historiography of the Indonesian economy during the nineteenth and twentieth centuries, with unmistakable regret having to admit that Indonesia on more than one occasion missed opportunities to embark on a different and better path of development (Booth 1998). It looks like Indonesia missed an opportunity also when it came to changing the institution of the state immediately after independence. Indonesia could have reaped considerable benefit from applying a similar kind of model as in Malaya had circumstances so permitted.

APPENDIX I
Progress and prospects in the Malayanization of the civil service in Malaya, 1947-1957

Service	Posts		Malayans		
	1955	1957	1947	1955	1957
Police	570	491	24	113	146
Health	464	467	119	215	190
Administration	367	344	36	100	121
Education	322	246	26	148	53
Public works	254	231	2	28	37
Customs	110	95	0	12	12
Telecommunications	88	78	1	10	12
Railway	64	97	2	5	22
Agriculture	77	65	3	7	9
Engineering	64	54	0	3	7
Land survey	61	52	0	13	19
Forestry	47	40	4	8	10
Judiciary	44	20	3	8	13
Taxation	41	62	0	10	12
Other	415	454	18	102	110
All services	2988	2796	238	782	773

Source: National Archives, Kew. Vol. FCO 141/7485.

Notes: All functions are at the rank of Division I of the public service, except a few specialized function in health services. Administration = Malayan Civil Service (MCS). Taxation = Inland Revenue. Health services exclude nurses.

APPENDIX II
Retained posts in the civil service of Malaysia by rate of Malayanization, 1957-1965

The 1960 Group	682
Administrative and non-professional staff	577
(police 400, social welfare 28, information 22, film 11)	
Professional and technical staff	105
(dental officers 54, veterinary service 23)	
The 1962 Group	1659
Administrative and non-professional staff	696
(MCS 344, customs 95, special police 90, inland revenue 36, post 28, prisons 12)	
Professional and technical staff	693
(female nurses 275, teachers 219, agriculture 58, surveyors 52, Public Works Department 32)	
The 1965 Group	715
Administrative and non-professional staff	0
Professional and technical staff	715
(health 382, civil engineers 217, mechanical engineers 37)	
Total	3056

Source: National Archives, Kew. Vol. CO 1030/230.

Note: Female nurses, customarily ranked in division II, are included here although the schedule refers to posts in division I.

BIBLIOGRAPHY

Books

Booth, Anne. 1998. *The Indonesian Economy in the Nineteenth and Twentieth Centuries, A History of Missed Opportunities*. London: Macmillan.

--------. 2007. *Colonial Legacies. Economic and Social Development in East and Southeast Asia*. Honolulu: University of Hawai'i Press.

Cribb, Robert. 2000. *Historical Atlas of Indonesia*. Richmond: Curzon.

Cribb, Robert. 2000. *Historical Atlas of Indonesia*. Richmond: Curzon.

Darwin, John. 1988. *Britain and Decolonisation; The Retreat from Empire in the Post-war World*. London: Macmillan.

Dick, Howard, Vincent J.H. Houben, J. Thomas Lindblad and Thee Kian Wie. 2002. *The Emergence of a National Economy. An Economic History of Indonesia, 1800-2000.* Crows Nest, NSW: Allen & Unwin.

Doel, H.W. van den. 2000. *Afscheid van Indië. De val van het Nederlandse Imperium in Azië.* Amsterdam: Prometheus.

Harper, T.N. 1999. *The End of Empire and the Making of Malaya*. Cambridge: Cambridge University Press.

Higgins, Benjamin. 1992. *All the Difference: A Development Economist's Quest*. Montreal: McGill-Queen's.

Jong, J.J.P. de. 2011. *Avondschot: Hoe Nederland zich Terugtrok uit zijn Aziatisch Imperium*. Amsterdam: Boom.

Le Sueur, James D. (editor). 2003. *The Decolonization Reader*. London: Routledge.

Lau, Albert. 1991. *The Malayan Union Controversy, 1942-1948*. Oxford/New York: Oxford University Press.

Lindblad, J. Thomas. 2008. *Bridges to New Business. The Economic Decolonization of Indonesia*. Leiden: KITLV Press.

Lockhart, R.H. Bruce. 1963. *Return to Malaya*. London: Putnam.

Meijer, Hans. 1994. *Den Haag – Djakarta. De Nederlands-Indonesische Betrekkingen 1950-1952*. Utrecht: Aula.

Nitisastro, Widjojo. 2011. *The Indonesian Development Experience.* Singapore: Institute of Southeast Asian Studies.

Popence, Oliver. 1970. *Malay Entrepreneurs: An Analysis of the Social Background, Careers and Attitudes of the Leading Malay Businessmen in Western Malaysia*. PhD dissertation, London School of Economics.

Tilman, Robert O. 1964. *Bureaucratic Transition in Malaya*. London: Cambridge University Press.

White, Nicholas J. 1996. *Business, Government, and the End of Empire, 1942-1957*. Kuala Lumpur: Oxford University Press.

Zainuddin, Ruslan. 2004. *Sejarah Malaysia*. [Second Edition]. Shah Alam: Fajar Bakti.

Articles and Newspapers

Acemoglu, D., Johnson, S. and Robinson, J.A. 2011. "The Colonial Origins of Comparative Development: An Empirical Investigation". *American Economic Review*, Vol. 91, No. 5, pp. 1369-1401.

Booth, Anne. 2013. "Varieties of Exploitation in Colonial Settings: Dutch and Belgian Policies in Indonesia and the Congo and Their Legacies". In: Ewout Frankema and Frans Buelens (editors). *Colonial Exploitation and Economic Development: The Belgian Congo and the Netherlands Indies Compared*. London: Routledge, pp. 60-87.

-------. Forthcoming**.** **"**Accumulation, Development and Exploitation in Different Colonial and Post-Colonial Contexts: Taiwan, Indonesia and the Democratic Republic of the Congo, 1900-80". *Economics and Finance in Indonesia*.

Clerx, J.M.M.J. 1992. "De financiële verhouding tussen Nederland en Indonesië opnieuw bezien (1945-1967)". *Politieke Opstellen*, No. 11/12, pp. 57-71

Lau, Albert. 2003. "Nationalism in the Decolonization of Singapore". In: Marc Frey, W. Pruessen and Tan Tai Yong (editors), *The Transformation of Southeast Asia. International Perspectives on Decolonization*. Armond, NY and London: Sharpe, pp. 180-196.

Lindblad, J. Thomas. 2013. "State and Economy during Modern Indonesia's Change of Regime: A Synthesis". *Lembaran Sejarah*, Vol. 10, No. 1, pp. 1-16.

Marks, Daan. 2010. "The Lost Decades? Economic Disintegration in Indonesia's Early Independence Period". *Itinerario. European Journal of Overseas History*, Vol. 34, No. 1, pp. 77-95.

Sarawak by the Week. August 1960.

"State and Economy in Modern Indonesia's Change of Regime". 2013. Special issue of *Lembaran Sejarah,* Vol. 10, No. 1.

Straits Times. October 1954, April 1955.

Archival Documents and Reports

Report of the Committee on Malayanization of the Public Service. 1956. Kuala Lumpur: Government Press.

Arsip Nasional Republik Indonesia, Jakarta. Delegasi Indonesia. Vol. 1251. Cambridge University Library. British Association of Malaya. Vol. IV, VIII.

National Archives, Kew. Vol. CO 1022/107, 108; 1030/229, 230, 232, 1146. Vol. FCO 141/7428, 7485, 14636, 14640; 1030/1142, 1562.

IN SEARCH OF NEW OPPORTUNITIES: THE INDONESIANISASI OF ECONOMIC LIFE IN YOGYAKARTA IN THE 1950s

Bambang Purwanto

Gadjah Mada University (UGM)

ABSTRACT

A flourishing study on Indonesia's economic history in the last two decades has still been unable to change a general impression of limited role of the indigenous people in economic activities during modern times. The transformation of the Indonesian economy from a colonial economy to a national economy through the process of *Indonesianisasi*, went through different historical patterns. The independent Indonesia did not translate the idea of political nationalism directly into economic prosperity until the late 1950s. As a result, there is always only a small portion of independent entrepreneurs among the population, namely those who are supposed to run the public economy smoothly without political intervention. This paper provides theoretical considerations and historical facts on the process of *Indonesianisasi.* It discusses the economic life of people in Yogyakarta, the capital city Republic of Indonesia during the war of independence, soon after the recognition of Indonesia's independence in December 1949.

Keywords: Indonesianisasi, Colonial period, Foreign domination, Yogyakarta

INTRODUCTION

A flourishing study on Indonesia's economic history in the last two decades has still been unable to change a general impression of how limited the role of the indigenous people in economic activities of the archipelago were during modern times (Lindblad 1993; Lindblad 1996; Booth 1998; Dick *et al.* 2002; Van Zanden & Marks 2012). It is often argued that the indigenous Indonesians played only a marginal role in the economic activities of colonial Indonesia. This should not surprise us in as far as these activities are concerned with big enterprises. Despite the re-emergence of indigenous Muslim *santri* entrepreneurs in some areas, such as southern Sulawesi, all over Java, southern Sulawesi, and southern Kalimantan by the late nineteenth century, foreign immigrants, particularly the Chinese and Western capitalists were the major actors in the world of business and commerce until the late colonial era.

The successful *batik* producer and traders from Solo and Yogyakarta or *kretek* manufacturers from Kudus, Ponorogo, and Tulungagung, for example, were soon replaced by the newly arrival Chinese immigrants (Suminarsih 1999; Castles 1967; Dobbin 1994). Meanwhile, indigenous traders, including those who came from various islands in the archipelago, also remained behind foreign competitors, particularly in long-distance commerce. Besides the disadvantaged structure of the colonial economy, according to Anne Booth there are at least two other reasons that explain those failures, as already mentioned by many scholars. Those are 'excessive individualism led to commercial jealously and infighting rather than the kind of networking and mutual support' and failed to participate properly in the bazaar economy which demanded literacy, numeracy and commercial skills which few indigenous Indonesians possessed' (Booth 1998). As a result, in terms of historiography, the history of the indigenous Indonesians in Indonesia's economic history is deeply marginalized.

Before the Pacific war, Indonesia's nationalist leaders had argued that the long foreign domination had clearly disadvantaged the indigenous Indonesian entrepreneurs in most parts of the country. Therefore, it is not surprising when the government of the newly independent state introduced a policy, which provided special rights to the indigenous Indonesians against the 'foreign' elements in business and commerce. The Indonesian government provided special assistance to indigenous Indonesians to set up small business, and import licenses for certain easy to sell goods were given only to indigenous Indonesian importers.

Some previous studies have argued that these *Indonesianisasi* programs clearly made no difference because the indigenous Indonesian soon found out that these programs had failed to alleviate the economic disadvantages among the indigenous Indonesians, and that were also not able to create powerful indigenous merchant communities (Mackie 1971). Consequently, the lack of rational economic behaviour among the indigenous Indonesians and the necessary role of foreign elements in day-to-day economic life under changing regimes was discussed once again within the context of the 1950s.

Despite some successes in a few cases, some Indonesians criticized the discriminative policy as an ineffective way to foster new productive Indonesian enterprises. Selo Soemardjan has argued that besides unrealistic competition between political parties to control economic sources, *Indonesianisasi* as a prominent political economic consideration since independence, is one important factor for the failure to create a major breakthrough in the economic life in Yogyakarta in the early 1950s (Soemardjan 1962).

It was not the lack of capital and labour that disrupted the three economic projects initiated by the Sultan Hamengkubuwono IX in Yogyakarta in the early 1950s, but it was rather caused by the *Indonesianisasi* policies of the Indonesian government. This policy prevented all projects from using foreign experts to fill its necessary requirements for technical and managerial assistance in the early stages. The policy also provided no room for the Chinese, including those who already held Indonesian citizenship, to be involved in such projects due to discriminative policies of the Indonesian government against the Chinese after the war. In fact, some prominent Chinese were considered capable to lead the projects to success (Soemardjan 1962).

Alongside the theoretical considerations and historical facts mentioned already, this article will also discuss the economic life of people in Yogyakarta, the capital city Republic of Indonesia during the war of independence, soon after the recognition of Indonesia's independence in December 1949. In fact in a broader perspective, there are still many questions which need to be answered next to the usual interpretation concerning *Indonesianisasi* .[1]

With respect to this, a particular problem was the so-called 'commercial dissemination', another interpretation of the historical process of *Indonesianisasi* of the Indonesian economy. This term refers to efforts by indigenous Indonesians to empower their limited economic sources in search of a temporary as well as a permanent solution to long-standing economic stagnation inherited from the colonial past. To some extent this is a subaltern interpretation of the concept of a national economy in comparison to a similar

[1] For more discussions on *Indonesianisasi* and the nature of Indonesian economic policy between 1950 and 1957, see the survey by Bruce Glassburner of several views of other scholars on that period (Glassburner 1971), a study by John O. Sutter (Sutter 1959), a series of interviews conducted study by Indonesian economic historian Thee Kian Wie (Thee: 2003), and the latest study by J. Thomas Lindblad (Lindblad 2008).

nationalistic slogan introduced by Soejono Hadinoto in the early independence period (Hadinoto 1949).

People did not start from their strength, but turned over their scattered property and limited new opportunity to become productive economic actors. This is more about rational economic responsiveness to market opportunities, rather than taking over foreign assets under changing regimes. People did receive special treatment from the government, but they did not depend on it to maximize quick productive returns.

The data are collected from different sources, particularly those provided by earlier studies. These secondary sources are very useful to identify the nature of the role of indigenous Indonesians in the Indonesian economy during the late colonial and early independence periods. Other important sources were collected from various national and local newspapers and oral history sources.

COLONIAL LEGACY AND ECONOMIC UNCERTAINTY

Yogyakarta is an area in central Java where Javanese feudal society, colonial legacy and Indonesian nationalist spirit were melting together into one pot to form a unique historical experience. Yogyakarta was a special princely territory, where both traditional Javanese leaders, namely *Sultan Hamengkubuwono* and *Adipati Pakualam* still retained their traditional authority during the Dutch colonial period, and during the Japanese occupation and when Indonesia had become independent. Although the colonial government acquired most of their traditional economic and political authority, these two Javanese rulers managed to keep their social and cultural influence in society, which is still predominantly characterized by agrarian activities.

It was not until 1918 that the traditional appanage system of land control began to change. Besides those two traditional principals, royal families and royal bureaucrats, the new land policy began to recognize the individual rights of ordinary people to own land. This policy, however, did not change structurally the distribution of land in this area, where the vast majority of the population still hardly had access to land or only controlled a small piece of land. In Bantul and Sleman, where most irrigated land is located, for example, a household owns no more than 0.75 hectare. Meanwhile, most people in other districts of Kulon Progo, Adikarto and Gunung Kidul own dry, infertile land, although every household controlled a larger holding (Soemardjan 1962).

This is also a place where many private companies, particularly Dutch ones, invested their capital in plantations, especially tobacco and sugar, since the second decade of the nineteenth century. Since the early twentieth century, 17 sugar factories and tens of thousands hectare large sugar and tobacco plantations brought many local peasants and migrants to be involved as paid labour, prevented people from using the land properly in a traditional way, and introduced the money economy into the daily life of rural societies. More than 80 per cent of irrigated cultivated lands were converted into plantations, while more than 15,000 people were involved as permanent or seasonal wage labour. This sector contributed nearly eight millions guilders per year in the form of wages for local employees, and about two millions guilders were paid every year to landowners and the local government as rent (Soemardjan 1962; Houben 1994).

The expansion of highly capitalized private companies and commercial activities attracted more Europeans, predominantly Dutchmen and Chinese living in Yogyakarta, particularly since the early twentieth century. The number of Europeans rose rapidly from 2,097 in 1890 to 4,885 in 1920 and 7,317 in 1930. Besides staying in the area close to the plantations or factories, these new arrivals and more prosperous Europeans began to set up new exclusive settlements in the city of Yogyakarta, such as in Kotabaru, Jetis, and Gondokusuman. More than 450 new houses were built specially for Europeans in the city of Yogyakarta between 1920 and 1930 (Hudiyanto 1997). Nearly at the same time, the Chinese population in this area also increased significantly. If in 1890 there were only less than 3,000 Chinese living in this area, their number rose to more than 5,000 in 1900 and 7,000 five years later. In 25 years between 1905 and 1930, the number of the Chinese population in Yogyakarta increased by more than 5,000. The 1930 census recorded 12,640 Chinese living in this residency. Together with European traders, Chinese traders, middlemen and manufacturers controlled most commercial and industrial activities Yogyakarta (Kwartanada 1997).

At the same time, a group of local entrepreneurs emerged in certain communities, particularly in the city of Yogyakarta, such as Kotagede, Kauman, Prawirotaman, Tirtodipuran, and Karangkajen. They were involved in small and medium-size home industry and trading activity, particularly in different kinds of textile products and silver-brass-bronze-gold crafts. Most craftsmen employed 10-20 workers, but some big *juragan* had 50 to

100 employees (Darban 2000; Purwanto & Amini 2003). Some workers were local people, but many came from the surrounding regions, including people from outside Yogyakarta. Thus, Yogyakarta had changed from a town of court artisans to a centre of indigenous industry and trade. Yogyakarta was now tied economically with most centres of economic activities in Java. One of the *batik* manufacturers, somebody called Haji Bilal for example, was able to tie his business with the 'Big Five' of Dutch companies during the Dutch colonial era and exported his products overseas. Meanwhile a Javanese trader specialized on agricultural products namely Surorejo, was regarded by most Chinese traders as a competitive competitor (Kwartanada 1997).

The rise of indigenous commercial activities accelerated the formation of a more heterogeneous community in Yogyakarta by the late colonial period. Besides the traditional peasants and the royal tied communities, the later economic expansion paved the way for the increasing number of labour and highly respected indigenous merchant communities in this area. The latest mentioned community together with new Western educated elites shared a higher status in society, something previously enjoyed only by certain people around the court and royal family. These all created new social formations and social relations in Yogyakarta society, when Indonesia proclaimed its independence in 1945 (Surjomihardjo 2000; Gunawan & Harnoko 1994).

Competition between indigenous Indonesians with foreigners, particularly Chinese, was unavoidable. Although there were only 28 Chinese batik enterprises compared to 178 indigenous *batik* manufacturers in Yogyakarta in 1930, there was a tight competition between the two, since most Chinese manufacturers were big business. From more than 20 indigenous commercial associations listed by Didi Kwartanada in his study on the Chinese of Yogyakarta, in fact, many indigenous people were also involved in the same commercial activities, such as hotels and restaurants, contractors, retailers, bakeries, transportation, tailor shops, laundry shops and various urban-based industries.

As mentioned above, however, these indigenous entrepreneurs mostly depended on Chinese traders for raw materials, such as unbleached cloth for *batik*, wax, thread, and unprocessed silver, bronze or gold. Some people even received capital assistance from the Chinese in exchange for special arrangements in marketing the products. Thus, it was difficult for most indigenous Indonesians to compete on equal terms with foreign commercial interests. This became even harder since the colonial government failed to provide reasonable financial, managerial and technical assistance to indigenous Indonesians in order to fill the gap between competitors. Some indigenous leaders in Yogyakarta were aware of this situation and urged local people to form commercial associations, such as *Kemadjoean Ekonomi Indonesia* (KEI), founded in 1941.[2] This organization then played a very important role during the Japanese occupation, when it obtained special rights to be the only distribution agency for indigenous enterprises in July 1942.

The economic depression of the 1930s, the Japanese occupation, and the Indonesian revolution, however, caused significant social and economic changes in general. Some entrepreneurs, indigenous as well as foreigners, lost their business due to economic uncertainty. Most sugar factories and tobacco plantations stopped their production, and allowed their former workers to be unemployed.

Some of them worked in the traditional agricultural sector, because most of the land was land no longer occupied by the plantations. The rural economy of Yogyakarta shifted from a high dependence on the capitalist economy, and returned to traditional agriculture. A more important change took place among the royal circles. Noble families began to lose their prestige among society, since many of them fell into poverty. Social mobility was no longer determined by its relations with traditional circles. Socially, royal tied elites had to accept a new lower status since independence. One thing should be noted, however, the decolonization process in fact strengthened the role of Sultan Hamengkubuwono IX, since he was a *Republiken.*[3] His own traditional

2 Indigenous commercial associations including *Persatuan Pengusaha Batik Bumiputera, Persatuan Warung Indonesia, Persatuan Perusahaan Perak Kotagede, Persatuan Pedagang Batik Indonesia, Persatuan Ahli Dagang Roti Indonesia, Persatuan Jagal Indonesian Mataram, Persatuan Penjahit Indonesia, Persatuan Toko Indonesia Mataram, Persatuan Pemborong Rumah, Persatuan Saudagar Kayu Mataram, Persatuan Angkutan, Persatuan Pemeras Susu Indonesia, Golongan Rumah Makan dan Penginapan Indonesia, Persatuan Saudagar Hasil Bumi Indonesia, Persatuan Pertenunan Indonesia Mataram, Persatuan Pedagang Pasar, Persatuan Bengkel Sepeda, Persatuan Pedagang Tahu Tempe, Persatuan Perusahaan Rokok Indonesia, Persatuan Perusahaan Sikat Gigi Indonesia, Perusahaan Perusahaan Penatu Indonesia, Persatuan Perusahaan Teh Indonesia Mataram, Golongan Pemasak Kulit Mataram, Persatuan Perusahaan Barang-barang Kulit Mataram, Persatuan Saudagar Batik Bumiputera, Persatuan Perusahaan Dendeng Mataram, Koperasi Warung Merdeka* and many others were members of this organization (Kwartanada 1997).

3 This term is usually used to identify supporters of the newly independent Republic of Indonesia. Sometimes people also used term *kiblik* as the opposite to *kaum federal*, the federalist who were considered as Dutch supporters, although this was not always the case.

authority to some extent also had created a different atmosphere in the economic life of Yogyakarta during and after the revolution.

IN SEARCH OF A BRIGHTER FUTURE

Yogyakarta was the area where the *Republiken* received tremendous support during the process of decolonization, particularly after the capital city of Indonesia had been moved from Jakarta to Yogyakarta in early January 1946, when Allied and Dutch troops were able to control the city and the *Republiken* no longer felt safe to retain their position in Jakarta. Yogyakarta was identical with the Republic of Indonesia and the primary symbol for her existence against the returning Dutch. Sultan Hamengkubuwono IX himself was the major supporter of the *Republiken*. His support to the Republic of Indonesia was proven further, when he rejected to cooperate with the Dutch troops, who had occupied Yogyakarta after their military action on 19 December 1948. Besides sacrificing much of his personal properties, there were nearly 3,000 people under his jurisdiction who lost their lives between 19 December 1949 and 30 July 1949. A rough calculation also indicated that local people lost more than Rp. 252 million of their properties during that period (Kementerian Penerangan 1953). That situation had saved the traditional Javanese authority in Yogyakarta from the revolutionary actions of Indonesian nationalists to diminish the existence of traditional elites, as they did in other areas.

In the absence of a normal economic life, the situation caused some tensions within the society, where people were struggling to find their proper portion in the *Indonesianisasi* processes. Some Chinese and Dutch properties were taken over by local people during the revolution. Fifteen out of seventeen sugar factories in Yogyakarta were totally destroyed during the war, while most exclusive houses belonging to Chinese and Dutch families, such as in Kotabaru, were taken over by Indonesian elites as well as the ordinary people. Many Chinese shops located nearby the *kampung* of indigenous Indonesian, such as in Lempuyangan, Gondokusuman, Pingit, Gondomanan, Ngampilan, and Kotagede, were robbed. Two Chinese shops in the nearby town market of Kotagede, for example, were plundered, while the owners were in refugee camps avoiding the war. They were also not allowed to reopen their shops when the war had ended. However, some Chinese families in the southeast suburb of Yogyakarta on the border with Bantul were left untouched due to a special role of a charismatic and respected Chinese *dukun* and their special relations with some personalities in a group of the Indonesian military (Soemarto, interview, Bantul, August 1998; Soegati, interview, Bantul, October 2003).

Four years after the proclamation of Indonesia's independence, the macroeconomic condition of Yogyakarta was still unstable. This instability was caused by several factors, such as the unfinished impact of the economic depression in the 1930s, the Japanese occupation, revolution, and the structural colonial heritage. Despite this, there was a high hope at the beginning, although the business and commercial activities did not growth smoothly as expected in Yogyakarta. KEI, the most successful indigenous commercial association in the previous era was no longer able to play such an important role. Although it is difficult to identify precisely what happened to this association due to the limited information, it could be said that KEI was dying in 1947 due to managerial disability and the lack of personal interest of its new directors. Many of her properties were found under personal possession when the war ended (Kwartanada 1997).

When most *Republiken* were celebrating the fourth year of Indonesia's independence on 17 August 1949, local newspapers reported that the people of Yogyakarta had to make a long queue in front of some *toko* along Malioboro, Tugu, Karang Kajen, and other places around the town to buy cloth, rice, salt and sugar under the coupon system (Kedaulatan Rakjat, 23 August 1949). The local bureaucracy of *Kemantren Pamong Projo*, *Rukun Kampung*, *Kapanewon* and *Kalurahan* was responsible for the fair distribution of the coupons to the local people. The coupon listed the name of goods, the amount allowed to purchase, and the name of shop where goods could be obtained. Every household was allowed to buy a maximum of five meters of textiles of 21 different qualities in exchange for one coupon in one of the 50 shops which had been recommended by *PERDU* (*Perusahaan Dagang Umum* - Public Trade Enterprise) at fixed prices. In the case of salt, every household was allowed to buy according to the number of people living in that house. The allocation of every person was 200 gram per month in exchange for 7 cent. Moreover, every household was allowed only to exchange their coupon with a kilogram of sugar priced at Rp. 1.60 per month.

The office of manpower and social affairs also provided free sandals, shirts, *batik*, or cloth to unemployed local people recommended by the neighbourhood association or *kampung* association. The office served many people who would get the goods because they distributed only 50 pieces of goods for 150 people who participated in the scheme a day. Meanwhile, the government office responsible for the distribution of goods arranged basic materials, such as unbleached cloth and wax in order to encourage indigenous as well as Chinese *batik* enterprises to restart production, which was mostly stopped during the war. The distribution was coordinated through *PPBI* in Panembahan street and *PPPDJ* in Jagang Kuaman street for indigenous or batik division of CHTH in Kadaster Street (*Kedaulatan Rakjat* 16 July 1949).

Soon after the recognition of independence, some foreigners tried to get their properties back by using different ways. The Chinese, for example, succeeded in regaining their business complex around the Lempuyangan train station and market by paying a sum of compensation money or at the full price, but they were not allowed return to Bantul and Kotagede. A Chinese family in north Yogyakarta was also able to have their factory back because the local people recognized the family role in Indonesia's nationalist movement before and during the war. A workshop used to provide technical assistance to most sugar factories in Yogyakarta owned by the Dutch was bought by the local government and then modified as an industrial plant to produce various metal tools and house wares for the local market and surrounding regions. Ironically, however, different groups of the *Republiken* supporters and the Indonesian government competed with each other to control some Chinese and Dutch warehouses and factories around Yogyakarta seized during the war.

All efforts to restructure the Indonesian economy, however, were affected when the new government of the United States of Indonesia (RIS) under finance minister Sjafruddin Prawiranegara introduced a new financial policy, known as

'*gunting Sjafruddin'* in March 1950. The government only recognized half of the nominal value all bank notes of 5 *rupiah* and above as a medium of change, and another half could be used only for buying government obligations and certificates (Purwanto 1991). The policy created market disorder in Yogyakarta. Some indigenous *batik* manufacturers were struck by the fact that the value of their customers newly paid debt the day before was only half of the original value, while they had to pay the full price in new money for unbleached cloth, wax and other batik materials taken from the Chinese distributors. Some agricultural commodity traders from Bantul and Kulon Progo experienced a similar situation.

The condition became harder for them when they found that their money in local banks had been devalued directly by half of the original amount since 18 March 1950. Since Yogyakarta was the capital of the Republic of Indonesia and because of their nationalist sentiment, most indigenous traders received more ORI or URI (Oe(u)ang Republik Indonesia-Indonesian money) than the Dutch 'red money' in their commercial transactions. In many places, the indigenous traders even refused to accept Dutch money (*Kedaulatan Rakjat* 2 July 1949). The new financial policy, however, had forced them into a very difficult position, because the ORI would not be used any longer from 1 May 1950 and valued less than the new money (*Warta Indonesia* 20 March 1950). They had to change their money, but at a lower exchange rate. Thus, many became bankrupt, while many others had to slow down their economic expansion. Apart from some optimism about rice reserved for people living in Yogyakarta and for the annual *Sekaten* festival one year after the recognition of Indonesia's independence; in fact, local newspapers reported a food crisis in this special territory. The papers mentioned that most people in Wonosari and Adikarto still ate *gaplek* of dried cassava as their daily diet, while the rice price rose considerably because of a harvest failure in many rice producing areas (*Kedaulatan Rakjat* 16 December 1950).

Further efforts were made by the local government or by Sultan Hamengkubuwono IX after the recognition of Indonesia's independence by initiating some economic projects which involved many people in the rural areas, in order to alleviate economic inequality in the this region. In this respect, the agricultural *Vak Organisasi Tani Primair* (VOTP) project of tobacco cultivation started in 1954 was an example of this attempt. This project, however, failed to continue due to mismanagement, corruption and political conflict. The first sign of its collapse came just after the first tobacco harvest, when the management was not able to distinguish properly the quality of tobacco leafs produced by participating local peasants. VOTP and its counterpart *Jakti* also failed to play their role to mediate between the peasants and the project. With or without learning from his failure with VOTP-Jakti project, Sultan Hamengkubuwono IX also tried to create another economic centre to accelerate the economic growth of Yogyakarta through the construction of a sugar factory in 1956. But until late 1950s, this factory failed to operate due to technical and management problems (Soemardjan 1962).

A similar pessimism was clearly expressed by the local government in a comment on the economic condition of Yogyakarta in 1957. Besides the failure of some projects, the local government also criticized the failure to renovate the cigar factory of 'Taru Martani' and an ice factory which had been discussed for a long time in the local parliament (*Panitya Peringatan 10 Tahun Kotapradja Jogjakarta*: 1957). Like the 17 sugar factories, the cigar plant did not operate at all because of war damage.

Another government sponsored economic activity in the process of *Indonesianisasi* in Yogyakarta was the establishment of *Gabungan Koperasi Batik Indonesia* (GKBI), a federation of Indonesian *batik* cooperatives. This organization was established by several indigenous *batik* associations in Yogyakarta in 1948 at a government initiative. The federation soon played a very important role in the *batik* economy, particularly after the introduction of a special economic policy to encourage indigenous Indonesian businessmen through the *Benteng* program. After given mandatory rights to decide how much unbleached cloth could be imported every year in 1952, GKBI received its special right as a single institution allowed to import unbleached cloth in 1955. Subsequently, the federation built a cambric factory in Medari north of Yogyakarta in 1962, when the plant employed nearly 2,000 workers (Sulistyorini 1993). Although it was not comparable to the previous successful KEI, it is not an exaggeration to say that GKBI was the first successful 'indigenous cooperative federation' until the 1950s.

Besides some activities already mentioned above, the issue of *Indonesianisasi* in Yogyakarta must be found in the internal dynamics of the local communities. A productive idea, however, emerged unexpectedly from some local communities in the middle of this uncertain economic condition. A village in south Yogyakarta, for example, was able to create a cooperative which provided credit to the local people. The capital was extracted from the sugar allocated to local communities in July 1949. Since the local people did not need sugar, the local chief then sold them in order to get cash instead.

One study noted that the total money circulated among more than 2,000 people living in this neighbourhood recorded a growth from Rp. 3,200 at the beginning to Rp. 90,000 in 1958. A similar attempt was also taken by some neighbourhood villages and among the local people in coconut producing centres of Kulon Progo. Concerning the coconut producer, a further development of the cooperative was jeopardized by the presence of military in the business. The local military office issued several regulations in order to protect indigenous peasant as members of a cooperative from Chinese middlemen. However, this involvement slowed down the already well running coconut oil production in this area. Some producers, including indigenous coconut oil manufacturers, even had to stop their production because there was not enough copra available in the market (Soemardjan 1962).

Moreover in southeast Yogyakarta, a local community also took an important economically oriented action led by members of a village legislative board elected in 1950. One leading figure on the board, who was also a carpenter and contractor, trained local youths and provided them with jobs and even capital. It was less than two years, during which the local community had been well known as the main furniture producer and many worked as carpenters in construction projects in surrounding areas and even in Yogyakarta. They also played an important role in renovating *Kepatihan*, the local government administrative centre after the war, and in the renovation of two Catholic churches in Yogyakarta. Some people from this hamlet were also involved as skilled workers in the reconstruction of a new sugar factory in Padokan, which was initiated by Sultan Hamengkubuwono IX in 1956 (Soemarto, interview, Bantul, August 1998).

A similar initiative was taken by *Persatuan Perusahaan Batik Indonesia* (PPBI), a new name for the *Persatoean Pengoesaha Batik Boemi Poetra* (PPBBP), an organization of indigenous *batik* entrepreneurs established in 1934. This association took some actions in order to encourage indigenous *batik* manufacturers with five or more workers to restart their business (*Kedaulatan Rakjat*, 10 September 1949). This association provided all the basic materials and marketing assistance for their members since September 1949. Although this association was also a member of GKBI and received government assistance, it was able to mobilize sustainable fund from her own members to help new and unfortunate members.

Another indigenous textile association, called *Perusahaan Pertenunan dan Pembatikan Daerah Jogjakarta* (PPPDJ), also took a similar action from November 1949. The association assisted only its members under the condition that a person already owning weaving tools of the 'TIB' model, who really wanted to produce cloths (*Kedaulatan Rakjat*, 5 November 1949). This effort stimulated some traditional weaving producers in Yogyakarta to expand their activity, such as the people in Moyudan, northwest of Yogyakarta.

People in some villages of this under district had already produced various kinds of traditional cloth, such as *setagen*, *selendang,* sarong, and towels, but production was disrupted during the Japanese occupation and the war of independence. The capital and technical assistance from the association stimulated some people to use new technology and expanded their production in the early 1950s. Consequently, Moyudan emerged as a prominent weaving producer in Yogyakarta from the mid-1950s (Santosa 2001).

In Kotagede, where an indigenous entrepreneur community had been established a long time ago, some people tried to re-establish the glorious past after the war without any assistance from the government (Nakamura 1993). Some people from Kotagede earned much from making various red and white pins during the early revolution, but they did not really limit themselves to one particular product. They diversified their industrial activities in response to market demand. Some started producing different silver, bronze and brass house wares, but they also produced jewellery, decoration, souvenir, cloth, shirt, cigarette and even toothbrushes around (Rojikan, interview, Kotagede, November 1999; Basyori, interview, Kotagede, November 1999) Meanwhile, some established families, particularly among the goldsmiths, continued to produce their traditional products (Ismail, interview, Kotagede, November 1999).

With regard to the capital requirements, some people in Kotagede started their business by investing money they made from black market trading activities during the Japanese occupation and early independence period (Rojikan, interview, Kotagede, November 1999; Yuwono, interview, Kotagede, November 1999). But some of them established their industrial and trading activity really from scratch. They began with family labour and material borrowed from neighbours or collecting them from garbage. Some sources, however, claim that a few prominent new entrepreneurs in Kotagede invested money taken from rich people during the war. Those people made a fortune by plundering their own neighbours, when most people ran to refugee camps to escape from the Dutch troops in late December 1948. This was also the case in Bantul, where some people ran their new business after the war from money provided by a Chinese who received back the stolen goods from their guardian during the revolution. When the war was ended, and life returned to normal conditions, those guards asked for their share (Purwanto & Amini 2003; Purwanto 2005).

CONCLUSION

In seeking the distinctive features of *Indonesianisasi* of the economy of Yogyakarta in the 1950s, an answer may also have been provided to the question, whether this process was marked by strong Indonesian government support to the indigenous entrepreneurs through a discriminative policy toward the Chinese and by taking over foreign properties or was it more a rational response toward market opportunity by people on their own initiative? However, it seems not possible to give a definite and clear answer to that question with the concept of 'commercial dissemination' into the paper as the descriptive evidence is so fragmentary and unreliable. A further extensive study is required in order to fill the gap between conceptual frameworks, history as a narrative, and historical facts.

It may be more valuable to conclude that the conventional concept of *Indonesianisasi* should be deconstructed in order to get a new understanding of Indonesian economic history in 1950s. As already discussed at length by J. Thomas Lindblad in his *Bridges to New Business* (2008), in terms of space and time, the concept of *Indonesianisasi* is a bridge to connect Indonesia's colonial past and the present or the future Indonesia. According to Lindblad, a delay in the economic decolonization after the declaration of independence does not mean neo-colonialism, since the economy of the country was still based on economic nationalism (Lindblad 2008).

The transformation of the Indonesian economy from a colonial economy to a national economy through the process of *Indonesianisasi*, went through different historical patterns. Some indigenous Indonesian entrepreneurs in Yogyakarta did enjoy special rights through a discriminatory government economic policy and by taking over foreign properties, but it could not be denied that the internal dynamic of certain indigenous communities did produce a significant economic breakthrough in Yogyakarta. Some people even had no contact at all with the government and with foreign economic interests in transforming their economic life. Local people served a growing market with various seeds and they had unlimited economic opportunity in looking for a better future. But then it disappeared suddenly when the government and foreign interests once again took control of their business after the war. In this context, *Indonesianisas*i was never considered as a set of concepts where the public could share in the economic prosperity of the newly independence state.

If that is the case, it can be said that the political decolonization in Indonesia took place without economic *decolonialization*. The government of the newly independent state together with its bureaucracy soon replaced the position of the colonial regime politically, but they inherited the colonial culture as well as its structure as their own. The emergence of a new regime does not constitute a 100 per cent guarantee that there will be an equitable distribution of new economic opportunities. The new elite tended to acquire control over economic sources, despite the fact that at the same time there was a great demand from the vast majority of ordinary Indonesians to be involved directly in different economic activities.

The independent Indonesia did not translate the idea of political nationalism directly into economic prosperity until the late 1950s. As a result, there is always only a small portion of independent entrepreneurs among the population, namely those who are supposed to run the public economy smoothly without political intervention. It is not surprising that the action of ordinary people to search for economic opportunity after achieving political independence was always hampered structurally as what happened to those in the colonial period. Despite all difficulties, people never stopped trying for better opportunities with or without a state-sponsored economy.

BIBLIOGRAPHY

Books

Booth, Anne. 1998. *The Indonesian Economy in the Nineteenth and Twentieth Centuries. A History of Missed Opportunities*. London: Macmillan.

Castles, Lance. 1967. *Religion, Politics and Economic Behaviour in Java: The Kudus Cigarette Industry*. New Haven, CN: Yale University Southeast Asian Studies Cultural Report Series.

Darban, A. Adaby. 2000. *Sejarah Kauman Menguak Identitas Kampung Muhammadiyah*. Yogyakarta: Terawang.

Dick, Howard *et al.* 2002. *The Emergence of A National Economy. An Economic History of Indonesia, 1800-2000.* Crows Nest, NSW: Allen & Unwin. Gunawan, Ryadi & Harnoko, Darto . 1994. *Sejarah Sosial Daerah. Daerah Istimewa Yogyakarta. Mobilitas Sosial D.I. Yogyakarta Periode Awal Abad XX-an*. Jakarta: IDSN.

Hadinoto, Soejono, 1949. *Ekonomi Indonesia; Dari Ekonomi Kolonial ke Ekonomi Nasional*. Jakarta: Jajasan Pembangunan.

Houben, Vincent J.H. 1994. *Kraton and Kumpeni: Surakarta and Yogyakarta 1830-1870*. Leiden: KITLV Press.

Lindblad, J.Thomas (editor). 1993. *New Challanges in the Modern Economic History of Indonesia*. Leiden: Programme of Indonesian Studies.

-----. (editor). 1996. *Historical Foundations of a National Economy in Indonesia, 1890s-1990s*. Amsterdam: North-Holland.

-----. 2008. *Bridges to New Business. The Economic Decolonization of Indonesia*. Leiden: KITLV Press.

Nakamura, Mitsuo. 1993. *The Crescent Arises over the Banyan Tree.* Yogyakarta: Gadjah Mada University Press.

Soemardjan, Selo. 1962. *Social Change in Jogjakarta*. Ithaca, NY: Cornell University Press.

Surjomihardjo, Abdurrachman. 2000. *Sejarah Perkembangan Sosial Kota Yogyakarta*. Yogyakarta: Yayasan untuk lndonesia.

Sutter, John O. 1959. *Indonesianisasi. Politics in a Changing Economy, 1940-1955*. Ithaca, NY: Southeast Asia Program Cornell University.

Thee Kian Wie. 2003. *Recollections; The Indonesian Economy, 1950s-1990s.* Singapore: Institute of Southeast Asian Studies.

Articles

Dobbin, Christine. 1994. “Accounting for the Failure of the Muslim Javanese Business Class: Examples from Ponorogo and Tulungagung (c. 1880-1940)”. *Archipel*. Vol. 48: 87-101.

Glassburner, Bruce. 1971. “Economic Policy-Making in Indonesia, 1950-1957”. In: Bruce Glassburner (editor), *The Economy of Indonesia. Selected Readings*. Ithaca, NY: Cornell University Press: 70-98.

Hudiyanto, R. Reza. 1997. “Perkembangan Pemukiman Masyarakat Eropa di Kota Yogyakarta (1917-1936)”. BA thesis, Yogyakarta: Department of History Gadjah Mada University.

Kwartanada, Didi. 1997. “Kolaborasi dan Resinifikasi: Komunitas Cina Kota Yogyakarta Pada Jaman Jepang 1942-1945”. BA thesis, Yogyakarta: Jurusan Sejarah Universitas Gadjah Mada.

Mackie, J.A.C.. 1971. “The Indonesian Economy, 1950-1963“. In: Bruce Glassburner (editor), *The Economy of Indonesia. Selected Readings*. Ithaca, NY: Cornell University Press: 16-69.

Mook, H.J. van. 1958, “Kuta Gede Before the Reorganization”. In: Brand, W. *et al*. (editors), *The Indonesian Town. Studies in Urban Sociology,* The Hague: Van Hoeve.

Purwanto, Bambang. 1991. “Krisis di Awal Kebangkitan. Pengguntingan Uang pada Masa RIS 1950”. In: Departemen Pendidikan dan Kebudayaan, Seminar Sejarah Nasional IV. Sub Tema Dinamika Pertumbuhan Ekonomi Bangsa Indonesia. (Jakarta: IDSN): 297-308.

------. 2005. “Conflict and Coexistence: Multicultural Images of Urban Yogyakarta in the First Half of Twentieth Century”. *Urban Culture Research.* Vol.2. Yogyakarta: Faculty of Cultural Sciences UGM: 27-38

Purwanto, Bambang & Mutiah Amini. 2003. “Violence in a Sacred City: Kotagede of Yogyakarta in the Early Revolution”. Paper presented to the conference on Changing Regimes and Shifting Loyalties: Identity and Violence in the Early Revolution of Nederlands Instituut voor Oorlogsdocumentatie, Amsterdam, 25-27 June.

Santosa, Gandung. 2001. “Kerajinan Tenun di Moyudan Kabupaten Sleman 1950-1964”. Yogyakarta: Yogyakarta: Jurusan Sejarah Universitas Gadjah Mada. Sulistyorini, Rita. 1993. “Pabrik Cambric GKBI Medari: Krisis dan Dampaknya (1962-1987)”. BA thesis, Yogyakarta: Yogyakarta: Jurusan Sejarah Universitas Gadjah Mada.

Suminarsih. 1999. “Industri Rokok Kretek di Keresidenan Kediri pada Masa Depresi Ekonomi 1930-an”. BA thesis, Yogyakarta: Jurusan Sejarah Universitas Gadjah Mada.

Government Reports

Kementerian Penerangan. *Republik Indonesia. Daerah Istimewa Jogjakarta*. Jakarta: 1953.

Panitya Peringatan 10 Tahun Kotapradja Jogjakarta, 1957. *Dasa-Warsa Kotapradja Jogjakarta 7 Djuni 1947 – 7 Djuni 1957*. Yogyakarta.

AN AGRICULTURAL DEVELOPMENT LEGACY UNREALISED BY FIVE PRESIDENTS, 1966–2014

Sediono M.P. Tjondronegoro

Bogor Agricultural Institute (IPB)

ABSTRACT

The founding fathers of the Indonesian Republic, Soekarno and Moh. Hatta, who became first President and Vice President respectively, designated the agricultural sector as the major factor contributing to Indonesia's economic growth. Prof Anne Booth's research findings during the Green Revolution in the mid-1970s also indicate the importance of the agricultural sector. Food self-sufficiency in the country was achieved in 1985, when Indonesia was close to its "take-off" stage.

However, subsequent developments after the New Order period indicated a gradual shift of policy guide lines from People's Welfare to Export-driven Growth and Increasing Foreign investment. Five Presidents since Sukarno have neglected the urgency of agrarian reform in Indonesia.

Keywords: Agriculture, Food policy, Land use, Population

INTRODUCTION

The short visit of Prof. Anne Booth from London University to Indonesia to attend an International Seminar organized by Bogor Agricultural University (IPB) in her honour gave rise to the following question: "How fast has agricultural output been growing since the 1960s?"This reminded us of a book that Anne Booth edited with Peter McCawley, entitled *The Indonesian Economy during the Soeharto Era* (Booth & McCawley 1981). The period of the 1960s is memorable because this was also the time when Anne Booth conducted research about Indonesia's agricultural growth. Indonesian economic and agricultural researchers, particularly those based at IPB and in the Agro-Economic Survey Team, are extremely grateful for her early contributions. In this essay I would like to submit a brief description, based on personal observations and perceptions, of growth-related factors of development in our agricultural sector since the mid-1960s.

Having lived with my parents during my youth in rural areas and small towns on the densely populated island of Java, I was able to observe the rural population and the farmers as well as the farm labourers among them. Later, as a Republican partisan in the mid-1940s, I was again able to observe and even to be involved in rural community life. These experiences of rural life have no doubt influenced my interest in agricultural development (Tjondronegoro 1978; 2008). Even today, Indonesia is basically an agricultural country in which growth and development in the agricultural sector are fundamental requirements for increased prosperity for the hundreds of millions of people living in the third largest country in Asia.

Our appreciation of Anne Booth's contribution as an economist is not limited to agricultural development in a macro perspective, but also refers to related matters that she examined in several of her publications: "Indonesia's Land Tax"(1974), "Irrigation in Indonesia"(1977) and "The Burden of Taxation in Colonial Indonesia" (1980), to mention just a few. What I would specifically like to draw to readers' attention here is the fundamental agrarian problem, which has remained less deeply analysed in the literature.[1]

GROWING INTEREST IN ECONOMICS IN A NEWBORN NATION

The interest of two Australian economists - Anne Booth and Peter McCawley - in publishing a book entitled *The Indonesian Economy during the Soeharto Era* may have been inspired by Bruce Glassburner's preface to his selected readings where he wrote: 'Because of the preoccupation of Indonesian economists with the immediate policy problems of their country, and because of the minor role to which the economic profession of the world has relegated Indonesia and the limited accessibility of the nation in recent years to those few economists who have a research interest there, the flow of published materials on the Indonesian economy has been thin.' (Glassburner 1971: vii).

When Anne Booth and Peter McCawley became interested in Indonesian economics, the situation had already begun to improve somewhat, with the

[1] For recent contributions to the literature, see Bomer 2008, Salim 2008, Badrun 2012, and Bastian 2013.

appearance of the *Bulletin of Indonesian Economic Studies*(BIES) in1965 and a little later the Indonesian *Jurnal Ekonomi dan Keuangan Indonesia*, which was revived after a long period of silence. The extensive collection of articles in the BIES ever since has provided much material for Western scholars interested in Indonesia's economic development. During this period of revival, Anne Booth played a very supportive role, for which Indonesian economic and other social science researchers remain extremely grateful.

To inform a younger generation of Indonesian social science researchers, I may add that Anne Booth has been active in the Department of Economics and Statistics at the University of Singapore and was a Research Fellow in the Department of Economics in the Research School of Pacific Studies at the Australian National University in Canberra for several years. Up to retirement, she was a professor in the Economics at the School of Oriental and African Studies at the University of London.

EARLY RESEARCH FINDINGS

After studying past statistical records, Anne Booth pointed out that in the early period of President Soeharto (1966-1998), up to 1977, the production of basic food and clothing was emphasized and that the results of those policies in terms of sectoral growth rates were quite dramatic. In agriculture, which is a basic and extremely important sector, the rate of growth climbed from 1.4 per cent per year during the first half of the 1960s to 3.8 per cent in the six years to 1977,while remaining at 3.7 per cent in the subsequent period, 1971-1977. In earlier days, the then Netherlands Indies, now the Republic of Indonesia, had been known as an agricultural archipelago with more than 100 million people inhabiting thousands of large and small islands, living and working in the agricultural sector. Hence, land and water were the basic resources for people's sustenance and welfare. They have long been, and still are, of fundamental importance.

This reality was understood by Indonesia's founding fathers, Soekarno and Moh. Hatta, from the early stages of the Republic's existence. The committee to conceptualize an Agrarian Reform Law, since 1948 institutionalized by Vice President Hatta, made a contribution to formulating the Basic Agrarian Law 5 of 1960 that was accepted by Parliament on 24 September 1960. Subsequent legislation was issued in the same year to regulate land ownership to two hectares as a minimum and five hectares as a maximum. Thus land ownership was already related to food production with two hectares as a minimum production unit, while large-scale land ownership was avoided. In this way the fundamental principle required to design a national land use map was basically agreed upon. A pressing claim for sustained national development had thus been acknowledged by the Soekarno-Hatta government since the early stages of its political guidance.

But although the sectoral composition of GDP in 1965 was still much the same as in the early 1950s, the share of agriculture declined from 52 per cent of GDP to 35 per cent during the next ten years, while the contribution of mining jumped from 3.7 per cent to over 12 per cent in 1977. This development meant that, while there was a drop in agriculture, an increase of almost 400 per cent occurred in the mining sector. This implied a significant growth of foreign investment in the mining sector, whereas the agricultural sector lost its former economic priority. There was thus a striking contrast between the Soekarno and Soeharto eras, reflecting different development priorities.

FOOD POLICY

In 1945 the founding fathers of the Republic of Indonesia vowed that Indonesia would be independent basing its development on political as well as economic self-sustainability (*kemandirian*), which the new nation had lacked since the dominance of the Dutch East India Company (VOC) from 1602 and the Dutch colonial government from 1830. From the nineteenth century, Dutch colonial historians have tended to describe the influence of large estates and governance under Sir Stamford Raffles, Lieutenant Governor-General in Batavia between 1813 and 1816. In the last quarter of the nineteenth century the Cultivation System was maintained under Dutch authority and poverty spread among the indigenous population.[2]

The agricultural sector was still considered important during the 1960-1977 period and the policy of rice production for sustainable national food self-sufficiency (*swasembada pangan*) was accepted. The food policy that the Indonesian government had adopted after the Soekarno-Hatta period was maintained under Soeharto's rule and even inherited by President Susilo

2 See further, Booth, O'Malley & Weidemann 1988.

Bambang Yudhoyono after the general elections of 2004. The promise to the nation, however, has yet to be realized.

The Green Revolution and its spread in Southeast Asia in the early 1970s was a stimulating factor that increased rice production through the cultivation of High Yielding Varieties (HYV) of rice, imported from more developed countries (Pirie 1982). The use of fertilizers and pesticides, also imported from developed countries, was part of the package deal, without which higher yields would have been impossible. Since the production of HYV rice meant higher market prices, large farmers were able to buy up land from poor farmers, which reduced the latter to landless farm labourers. Rice production increased and so did the number of landless people.

Historically, this process had been observed for decades. In the Dutch colonial period and throughout the economic depression of the 1930s, inter-insular and inter-provincial rice prices and trade had been controlled in order to guarantee basic food sufficiency for all. What has since then been ignored as a basic precondition is law-abiding land-use practices that can guarantee rice production for a growing population.

Due to government decisions in1969-1970, agriculture was accepted for three to four consecutive Five-Year Development Plans as Indonesia's key sector for initial development. This development relied largely on rehabilitation and upgrading of the existing infrastructure, intensification of food crop cultivation, particularly in parts of the country where irrigation was available, and greater exports of commercial crops such as coffee, rubber, palm oil and pepper.

The extensification of cultivable land for agriculture was practiced mostly on the islands of Sumatra, Kalimantan and Sulawesi, where mining activities were also developed. By and large, efforts were geared to providing new land and employment opportunities for migrants from the densely populated islands of Java and Bali. But only a small part of the new agricultural land was intended for wet land agriculture, which required the construction of irrigation networks like those in Bengkulu (Sumatra), Luwu (Sulawesi) and Sitiung (West Sumatra). Much greater areas were reserved for the dry land cultivation of annual as well as perennial crops.

The emergence and growth of estate companies (*cultuurmaatschappijen*) occurred a few decades after the rule of Raffles. Dutch banks such as the Netherlands Trading Association (Nederlandsche Handel-Maatschappij), the

Escompto Bank, and the Commercial Bank (Handelsbank) became interested in financing the agricultural estate sector in Java and Sumatra. The first agricultural company was established in 1870 under the name of the Deli Company; it was followed a few years later by the Deli Batavia Co. (1875) and the Amsterdam-Deli Co., which were set up in Amsterdam. Within a few years the number of companies increased considerably. Some 64 were based in the Netherlands, while there were 163 in the Netherlands Indies; these 227 companies had a total capital of 29.8 million guilders. Local credit institutions provided the working capital.

The system of estates cultivating agricultural products for the European market was not only profitable for investors but also benefited shipping from Indonesia to Europe. Under Governor-General Van den Bosch (in office 1830-1833) a plan to enable Dutch entrepreneurs to establish estates in forested areas adjacent to native kampongs was put into practice; this too was profitable for foreign investors and provided labour opportunities for nearby villages. When this system achieved considerable success, the colonial government decided in 1866to give village headmen an official piece of land (*ambtelijk landbezit*), referred to as the village headman's office land (*tanah bengkok lurah*).

As far as I can recall, Anne Booth has never been against the national policy target of achieving self-sufficiency in rice production; however, several Indonesian critics have concluded that, given the high rate of poverty, which involves 30 million Indonesians still living below the poverty line, a multi food self-sufficiency strategy would be much more appropriate.

POPULATION

As both population and land use are concerned, it is useful to touch upon a few points related closely to agricultural development and levels of welfare among the rural population. This is important as the national goal since independence has been political and economic self-sustainability. Where food is concerned, this specifically means 'food self-sustainability' (*swa-sembada pangan*). Without ignoring food diversity, supplies of the staple food of rice should be basically guaranteed in an agrarian nation. From early times the population of the islands of Java and Bali showed rapid growth due to the fertile soils, which have been the consequence of the frequent eruptions of volcanoes. Quite understandably, population and agricultural growth have been relatively faster than on the other islands of the archipelago.

According to economist Widjoyo Nitisastro (1970) and others, Java's population grew at an annual average of 2.4 per cent, reaching 28,386,000 people in 1900; 29,979,000 people in 1905; 34,429,000 people in 1920; 41,718,000 people in 1930; and 62,993,000 people in 1961.

Geertz (1963a:13) concluded that Java already contained one of the highest cropland to total area ratios of any extensive region in the world. It is no wonder that the Netherlands Indies government introduced a program of colonization (that is, inter-island migration) to Sumatra, which is the closest neighbouring island. Javanese peasants, who irrigated their fields (*sawah*) and who moved to Lampung's southernmost district just across the Sunda Straits, found, however, that they had to cultivate their rice in dry fields. Rice yields were lower than in Java, although remarkably higher than those obtained from the swidden cultivation practiced by local Lampung farmers. Migrants could also increase their income by planting sugarcane and selling their products to a nearby sugar factory. In the New Order period under Soeharto, irrigated rice fields were also developed in East Kalimantan but the lower fertility of soils compared to those of Java and Bali was the main reason for lower yields at harvest time.

For the poor, the basic needs of life have to be accessible. For instance, in their quest for food security the rural poor often have little choice but to use their limited resources extensively. Their negligible natural and capital assets force them to adopt survival strategies with short time horizons. They became excluded from productive opportunities by ill-defined or non-existent property rights, limited access to financial services and markets, inadequate security against natural disasters, lack of education and training, and very little power in decision-making. Understandably, when property rights are lacking or insecure, farmers cannot be sure whether they will obtain benefits and therefore they lack incentives to make investments for the longer term. Instead of taking from and giving back to the soil, they drain its productive properties. Although in a few places they may move far into forested areas, most do not have the option of shifting due to earlier deforestation, which has occurred in several parts of Kalimantan.

While this pattern is in itself unsustainable, it must be understood in the context of poor people struggling to feed their families. Furthermore, concerns about the environmental effects on forests should be seen in relation to the devastating effects of illegal logging or mining companies that are not meeting sustainable forestry standards. There is need for at least a regional land use map and relevant land regulations to prevent conflicts and to ensure rights to land for the poor, if the government seriously intends to:

- ensure the food security and income of poor households by marketing surpluses
- employ sustainable land-management practices that involve investing in long-term land productivity
- preserve land and related assets during periods of agricultural stress
- accumulate capital and assets so that rural people can invest in other livelihood options and thus reduce land fragmentation, and
- transfer assets to overcome inter-generational poverty.

The poverty situation since the 1960s has been evaluated more positively and an Asian Development Bank consultant once concluded that in the early 1990s poverty was no longer endemic. It was not only the BPS (*Biro Pusat Statistik*, now *Badan*) that took samples and reported calculations of the headman index. In 1976a more specialized unit, SUSENAS (National Socio Economic Survey),was assigned to conduct a consumption survey that covered 1,000 households. Subsequently, the number was increased to 60,000 households in 1981 and to 205,000 households in 1992. Surveys used consumption as a core value or criterion in 1976 when a team led by Prof. Sajogyo and Prof. D. Karyadi proposed a basic annual rice consumption of 250 kg per capita, which came down to a calorie intake of 2,100 per day, as a national poverty line, although this figure has never been accepted formally by the government. Even now, a basic criterion has not been stated by the government as the poverty line. After the economic crisis of 1997/98 and the MDG's declaration of $ 2.00 per capita per day as the poverty line, the Indonesian government has tended to accept this criterion (now corresponding to Rp.20,000 per capita per day).

The incidence of poverty in Indonesia between 1976-1990 was as follows:

Year	Urban	Rural	Total
1976	10,000,000	44,200,000	54,200,000
1978	8,300,000	38,900,000	47,200,000
1980	9,500,000	32,800,000	42,300,000
1981	9,300,000	31,300,000	40,600,000
1984	9,300,000	25,700,000	35,000,000
1987	9,700,000	20,300,000	30,000,000
1990	9,400,000	17,800,000	27,200.000

According to this report, the poverty rate dropped from 40 per cent to about 15 per cent in less than 15 years (Wiebe 1993; Republic of Indonesia 1993).

THE GREEN REVOLUTION

Quite understandably, Indonesia responded well to the Green Revolution, which meant promoting agricultural growth with modern techniques. Not only were irrigation canals improved, but HYV rice introduced, together with new fertilizers, resulting in a significant increase in rice production. In 1980/82, rice harvests, according to the Ministry of Agriculture, reached a record of 1,998,000 tons of dried, un-hulled rice from approximately three million hectares of wet rice-fields (*sawah*). *Sawah* acreage was projected to increase steadily to 1.5 million hectares (1980); 3 million hectares (1981); and 4.5 million hectares (1982).

Despite the good harvests of these consecutive years, hidden poverty remained a problem, which was acknowledged by the late President Soeharto in January 1981, when he admitted that some 40 per cent of the rural population was still subsisting on or below the poverty line. In the province of East Nusa Tenggara, to the east of Bali, 62.7 per cent of the rural population was still categorized as poor and 26 per cent of these were classified as very poor. Already in the mid-1970s, Prof. Sajogyo of the Bogor Agricultural University proposed, as a result of intensive surveys in several provinces of the country, that the 'poverty line' could best be defined as rice consumption per capita rather than in annual money expenditures of then $ 90 per year, which would have made it $0.65 per day per capita.

Based on the nutrition survey that Prof. Sajogyo and Prof. Darwin Karyadi conducted, the poverty line for Indonesia as a vast agricultural country could better be defined as annual rice consumption per capita, which would then be 250 kg/capita or 2,100 calories per day/capita to sustain health adequately.

One of the phenomena that occurred during the Green Revolution was that, due to the fact that the higher yields of quality rice caused an increase in price, well-to-do farmers bought rice fields from small farmers. For that reason landlords increased in number as did the number of farm labourers in rural areas. Basically, this tendency resulted in unemployment for many farm labourers and in many cases a move to urban areas. This situation, which Geertz (1963b) described in his *Peddlers and Princes*, has formed a trend ever since.

On the positive side it can be reported that, compared to the period of the early 1960swhen over a million tons of rice were imported each year to fill the growing food gap, the results of the Green Revolution and modernization in farming practices reduced this gap. Rising rice prices removed the need for an increase in imports. But despite the absence of imports, the high food prices also added to inflationary pressure (Booth 1979:28). To overcome these problems, the government introduced a program, known as BIMAS (*Bimbingan Massal* or mass guidance), through which large farm areas were collectively supported by the government. The aim was to produce greater output with the help of government subsidies in the form of fertilizers, pesticides and high-yielding rice varieties.

According to the Population Census of 1971, Indonesia had 118.8 million people but available rice was only 110 kg per capita. An increase of 13 kg was reported in 1978, and the figure then reached 123 kg per capita. A food and nutrition survey, conducted in several provinces on the islands of Java, Sumatra and Kalimantan and led by Prof. Sajogyo and Prof. Darwin Karyadi, arrived at the conclusion that a consumption of 250 kg per capita annually is the very minimum to reach 2100 calories for a minimum health level. This finding was reported to the Indonesian Government and to UNICEF, which had partly funded the research, but it has never been accepted as an Indonesian 'poverty line'.

Nor has a minimum area for land ownership been accepted. According to a recent publication (Tauchid 2009), 60 per cent of the farming population were cultivating rice on only 0.3 ha in Java, Bali and North Sumatra, although this area is insufficient to produce more than 1.5 tons of rice. With a population of around 100 million in the whole country, it is easy to conclude that rural poverty must have been appalling. After 1965, the Green Revolution was welcomed by the New Order Government (1966-1998) since the emphasis on rice production reflected a policy of agricultural modernization.

Figures for land ownership, however, were not taken into consideration. One publication, based on rural surveys by the late Prof. Sajogyo, described the trend as 'modernization without development'. While the official Agricultural Census results of 1963 reported that 52 per cent of the peasantry owned less than 0.5 ha, a more accurate percentage is obtained when ownership of 0.1 hectare is added; the total percentage would then be 61. In fact, agricultural modernization does not correlate with poverty reduction in rural villages (Sajogyo 1973).

This conclusion is obvious since in three or four consecutive Five-Year Development Plans under Soeharto, agriculture had been accepted as Indonesia's key sector for initial development. This would largely rely on intensification of food crop cultivation, mainly in parts of the country where irrigation was available. Indeed, since the Soeharto period, agrarian reform has never been considered a basic problem in the country's development process, although the slogan of 'food sustainability' is still being upheld. Even when, after the end of the New Order and President Soeharto's resignation in1998, the slogan remained and agrarian reform was mentioned by the candidate President Susilo Bambang Yudhoyono in his campaign (2004), there has as yet been no implementation.

THE SHORT POST-SOEHARTO PERIOD

Since Anne Booth has more particularly described and evaluated the Soeharto period, it may be useful to add a brief report about the recent past. The Soeharto period lasted for less than a decade, during which there were many political changes perhaps not entirely unrelated to the world economic crisis. I would be interested in Prof. Booth's analysis but I have so far not come across any article that would clarify political and economic trends and solutions in Indonesia as the country enters the twenty-first century.

The Soeharto period between 1966 and 1998 introduced a more open economic relationship with developed countries and even greater dependency, compared to the Soekarno period. Two important factors can be mentioned: while there was closer cooperation with western and liberal countries after 1967, there was also a drop in population growth from 2.6 per cent to 1.6 per cent due to the active policy of the Family Planning Body (BKKBN).

Foreign capital was again invited to invest in the Five-Year Development Plan projects under the guidance and supervision of Prof. Widjoyo Nitisastro as head of the Central Planning Board (BAPPENAS). He was often considered to be a central figure among the so-called Berkeley mafia, referring to his academic achievements at the University in Berkeley, California.

Prof. Habibie, who was appointed vice president in March 1998, succeeded Soeharto after merely two months and seven days in that position. After Soeharto's resignation on 21 May 1998, he became Indonesia's president for the short period of one year and five months, after which he was succeeded by Abdurrachman Wahid as the result of an election in parliament on 20 October 1999.

In the period of Prof. Habibie's presidency, with his emphasis on improving the political situation, a number of laws in the political domain were issued such as the Anti-Monopoly law, the law on Healthy Competition, and the law concerning Political Parties. Of particular importance was the law on Regional Autonomy. This in effect reduced these integrative trends, which were an inheritance from the New Order regime under President Soeharto.

Indonesia's fourth president, Abdurrachman Wahid, was an exponential figure in the political party PKB, which signified the revival of Islamic political parties. However, Wahid had since 1982 been expressing a social-democratic Islamic spirit. He defeated Megawati Soekarnoputri, his rival and leader of the Indonesian Democrat Party (PDIP), on 20 October 1999.

After President Soeharto's resignation, there were a few successors– Habibie, Wahid and Megawati - whose periods of power were too short to implement national development programs. These three short-term presidential successors who followed Soeharto were, not surprisingly, unable to implement any long-term development programs.

The New Order government under President Soeharto was gradually replaced by a multi-party democratic system that increased the role and influence of parliament. A decision by President Abdurrachman Wahid to declare Chinese New Year's Day an optional holiday resulted in strong protests. On 23 July 2002, parliament agreed to the resignation of Wahid and declared that his resignation would be effective with the appointment of Megawati as the nation's fifth president in July 2001.

The short period that has elapsed since Indonesia entered the twenty-first century indicates the political and also the economic stability of the Indonesian Republic in its existence. Multi-year development plans to ensure progress in nation building would therefore be hard to formulate. The world economic crisis since 2007 undoubtedly caused political and social instability in many developing countries. Designing and formulating long-term plans has been practically impossible due to existing uncertainties.

In the years since the 1997/98Asian financial crisis, Indonesia's political, economic and social developments have been less accentuated when compared to Anne Booth's evaluation of the conditions and trends that prevailed between 1960 and 1992. Liberal economics have since then opened the gate for free competition between public and private companies and this has spread to rural areas and the agricultural sector. Large-scale investment by foreign capital in oil palm plantations outside Java has reduced vast areas of non-irrigated rice fields. Even in East and West Kalimantan, non-irrigated rice fields have been turned into millions of hectares of coconut and cacao plantations.

Indonesia as a nation, home to sailors who centuries ago pioneered routes across the Indian and Pacific oceans, leaving traces of DNA in peoples from Hawaii to Madagascar, should never be forgotten. Even if we think about self-sufficiency in food while excluding other basic needs, Indonesia will have to produce food for a population of 280 million by 2025 and 330 million by

2050. According to the UNO in New York, world population will in the same quarter of a century increase from 8.1 billion in 2025 to 9.6 billion in 2050, with more than 50 per cent of this growth occurring in developing countries.

One can only imagine the extent of the agricultural land that has to be developed to reach a healthy consumption level of 2,100 calories per capita for all Indonesians. In the 1930sIndonesia was exporting its best rice to Thailand but today Indonesia is importing rice, soybean, corn, cacao and fruit from distant countries, such as the United States, Brazil and China. If the promises of the Agrarian Reform of 1960 are not implemented, while population growth is bringing economic hardships to communities living by traditional methods of agriculture, we can only hope that it is a force powerful enough to make communities change their methods and in the long run become much more advanced and productive societies sustained by industrial growth. If such a development can be peacefully accelerated, a revolution may be avoided.

Meanwhile, a new political party known as Partai Demokrat (PD) has risen to a high level of general popularity and campaigned the Party's chairman, General Susilo Bambang Yudhoyono (SBY), as president. 'Developing a secure/peaceful, just and prosperous Indonesia' was the title of PD's political program in May 2004. More specific programs were disclosed during the campaign period:

- 'Towards a New Indonesia' (*Menuju Indonesia Baru*)
- 'Avoiding National Disintegration' (*Mencegah Disintegrasi Nasional*)
- 'Uniting People Who Desire Change' (*Bersatulah Rakyat yang Menginginkan Perubahan*)
- 'Moving Towards a Modern Indonesian Nation State' (*Menuju Negara Kebangsaan Indonesia Modern*)

One could also get the impression that the program was a reflection of a state of national confusion, including a loss of specific socio-economic development targets. Basically, the greatness of the Indonesian Republic has been founded both on its natural richness and wealth and on peasants and experienced sailors who have developed a multi-cultural civilization.

Past colonial history under Dutch rule for 300 years was a clear indication of the welfare and prosperity that people enjoyed by exploiting the agricultural, forestry and marine sectors. In SBY's campaign in May, 2004, he became more specific and program-oriented when he promised policies to reduce poverty, land hunger and unemployment in both rural and urban areas. He even promised to carry out agrarian reform, which has still not been implemented, even though the end of SBY's second presidential tenure (2009-2014) is approaching.

Very much as in the colonial period before independence, foreign investment is now growing, while, under the influence of neo-liberal economics, a middle class (*bourgeoisie*) is increasingly influential. In the course of time, particularly since the 1997/98 financial crisis, many enterprises on the global market have been successful in altering the indigenous food habits and culture of Indonesia in such a way that traditional consumption patterns are changing and being replaced by food patterns whose ingredients are imported and therefore expensive. Therefore, if the percentage of poor people is still relatively high, major food changes would benefit only the rich and better-off members of the community.

Food security, as declared by the FAO (2000), is based on the reality that basic foodstuffs like grain, rice and corn are still a problem, particularly in the developing countries of Asia, Africa and Latin America. Many peasant organizations in developing countries have understandably reacted to the global food crisis, when wheat prices increased by 130 per cent, rice prices by 80 per cent and maize prices by 35 per cent in the 2007-2008 period. If the results of OECD and FAO research are reliable, the agricultural outlook predicted for 2007-2016 will come true and agriculture and the supply of food commodities will decline. In view of recent projections about the world's population growth until the middle of the twenty-first century, when it will number 8 billion rather than 6 billion people, the food problem will become very serious. No doubt the conversion of agricultural land for urban expansion will seriously worsen these problems.

CONCLUSION

Despite the political guidelines regarding agricultural development and national food sufficiency announced by Indonesia's five presidents at the start of their respective administrative terms, no concrete plans about agricultural land required for food production have been formalized. No national land use map, as far as I know, has ever been produced by the body for national mapping known as BAKOSURTANAL (now *Badan Informasi Geospasial* or BIG). In reality, land use changes can occur without any management.

Demand and market prices are of particular influence in changing agricultural land into human settlements, infrastructure or industrial areas. Even forests have been sacrificed for these purposes. Therefore, if national development must implicitly guarantee the nation's basic needs, the incoming cabinet of 2014-2019 will have to formalize a National Land Use Map based on Law No. 38 Prp. 1960. Implicitly, the anti-poverty strategies of future governments should be *people-centered* rather than *growth-centered* since good conditions in the agricultural sector will also ensure improvements in the living conditions of millions of people in the vast rural areas of Indonesia.

BIBLIOGRAPHY

Books

Badrun, M. 2012. *Pengembangan Tanaman Tumpangsari Pangan Intensif Sebagai Paket Teknologi Alternatif*. Jakarta: Cipta Media Kreasindo.

Bastian, Radis. 2013. *Para Pahlawan Terhebat Pengubah Indonesia*.Yogyakarta: Palapa.

Booth, Anne. 1979. *Ekonomi Orde Baru.*Jakarta: LPES.

Booth, Anne & Peter McCawley (editors). 1981. *The Indonesian Economy During the Soeharto Era*. Kuala Lumpur: Oxford University Press.

Booth, Anne, William J.O'Malley & Anna Weidermann (editors). 1988. *Sejarah Ekonomi Indonesia*. [Translation of *Indonesian Economic History in the Dutch Colonial Era* (New Haven, CN: Yale University Press. 1990]. Jakarta: LPES.

Brown, Lester B. & Pamela Shaw.1982. *Six Steps to Sustainable Society*. Washington, D.C.: World Watch Institute.

Geertz, Clifford. 1963a. *Agricultural Involution*. Berkeley: University of California Press.

-------. 1963b. *Peddlers and Princes. Social Change and Economic Modernization in Two Indonesian Towns*. Chicago: University of Chicago Press.

Republic of Indonesia. 1993. Indonesia: *A Quarter of a Century of Progress (1968-1993).Tables and Graphs*. Jakarta: Perum Percetakan Negara.

Pirie, Peter (editor). 1982. *Human Populations and Agro-ecosystems*. Honolulu: East-West Center.

Tauchid, Mochammad. 2009. *Masalah Agraria Sebagai Masalah Penghidupan dan Kemakmuran Rakyat Indonesia.*Yogyakarta: STPN.

Tjondronegoro, S.M.P. 2008. *Negara Agraris Ingkari Agraria*. Bandung: Yayasan AKATIGA.

Widjoyo Nitisastro. 1970. *Population Trends in Indonesia*. Ithaca, NY: Cornell University Press.

Wiebe, Frank. 1993. *Poverty in Indonesia: Official Poverty Estimates and Poverty Management Issues*. Manila: Asian Development Bank.

Articles and Presentations

Bomer, Pasaribu. 2008. "Tantangan Pengembangan Agro-Energy; Belajar dari Pengalaman Negara Lain (Brazil)". Dies Natalis speech, Institut Pertanian, Bogor.

Booth, Anne. 1974. "Ipeda – Indonesia's Land Tax". *Bulletin of Indonesian Economic Studies*. Vol. 10, no. 1: 58-81.

-------. 1977. "Irrigation in Indonesia. Parts I and II". *Bulletin of Indonesian Economic Studies*. Vol. 13, no. 1: 33-74; no. 2: 45-77.

--------. 1980. "The Burden of Taxation in Colonial Indonesia in the Twentieth Century". *Journal of Southeast Asian Studies*. Vol. 11, no. 1: 91-109.

Food and Agricultural Organization (F.A.O.). 2000. "Declaration of Rome and Food Security".

Salim, Emil. 2008. "Tata Ruang dan Resource Plan untuk Pangan dan Energi". Dies Natalis speech, Institut Pertanian Bogor.

Sajogyo. 1973. "Modernization without Development in Rural Java". Paper contributed to the FAO Conference, Bogor.

Tjondronegoro, S.M.P. 1978. "Recent Indonesian Rural Development: The Dilemma of a Top-Down Approach". *South-East Asian Affairs.* Singapore: Institute of Southeast Asian Studies: 139-148.

INDONESIA'S FUEL SUBSIDY A SAD HISTORY OF MASSIVE POLICY FAILURE

Howard Dick

University of Melbourne
University of Newcastle

ABSTRACT

In her path-breaking economic history of Indonesia, 'A History of Missed Opportunities', Anne Booth aptly summarizes the sad history of fuel policy in Indonesia since 1980. The escalation of fuel subsidies whenever there is an upward trend in international prices and the failure to terminate them when prices fall should alert economists to some very discomforting messages. First, governments are not receptive to policy measures that involve short-term political pain and have very little awareness or interest in opportunity cost. Second, while governments pay lip service to the environment and express concern about global warming, they are not yet willing to make it a policy priority. Third, populism is the very essence of politics and has become more so in the democratic era. The lesson of history is that governments cannot be trusted to set energy prices. Nor is there any good reason to do so. What governments should do is to monitor the prices being set by Pertamina as a state-owned monopoly and provide temporary welfare support if and when it can be justified by any sudden escalation in domestic prices.

Keywords: Fuel subsidy, Oil price, Pertamina.

INTRODUCTION

Since the mid-1970s, Professor Anne Booth has made a sustained contribution to understanding of the Indonesian economy, not least in relation to the impact of the New Order oil boom on development, poverty and equity. By way of tribute it seems appropriate to reflect on and update some work of my own which links these topics. Back in 1980, when the oil price subsidy had reached what I then described as an 'incredible' 10 per cent of the national budget, I contributed to the *Bulletin of Indonesian Studies* an article entitled 'The

Oil Price Subsidy, Deforestation and Equity', which deconstructed prevailing ideas about the impact of the kerosene subsidy (Dick 1980). In the course of the research I had the good fortune to first meet the late Dr Hadi Soesastro of CSIS who had recently begun to analyse the impact of the oil price subsidy on household budgets. We agreed that the subsidy was a highly inefficient means of compensating the poor while giving rise to very harmful and accumulating distortions in the demand and supply of fuels. In 2013, when Indonesia had ceased to be a net oil exporter for nine years (since 2004) and the oil products (*bahan bakar minyak*) subsidy has blown out to an astounding 20 per cent of the budget, there is good reason to try to understand what has gone so badly wrong and why.

Peter Timmer once observed that 'getting prices right is not the end of development, but getting them wrong very often is'. He might have added that some prices are much more important than others. For example, the price of rice feeds into wages and salaries and thereby affects most other domestic prices and costs. Likewise energy (especially petrol and electricity) is an input into almost every form of value-adding production, whether directly as fuel or power or through transport costs; energy is also an input into consumption though the use of appliances, motorized transport, lighting and air-conditioning. In short, there is very little human activity that does not embody some element of energy use. Because of this economy-wide impact, energy prices may be described as 'macro prices'. This makes them an obvious target for government manipulation, but it also means that 'getting prices wrong' may do a lot of harm. Subsidizing energy at well below international prices stimulates consumption, discourages production, and worsens damage to the environment in multiple ways. It also turns out to be about the most wasteful means of assisting the poor that could possibly be imagined.

This article begins by reviewing Indonesia's heritage of price controls, then recounts the erratic pathway of domestic energy price adjustments to international prices, concentrating on the fifteen years since the collapse of Soeharto's New Order in 1998. It then considers the economic distortions resulting from rising fuel price subsidies and their harmful long-run impacts, especially on the environment.

REGULATORY HERITAGE

It is now all but forgotten that economic controls were first imposed not by the newly independent Indonesian government, or even during the Japanese occupation, but by the colonial Dutch government in its final years. Although the guiding principles of colonial rule had been *rust en orde* (peace and order) and *laissez-faire*, during the prolonged depression of the 1930s and under commercial pressures from Japan, there was a marked shift from the open import-export economy to a more protected one, first in manufacturing, later also in food crop agriculture (Dick *et al*. 2002). Price controls were imposed in 1939 followed by foreign exchange controls in 1940. After the Netherlands surrendered to Germany in May 1940, its colonial territory effectively became autonomous, albeit only until March 1942 when the Dutch administration surrendered to the Japanese. The new colonial power supplemented price controls with strict rationing of foodstuffs, textiles and fuels.

When the Dutch tried to reoccupy Indonesia after the Japanese surrender, the situation in both the Netherlands and the Indies was parlous. In consequence price controls, partial rationing and foreign exchange controls were all perpetuated. This administrative apparatus was inherited by the Republic of Indonesia at the formal transfer of sovereignty over the archipelago in December 1949. The incoming government was ideologically inclined to maintain administrative controls, the more so because they gave leverage over the modern sector of the economy which was, for the most part, still under Dutch control.

Price controls became more and more politicized as inflation began to accelerate during the 1950s. Governments wanted to be seen to be helping the people (*rakyat*) and holding down the prices of staple goods and services was seen to be a good way of doing so. The consequences, however, were mostly perverse, albeit entirely predictable in terms of basic Economics. Price controls over goods produced in the public sector such as transport fares, water and electricity led to the relevant state enterprises being pushed into deficit, thereby increasing the public sector deficit instead of contributing profits as in the colonial period. Private sector firms tried to cut costs (including new investment), to minimize what was supplied at official prices, and to sell as much as possible on the black market. Thus supply was constricted, quality fell, and black markets proliferated.

President Sukarno's suspension of the democratically elected parliament on 5 July 1959 boosted these perverse trends. Although the restored 1945 constitution and Guided Democracy and Guided Economy made him supreme over the now appointed parliament, his continuing legitimacy relied upon popular supporting line with the expectations of *socialisme à la Indonesia*. As budget deficits widened, more and more money was printed, and inflation accelerated into the mid-1960s. Price controls, which on their own would have been ineffective, were now supplemented by rationing and in-kind distribution of *sandang pangan* (clothing and food) items through official outlets (Mackie 1967). These became standardized as the nine essential commodities or *sembilan bahan pokok, sembako* (rice, flour, sugar, dry salted fish (*ikan asin*), salt, cooking oil, soap, kerosene, and two kinds of coarse textiles).[1] Civil servants were privileged, which led to a scramble to be granted a position, not to do any real work but to qualify for an official distribution.

Kerosene came under the control of the state oil company Pertamin (later Pertamina), which from mid-1965 had the monopoly of the domestic distribution of all oil products (Hunter 1966). When there were still few cars, trucks and buses on the road, and also few commercial aircraft, domestic needs could readily be met from the output of local refineries. Nevertheless, in the mid-1960s when domestic consumption was only half of refinery output and less than 20 per cent of crude production, it was observed that 'the almost zero price of refined products (under production sharing agreements with foreign oil companies) has led to a sharp increase in domestic demand (about 50% in 5 years)' (Hunter 1965: 26). This situation predated the New Order boom. Moreover, because of refinery configuration, there was already a shortfall of kerosene, even though, despite some cross-subsidization of kerosene prices, it did not show up as a budget subsidy until 1973/74. Hitherto the more significant issue was availability. After the imposition of military rule in early 1966, the technocrats in the New Order cabinet brought the budget back into balance and tightened the money supply to bring inflation under control. Because the index of nine essential commodities was a simple measure of inflation and a popular marker of economic stability, price controls were kept in place and the government still held direct responsibility for distribution through the Logistics Agency BULOG (rice, sugar, flour) and Pertamina (kerosene).

1 The nine essential commodities are still enumerated but the definition has since changed.

FUEL PRICE POLITICS

In the mid-1970s two trends coincided to throw domestic oil pricing even more out of kilter. The first was the very rapid growth in the number of motor vehicles as the economy recovered and people at last had disposable income to spend on non-essentials. There was also rapid growth in the number of aircraft flights. By the mid-1970s domestic demand for fuel had outstripped the very modest capacity of domestic refining, much of it from antiquated plants, such as at Pangkalan Brandan, Cepu and Wonokromo. The balance of requirements, by 1980/81 about 20 per cent, had to be imported, which heightened vulnerability to the other trend.

In October 1973 the outbreak of the Yom Kippur War between the Arab states and Israel was followed by the non-Western Organization of Petroleum Exporting Countries (OPEC) imposing an embargo upon the United States for its support of Israel, which led to a fourfold and sustained increase in world oil prices. The outcome was a huge bonanza for Indonesia, being an oil-exporting country. Indonesia suddenly had so much foreign exchange and budget revenue that part of the receipts had to be sterilized as foreign exchange reserves in order to avoid domestic inflation (Rosendale 1978: 169-170). Even so, high international oil prices also meant high prices for oil products imported (mainly from Singapore) for domestic consumption. Because domestic prices continued to be set roughly according to domestic refining costs, this gave rise to an actual subsidy, which from 1977/8 was counted in the national budget. In the first year this subsidy was a mere Rp. 18 billion, but with rapid growth in domestic demand and, in 1980, a second escalation in OPEC prices, the budgeted subsidy blew out to Rp. 910 billion by 1980/1, at which point it represented 10 per cent of the entire budget (Dick 1980).

The meaning of the fuel price subsidy was not well understood at that time and it is still not understood today. As reported in the central government budget, the fuel subsidy is the actual reimbursement to Pertamina for the difference between the cost of imported fuels (petrol, diesel and kerosene), that is the international price at the Singapore refinery, and the lower domestic price. This 'out-of-pocket' subsidy does not include the differential for fuel products refined and sold in Indonesia. Around 1980 only about one-fifth of domestic consumption was imported, the other four-fifths being refined from local crude at well below the international price: the full *economic* subsidy was therefore five times that budgeted. This is no semantic distinction. The marginal (opportunity) cost of every additional unit of domestic consumption is the international fuel price, not some weighted average. Similar logic applies to power subsidies to the State Electricity Corporation PLN (*Perusahaan Listrik Negara*). However, the magnitude of the price increase needed just to eliminate the budgeted subsidy is perceived as threatening political stability, a nasty dilemma that is hardly conducive to clear thinking.

In 2013 energy price subsidies have an even greater lock on the state budget. At a time of rising oil prices, energy subsidies in the 2012 budget blew out to 151 per cent of the revised budget to represent 30 per cent of all central government expenditure and 20.6 per cent of all expenditure including transfers to the regions, thus twice the already 'incredible' level of 1980. Even after fuel price increases approved in June 2013 under the revised budget, fuel subsidies will still constitute 17 per cent of budget and 3.4 per cent of GDP compared with 3.7 per cent the previous year. Fuel subsidies are the largest component of the central budget apart from transfers to the regions, about 25 per cent more than salaries.

Table 1
Budgeted Energy Subsidies, 2012-2013 (Rp. trillion)

Component	2012 budget			2013 budget	
	Revised	Actual	%	Approved	Revised
Fuel	137.4	211.6	154	193.8	199.8
Electricity	65.0	94.6	146	80.9	100.0
Total energy	**202.4**	**306.5**	**151**	**274.7**	**299.8**
% of budget	14.9	20.6	-	16.3	17.4
% of GDP	2.5	3.7	-	3.2	3.4

Source: Nehru 2013.

These massive subsidies make very little sense as a welfare measure. Recent calculations by the Institute of Economic and Social Research, Faculty of Economics, University of Indonesia, (LPEM-FEUI), based on the 2011 National Socio-Economic Survey (SUSENAS) show just how perverse is the distributional impact of fuel subsidies. If households are divided into three categories – the bottom 30%, middle 40% and top 30% – it turns out that the rate of consumption expenditure on fuels and energy is almost the same across the three categories, being around 8% (Table 2). By type of energy, the rate of consumption is almost the same for electricity, gas and kerosene, though better-off households spend more on petrol and poor (rural) households more on wood and kerosene.

Table 2
Rate of Expenditure by Energy Type and Household Category, 2012

Fuel Type	Bottom 30%	Middle 40%	Top 30%	Total
Electricity	2.1	2.4	2.5	2.4
Petrol	1.8	3.0	3.5	3.2
Gas	1.0	1.1	0.8	0.9
Kerosene	0.4	0.5	0.4	0.4
Other	2.7	1.6	0.7	1.2
All energy	8.0	8.6	7.9	8.2

Source: Wikarya 2012, based on SUSENAS of September 2012.

Nevertheless, the *amount* of expenditure in each category varies greatly because energy consumption rises with household income for every category except firewood (an inferior good). Overall the poorest 30 per cent of households account for just 11 per cent of all expenditure on energy compared with to 35 per cent for the middle category and more than half (54 per cent) for the top category (Table 2). The disproportions are most extreme for direct spending on petrol with the poor accounting for just 6.5 per cent compared with 63 per cent for the rich, though it should be noted that public transport, used mainly by the poor (indirect consumption of petrol), is not included. According to these figures, subsidies on fuel usage will skew the benefits heavily towards the middle class and the rich. The only possible exception would be firewood, which of course is not subsidized and would be illogical on grounds of deforestation.

Table 3
Proportion of Energy Expenditure by Household Category, 2012

Fuel Type	Bottom 30%	Middle 40%	Top 30%	Total
Electricity	9.6	32.4	58.0	100
Petrol	6.5	30.9	62.6	100
Gas (LPG)	12.8	38.8	48.4	100
Kerosene	11.4	42.1	46.6	100
Firewood	34.5	50.4	15.1	100
All energy	11.2	32.7	56.1	100

Source: Wikarya 2012, based on SUSENAS of September 2012.

So we have an extraordinary policy situation whereby around 20 per cent of budget can be directed to a massive subsidy, nominally on welfare grounds, but of which just 10 per cent benefits the poorest third of the population. In other words, 90 per cent of the subsidy, equivalent to around 3 per cent of GDP, is simply wasted to no good economic or social purpose. The opportunity cost of fuel subsidies is enormous in terms of education, health, infrastructure, and poverty alleviation, all of which should be urgent policy priorities. It would be the greatest scandal in Indonesia, except for the fact that everyone gets some share of the hand-out. Herein lies at least part of the explanation for the remarkable durability, and indeed escalation, of fuel subsidies over more than three decades. Another part is that the poor, although receiving only a very minor part of the benefit, are badly affected by any fuel price increase and are therefore easily induced to demonstrate and riot in the streets, a situation that may easily be exploited by political forces hostile to the government.

Nevertheless, over the three decades since 1980, oil subsidies have not always been unsustainably high. Oil prices have fluctuated a great deal, as have exchange rates, while from time to time governments have made serious efforts to bring the problem under control. A brief review of some of this history shows that there have been multiple opportunities to deal with the problem but very little learning from past mistakes.

The greatest debacle of domestic oil pricing occurred in 1998 in the wake of the Asian Financial Crisis. Collapse of the Thai baht in mid-1997 led to a panicked currency flight out of the rupiah. Even though President Soeharto reluctantly called upon the IMF in October 1997, the rupiah continued its free fall from Rp. 2350/dollar in mid-1997 to a nadir of Rp. 16,000 in January 1998, thus almost a fourfold increase in the rupiah equivalent of international prices, the same order of magnitude as the OPEC oil price increase of 1973. Among other conditions and as part of a program to restore fiscal equilibrium, the IMF demanded the gradual elimination of subsidies, including fuel subsidies, from 1 April 1998 (Soesastro & Basri 1998). On 4 May 1998 the government bravely announced a dramatic 71 per cent increase in prices for premium petrol and diesel and 25 per cent for kerosene (Johnson 1998: 26). Almost immediately this triggered riots in Medan, which on 13 May erupted violently in Jakarta. Two days later the government scaled back the increases for petrol and diesel and cancelled the increase for kerosene. This reversal did not save the government, or the regime. Within a week, President Soeharto resigned. The massive increase in fuel prices did not exactly *cause* the downfall of the regime because it was already besieged and, in the absence of that trigger, there would soon have been something else. Nevertheless, the experience scarred everyone in the ruling elite, heightening the perception that a large increase in fuel prices was tantamount to political suicide, however sound the economic reasoning.

While the principle of eliminating subsidies was still formally endorsed, not until 2000 was any further action taken on oil pricing. During this period Indonesia experienced a lethal combination of severe recession and high inflation fuelled by the weak exchange rate. The burden of fuel subsidies was eased by strengthening of the exchange rate from its nadir of Rp. 16,000 to around Rp. 8,000. On the other hand, oil prices also began to recover from the shock of the Asian financial crisis. Thus by 2000 fuel subsidies of Rp. 18.3 trillion represented two thirds of all budgeted subsidies, almost 11 per cent of expenditures, and 2 per cent of a shrunken GDP (Fane 2000: 24). This direct payment to Pertamina to make up the difference between the domestic and the imported price did not include another Rp. 1.3 trillion of fuel price compensation to the poor. A 12 per cent fuel price increase was announced for April 2000 but then in the face of public protests, delayed until October. As Ross McLeod observed, a now more powerful DPR 'responds to public pressure in opposition to increases in prices' (McLeod 2000: 12). In consequence and with the rupiah weakening to 9500 by year's end, fuel subsidies increased to 2.5 per cent of budget for the nine months of the year 2000. The same dynamic was apparent in 2001: after further protests a 20 per cent price increase foreshadowed for April was restricted to industrial users, which quickly led to shortages of cheap household fuel (Pangestu & Goeltom 2001: 162). The government then found its courage and in June applied a larger 30 per cent increase to households with a further increase to follow in October, which in turn was held over until January 2002. There was some urgency because fuel subsidies had risen to almost 16 per cent of the revised budget and 3.7 per cent of GDP, which was meant to be pegged back to 1.9 per cent in 2002 (Siregar 2001: 289-290).

By 2002 there was some prospect that fuel subsidies could at last be brought under control by a more determined Megawati government with economist Boediono as Finance Minister. A 22 per cent increase was applied in January with automatic monthly price adjustments to follow. The price of regular petrol was to be set at 100 per cent of the Singapore price, diesel and industrial kerosene at 75 per cent (Deuster 2002: 23). Nevertheless, the aim of depoliticizing fuel pricing was not to be realized. The Al Qaeda attacks on the United States in September 2001 were followed by the invasion of Afghanistan, then in March 2003 by the invasion of Iraq. One side effect was a steady escalation in global oil prices. Whereas the assumption for the 2002 budget had been an average oil price of $22/barrel, it rose to $28. The 2003 budget assumed a fall back to $20.50 and the government planned to cut subsidies from Rp. 30.5 trillion Rp. 15.9 trillion, to be achieved in part by quarterly 14.5 per cent adjustments in electricity prices, which the DPR scaled back to 6 per cent (Waslin 2003: 16).

The invasion of Iraq in March 2003 complicated matters for the 2004 budget, for which the assumed oil price had to be revised from $22 to be $36, increasing the direct fuel subsidy from Rp. 14.5 trillion to Rp. 63 trillion (Aswicahyono & Hill 2004: 283-285). Insofar as the higher oil price improved budget revenues, there was no overall fiscal crisis. With both a general and a presidential election due in 2004, in January 2003 President Megawati precipitately abandoned the recently introduced automatic nexus with international prices in the vague hope that the surge in oil prices would be only temporary, thus assuming an oil price of only $24/barrel in framing the 2005 budget and freezing domestic fuel prices.

Over the course of 2004 the situation worsened rapidly as oil prices remained at their highest for more than a decade while the rupiah weakened (Marks 2004: 165-166). The artificially low domestic price encouraged the smuggling of fuel out of Indonesia with kerosene becoming scarce for households at the highly subsidized price of Rp. 700/liter compared with Rp. 1800 for industry. In the first part of 2004, as long foreshadowed, rising domestic consumption exceeded declining production and Indonesia at last became a net importer of crude oil. All this became a poisoned chalice for the incoming Yudhoyono government.

In April 2005 Hadi Soesastro and Raymond Atje excoriated the short sightedness of the energy policy:

> 'The decision of successive governments to use the highly inefficient mechanism of distorting fuel prices to redistribute income in favour of the poor have frustrated the implementation of a rational national energy policy'. (Soesastro & Atje 2005: 27).

The new Yudhoyono cabinet agreed in February 2005 to increase oil prices by 29 per cent from the beginning of March, then in the face of strong opposition delayed it until April. Nevertheless, there was one intellectual breakthrough, being the advice from the Institute for Economic and Social Research, Faculty of Economics, University of Indonesia, (LPEM-FEUI) that fuel price increases should be accompanied by a package to compensate the poor (Sen & Steer 2005: 288-91). Thus of the estimated Rp. 25 trillion estimated to be saved from the fuel price increase, Rp. 4.7 trillion were allocated for quarterly cash transfers through the post office to 15.5 million poor households beginning in October 2005: the other four-fifths of the savings could be redirected to other urgent forms of spending. In line with World Bank advice, this would pave the way for phasing out the balance of fuel subsidies from the beginning of 2006 by gradually raising domestic prices to international parity. Sen and Steer (2005: 288) expressed the hope that 'the saga of the fuel subsidy will finally be over for the SBY government'.

Such hopes were once again dashed as world oil prices sustained a steady upward trend. In the 2006 budget it was anticipated that fuel subsidies would be cut back from 3.4 per cent to 1.8 per cent of GDP (Manning & Roesad 2006: 153). However, this was predicated upon an international oil price of \$57/barrel. In mid-2006 that price was over \$70. The budget assumption for 2007 was $65, revised down to $60 (Basri & Patunru, 2006); the draft budget for 2008 persisted with the assumption of $60 at a time when the spot price was almost $90, making it highly implausible that fuel subsidies could be reduced below Rp. 105 trillion (Takii & Ramstetter 2007: 306-7). In fact by February 2008 the international price had reached $100 (Kong & Ramayandi 2008: 12-13). Finally in April the government accepted reality, raised the budgeted oil price to $95 and announced that in May domestic prices would be raised on average by 28.7 per cent – by which time the international price had risen even further to $130 (McLeod 2008: 193-196). As in 2005, cash compensation was provided to poor families, this time Rp. 100,000 per month to 19.1 million families. A new twist was that subsidized fuel would be restricted to owners of motor cycles and public transport operators; another was that users of kerosene would be encouraged to switch to gas. Such measures failed to address the underlying distortion that by mid-2008, even after the latest increase, the domestic price of kerosene (Rp. 2500) was not more than a quarter of the international price.

At this point, the global financial crisis brought relief. In July 2008 the spot price for peaked at $140 per barrel and within a month had fallen back to $115. A budgeted figure of $100 now seemed plausible, reducing fuel subsidies from about Rp. 270 trillion (5.7 per cent of budget) in 2008 to Rp. 160 trillion (3.1 per cent of GDP)in the draft 2009 budget (Ashcroft & Cavanough 2008: 346-349). With some increase in domestic prices, especially for kerosene, and continuing decline in the international oil price, there would again be an opportunity to rein in fairly painlessly the wasteful expenditure on fuel subsidies. There was every reason to do so because the Ministry of Finance's own figures revealed that the poorest two-fifths of the population received only 18 per cent of these massive subsidies (McLeod 2008: 194). Instead, in the lead-up to the mid-2009 general election and the subsequent presidential election, the government commenced to reduce fuel prices month by month as a populist hand-out.

While the on-going global financial crisis gave the government the best opportunity in many years to align domestic and international oil prices, the second Yudhoyono government now made the further mistake of holding domestic prices steady while global prices recovered. By May 2011 international oil prices had recovered from its low of $39 to $112 whereas domestic prices were still pegged at the level of February 2009. Vice President

Boediono and the Minister of Finance sensibly recommended an increase in domestic oil prices but were rebuffed by the newly re-elected President (Olivia & Yamauchi 2012: 154). Because unexpectedly rapid growth in domestic demand compounded the recovery in international oil prices, the budget outcome for energy subsidies, including electricity was an unsustainable 20 per cent of the central government budget. Yet notwithstanding this crisis, parliament rejected the government's plan to increase the price of petrol by 33 per cent in April 2012. In consequence, energy subsidies escalated from a budgeted 13 per cent of central government expenditure to an outcome of almost 21 per cent (or 31 per cent net of transfers to the region). Not until June 2013 was a substantial adjustment to energy prices finally agreed by Parliament subject to compensation being distributed to the poor.

CONSEQUENT DISTORTIONS

In a market economy, as Indonesia, prices are the primary means by which resources are allocated. This is not a matter of ideology but of the practical role of prices in reconciling the contending forces of supply and demand, thereby avoiding either frustrating shortages or wasteful surpluses. Government intervention can be justified to correct price distortions so that markets work better. However, there is no economic justification for interventions that introduce false market signals and thereby cause markets to lead to distorted and perverse outcomes. When governments take it upon themselves to set prices by administrative fiat, it is very likely that they will do more harm than good, especially if prices are held down for distributional or political reasons, thereby stimulating demand while restraining supply. Ironically the resultant shortages usually lead to more extensive and often sillier forms of government intervention, not wise review of the original administrative distortion.

Energy prices are especially problematic for regulation, both because the political temptation to set low energy prices is so great and because the long-run consequences of price distortions is so severe. Most people are sensitive to fuel prices because it is a regular out-of-pocket expense, whether directly for those who drive their own vehicle or indirectly for those who pay public transport fares. Restraint of fuel prices is therefore an obvious populist ploy. Even the authoritarian Soeharto government was prone to such populism insofar as it was loath to increase fuel prices and thereby risk provoking protests and riots in the street. Part of the rationalization was that Indonesia is an oil producer and 'the people' should therefore enjoy the benefit of it. If that argument ever did make some sense, it made no sense after 2004 when Indonesia became a net oil importer. The nation's oil production peaked as long ago as 1977 at 1,685 kilo-barrels/day; by 1995 it had fallen to 1,500 and is now around 900 kilo barrels per day and still falling (Prawiraatmadja 1997: 52; Cornwell & Anas 2013: 17).

Meanwhile, artificially low domestic fuel prices were stimulating domestic consumption. In the early years of independence when domestic consumption was a very small fraction of domestic production, the impact was small. Indeed, this could still be said of the early years of the New Order. The author still remembers Yogyakarta in 1972 when bicycles were ubiquitous and there was scarcely a car to be seen the length of Jalan Malioboro, Yogyakarta's main thoroughfare. With economic growth and rising real incomes, however, the number of motor cycles, cars and trucks quickly began to soar, first in Java and then in the Outer islands. The number of aircraft miles showed similarly rapid growth. Power consumption (then heavily reliant on oil fuels) accelerated with the increasing use of appliances, not least air-conditioners, and quickening industrialization. These trends were more income- than price-sensitive but price did matter on the margin – and growth on the margin was met by increasing product imports. Just between 1990 and 1995, oil product imports more than doubled (Prawiraatmadja 1997: 60). While the Asian financial crisis and regime change brought a temporary slowdown, after 2004, as mentioned above, domestic demand exceeded production: exports of crude oil were offset by more expensive imports of refined product, with consequences for the balance of payments and the exchange rate.

The really serious damage of low oil prices is that they embed inefficiencies for the medium-to-long term in the stock of consumer durables and productive capital. For example, if motorists have no expectation of high or rising fuel prices, they are less likely to buy fuel-efficient vehicles; if there is no expectation of high or rising electricity prices, there is no incentive to buy power-efficient domestic appliances, such as air-conditioners and television screens. The same calculus applies to commercial vehicles and premises. One these investments are made, the fuel-inefficient vehicles, appliances and do matter.

Inefficiency is also embodied in urban form. Artificially low fuel prices translate into artificially low transport costs. As economic geographers have long explained, there is a trade-off between transport costs (in terms of both money and time) and land prices/rents. In the automobile age, the tendency is for cities to grow in concentric rings with the cheapest land on the periphery: the lower are transport costs, especially if there are flat fares, the farther out the city is likely to sprawl. Jakarta shows this very well. Until the 1970s, Kebayoran (Baru) was a satellite town on the edge of a densely settled city: travel between Kebayoran and the next established suburb of Menteng involved passing for several kilometers through tightly packed, single-storey *kampungs*. These *kampungs* are now just a memory, replaced by a high-rise boulevard. The urban poor have been pushed to the outskirts. A similar trend may now be observed in Surabaya.

For all these reasons, the adjustment to higher fuel prices is painful. Once people have committed to a location and are incurring the time and out-of-pocket costs of commuting, whether by their own vehicle or by public transport, any extra costs can push the less well-off below the poverty line. The same applies to electricity costs and appliances: once homes and offices are fitted with appliances of a given technology, the short-run price elasticity is fairly low. Appliances may be run for fewer hours or used at lower settings but only the better off can afford their immediate replacement.

The most pernicious impact of fuel subsidies is environmental. When these subsidies first came to attention in the late 1970s, the only environmental issue of concern was the impact upon deforestation. At that time it was generally believed that higher kerosene prices would encourage households to switch back to use of wood fuel and charcoal, thereby accelerating deforestation. The economic argument was plausible, but I showed in 1980 that it did not fit the facts (Dick 1980). Ironically, low kerosene prices were discouraging the planting of fast growing trees that could be harvested for the specialist uses for which wood and charcoal were superior fuels.

In 2013 the big environmental issue is global warming and climate change. There is no longer any reasonable scientific doubt that the rapid growth in consumption of fossil fuels, including oil, is accelerating global warming, leading to potentially catastrophic effects. The precise extent to which human causes are accelerating an underlying natural trend is still to be determined but the most recent science suggests that the trend is likely to be understated rather than overstated. As a G20 nation, Indonesia has committed itself to address climate change. As an archipelago vulnerable to rising sea levels, it has every reason to do so. There is simply no environmental justification to continue subsidizing the consumption of fossil fuels. It is irresponsible to do so, thereby under-pricing energy and slowing the urgent switch to cleaner and non-fossil fuels. Eliminating the 'out-of-pocket' budget subsidies by aligning domestic fossil fuel prices with international prices would be both economically sensible and environmentally wise. However, it is only the first step because, in the absence of internationally agreed carbon pricing, international prices for oil and coal are below optimum long-run prices (taking account of environmental effects). The government should be trying to wean the Indonesian economy off both oil and coal, not subsidizing their domestic consumption and locking the economy even more into dependence on fossil fuels.

CONCLUSION

Anne Booth gave her path-breaking economic history of Indonesia the powerful sub-title of 'A History of Missed Opportunities' (Booth 1998), which also aptly summarizes the sad history of fuel policy in Indonesia since 1980. The late Hadi Soesastro once likened fuel subsidies to a prison from which the inmates do not wish to escape (Pasha 2011). It was a very perceptive comment to be made in October 1979, when these subsidies had only just become an issue, and it has turned out to be all too true, irrespective of regime or government. The escalation of fuel subsidies whenever there is an upward trend in international prices and the failure to terminate them when prices fall should alert economists to some very discomforting messages. First, and most obviously, governments, and presidents in particular, are not receptive to policy measures that involve short-term political pain and have very little awareness or interest in opportunity cost. Much the same could be said of most countries. Second, while governments pay lip service to the environment and express concern about global warming, they are not yet willing to make it a policy priority. This also is true of most countries. Third, and perhaps more relevant to Indonesia, populism is the very essence of politics and has become more so in the democratic era. President Soeharto relied on his economic technocrats, many of them economists, to make his government work. Widjojo Nitisastro and Ali Wardhana were both skilful in marshalling the evidence and making the case for economic reforms in terms that the president could accept. In the democratic era it has become more difficult, not just a matter of persuading the president but also of forging a consensus between political parties in cabinet and in parliament, which in turn requires the public at large to be persuaded. For all these reasons, the lesson of history is that governments cannot be trusted to set energy prices. Nor is there any good reason to do so. Trying to second-guess volatile oil price trends is both a subtle art and a gamble. What governments should do is to monitor the prices being set by Pertamina as a state-owned monopoly and provide temporary welfare support if and when it can be justified by any sudden escalation in domestic prices.

In Indonesia there is much well-founded concern about corruption, but an awkward national silence about fuel subsidies. Few economists, journalists, policymakers or politicians are brave enough to risk public anger by arguing the case for higher energy prices. The sense of entitlement for 'cheap fuel' is almost a national characteristic, notwithstanding that Indonesia is now a net oil *im*porter. There is never difficulty in mobilizing popular resistance to higher prices. Yet when more than 20 per cent of the state budget is splurged on 'out-of-pocket' energy subsidies, of which barely 20 per cent benefits the poor, something is very badly wrong. If this 80 per cent leakage were regarded as a corrupt bribe, as indeed it should be, it would be a national scandal. The only difference is the illusion that energy subsidies benefit everyone, not just a few insiders. What economists need to explain much more forcefully is that the opportunity cost of fuel subsidies in terms of education, health and infrastructure and welfare, as also the worsening environmental damage, is an economic, social and environmental catastrophe that is mortgaging the future of Indonesia's 250 million people.

BIBLIOGRAPHY

Books

Booth, Anne. 1998. *The Indonesian Economy in the Nineteenth and Twentieth Centuries. A History of Missed Opportunities*. London: Macmillan.

Mackie, J.A.C. 1967. *Problems of the Indonesian Inflation*. Ithaca, NY: Cornell University Press.

Pasha, Mochamad (editor). 2011. *Hadi Soesastro: Sebuah Antologi Pemikiran.* Jakarta: CSIS.

Rosendale, P.1978.*The Indonesian Balance of Payments, 1950-1966: Some New Estimates.* Ph.D. dissertation, Australian National University, Canberra.

Articles

Ashcroft, Vincent and Cavanough. David 2008."Survey of Recent Developments". *Bulletin of Indonesian Economic Studies,* Vol. 44, No. 3: 335-363.

Aswicahyono, Haryo and Hill, Hal. 2004. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies*, Vol. 40, No. 3: 277-305.

Basri, M. Chatib and Patunru, Arianto A. 2006. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies*, Vol. 42, No. 3: 295-319.

Cornwell, Katy and Anas, Titik. 2013. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies*, Vol. 49, No. 1: 7-33.

Deuster, Paul R. 2002. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies*,Vol. 38, No. 1: 5-37.

Dick, Howard. 1980."The Oil Price Subsidy, Deforestation and Equity". *Bulletin of Indonesian Economic Studies*, Vol. 16, No. 3: 32-60.

Dick, Howard, Houben, Vincent, Lindblad, J.Thomas and Thee Kian Wie. 2002. *The Emergence of a National Economy. An Economic History of Indonesia, 1800-2000.* Crows Nest, NSW: Allen & Unwin.

Fane, George. 2000. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies.* Vol. 34, No. 1:13-45.

Hunter, Alex. 1965. "The Oil Industry: The 1963 Agreements and After". *Bulletin of Indonesian Economic Studies.* No. 2 (September): 16-33.

Hunter, Alex. 1966. "The Oil Companies: Diverging Interests?". *Bulletin of Indonesian Economic Studies*, No. 3 February:76-78.

Johnson, Colin. 1998. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies*. Vol. 34, No. 2: 3-59.

Kong, Tao and Ramayandi, Arief. 2008. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies.* Vol. 44, No. 1: 7-32.

Manning, Chris and Roesad, Kurnya. 2006. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies.* Vol. 42, No. 2: 143-170.

Marks, Stephen V. 2004. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies.* Vol. 40, No. 2: 151-175.

McLeod, Ross. 2000."Survey of Recent Developments". *Bulletin of Indonesian Economic Studies.* Vol. 36, No. 2, pp. 5-41.

McLeod, Ross. 2008. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies*, Vol. 44, No. 2: 183-208.

Nehru, Vikram. 2013."Survey of Recent Developments", *Bulletin of Indonesian Economic Studies.* Vol. 49, No. 2: 139-166.

Olivia, Susan and Yamauchi, Chikako. 2012. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies.* Vol. 48, No. 2: 143-171.

Pangestu, Mari and Goeltom, Miranda S.2001. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies.* Vol. 37, No. 2: 141-171.

Prawiraatmadja, Widhyawan. 1997. "Indonesia's Transition to a Net Oil Importing Country: Critical issues in the Downstream oil Sector", *Bulletin of Indonesian Economic Studies.* Vol. 33, No. 2: 49-71.

Sen, Kunal and Steer, Liesbet. 2005. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies.* Vol. 42, No. 3: 279-304.

Siregar, Reza Y.2001."Survey of Recent Developments". *Bulletin of Indonesian Economic Studies.* Vol. 37, No. 3: 277-303.

Soesastro, Hadi and Atje, Raymond. 2005."Survey of Recent Developments". *Bulletin of Indonesian Economic Studies.* Vol. 41, No. 1: 5-34.

Soesastro, Hadiand Basri, M. Chatib. 1998. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies*, Vol. 34, No. 1: 3-54.

Takii, Sadayuki and Ramstetter, Eric D. 2007. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies*, Vol. 43, No. 3: 295-322.

Waslin, Mike. 2003. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies*, Vol. 39, No. 1: 5-26.

Wikarya, Uka. 2012."Kajian Kebijakan BBM Bersubsidi", LPEM, Fakultas Ekonomi, Universitas Indonesia [Powerpoint presentation, 15 March].

ETHNIC IDENTITY AND LAND UTILIZATION: A CASE STUDY IN RIAU, INDONESIA

Joan Hardjono

ABSTRACT

This article looks at the economic and social position of first- and second- generation transmigrants of Javanese origin in the northwestern part of the Province of Riau, Sumatra, in the aftermath of the 1997/98 monetary crisis. The article is based on the findings of a study undertaken by the author in 2001 in the context of the International Labour Organization's InFocus Programme on Socio-Economic Security called 'Indonesia: Improving Security After the Crises'. Data were collected in two villages in a transmigration settlement near Pasir Pangarayan, Riau, where several thousand transmigrant families had been resettled during the 1980s.

Keywords: Ethnic identity, Transmigrants, Land use, Labour, Palm oil, Riau

INTRODUCTION

Between 1950 and 2000 large numbers of people from rural Java and Bali were resettled in other parts of Indonesia under the government-sponsored transmigration program. While the underlying purpose of resettlement was always the reduction of population in these two islands, objectives such as the development of sparsely populated regions were also put forward by policy-makers as justification for expenditure on the program.

Since the 1990s several unanticipated factors have appeared that now place former transmigrants in a somewhat different political and social situation from that which existed when they migrated. Among them is the fact that by the year 2000 transmigration was no longer the major national program that it had been in the late 1970s and 1980s, when World Bank loans enabled the scale of the program to be expanded considerably. Secondly, decentralization and the demands of regional autonomy have become increasingly important elements in the political picture since 2001 and, with devolution of authority to the district (*kabupaten*) level, local governments have been seeking ways to increase revenue. Thirdly, with steadily growing demand for crude palm oil (CPO), oil palm has become an important crop in many regions, including northern Sumatra, to the point where it has had considerable influence on patterns of land use. This has created a dilemma for transmigrant smallholders in their decisions about how to use their land. While they benefit from the cultivation of perennials like oil palm when prices are high, they find that, with all their land under a tree crop, they cannot afford to buy the foodstuffs that they need when prices for perennials are low.

THE TRANSMIGRATION VILLAGES

The settlement of transmigrants

With only 1.4 per cent of Indonesia's people and a population density of 13 persons to the square kilometre in 1971, the Province of Riau offered potential for agricultural development when plans were prepared for expansion of the transmigration program during the Third Five-Year Development Plan (1979-1984). Land was made available for settlements in the Pasir Pangarayan area by the Riau provincial government, which expected that the cultivation of arable crops by transmigrants would increase supplies of rice and secondary foodstuffs for the more urban parts of eastern Riau, where the exploitation of oil resources had long dominated the economy. There were no existing claims to the land that was offered, as most of the local people obtained a livelihood from shifting cultivation and the tapping of stands of wild rubber.

In order to examine how settlers have been utilizing the two hectares of land that they received as transmigrants and the extent to which ethnic identity has been significant, two villages, referred to here as Sukamaju and Karang Tengah,[1] were selected in a subdistrict (*kecamatan*) in Rokan Hulu District some 40 kilometres to the north-east of the small town of Pasir Pangarayan,

[1] Interviews were conducted with 247 first- and second-generation transmigrants. A house-to-house approach was adopted in randomly selected parts of each village. Only households in which either the husband or wife (or both) came from a transmigrant family were included. The number of respondents was as follows: *Sukamaju*: Generation I = 38 men, 28 women; Generation II = 25 men, 28 women. *Karang Tengah*: Generation I = 40 men, 29 women; Generation II = 27 men, 32 women.

which is itself approximately 200 kilometres from Pekanbaru, the provincial capital. These villages had been established in 1981 and 1982, which meant that, since most families had small children when they migrated, there was already a second generation of adult age when the study was carried out in 2001.

The majority (82.1 per cent) of first generation respondents had arrived from Java between 1981 and 1984 as fully supported or General Transmigrants, while 5.2 per cent moved in 1984-85 under a resettlement program for army members who had retired on a monthly pension. Another 4.4 per cent were Local Transmigrants who were resettled under a program that required 10 per cent of the land in new settlements to be allocated to local people (Hardjono 1986:30). The remaining first generation respondents (8.1 per cent) were completely unassisted or spontaneous transmigrants who had bought land in the villages before 1988. Half of these spontaneous settlers had migrated from Java while the rest, who were also of Javanese origin, had moved from the plantation areas of North Sumatra.

All families received two hectares of agricultural land as well as seed for food crops, a few agricultural tools, and food supplies for eighteen months. Under a policy adopted by the transmigration agency in 1978, the two hectares were to be allocated to settlers in three sections, the first of which was a home-lot (*pekarangan*) of 0.25 ha in ready-to-plant condition with a fully constructed house on it. The second section consisted of one hectare of cleared land (referred to as *LahanI*) for food crop cultivation, while the third section (*LahanII*) consisted of 0.75 ha of uncleared land that would ultimately be used for tree crops. *LahanI* was to be close to the settler's home-lot, while *LahanII* was to be located within two kilometres of the house (Hardjono 1986:36).

Sukamaju

Sukamaju (674 households in 2001) was the first transmigration village established in the area and was designed by spatial planners as the ‘core’ or service centre for the ten villages planned for this part of the Pasir Pangarayan resettlement area. For that reason considerable care was taken in site selection and preparation. The village was established on flat land close to a river. The soil was good by comparison with soils elsewhere in the district, while an access road, although unpaved, facilitated communications with Pasir Pangarayan. When transmigrants arrived in 1981, home-lots and *Lahan*

I were ready for cultivation, so they were able to plant rice, corn, peanuts (*kacang tanah*) and mung beans (*kacang hijau*) immediately on both pieces of land. Although not comparable with yields in Java, output was high for rain-fed crops and productivity could be maintained if chemical fertilizers were used. The provision of cattle for draft purposes by the International Fund for Agricultural Development (IFAD) in 1987-88 greatly helped labour-short households to develop all of the land intended for annual crops. By the early 1990s rice output was such that four rice-hullers, powered by home generators, were operating in the village.

When Sukamaju, along with other settlements in the Pasir Pangarayan area, was transferred from the transmigration agency to the provincial government of Riau in 1993, it was doing well economically. Many of the transmigrants, however, had not been allocated the 0.75 ha that formed the third part of their holding (*Lahan II*), while most of those who had received *Lahan II* had not yet made any attempt to utilize it. The main reason was that the land, which was several kilometres from the village, was too far away for regular cultivation. A few transmigrants cleared this section of their holding and planted rubber but they became discouraged because trees were often destroyed by fire. Others sold the trees growing on *Lahan II* and in a few cases the land itself.

Karang Tengah

Karang Tengah (490 households in 2001) proved to be a far less successful settlement. Although the site was only five kilometres from Sukahaji, the land was marshy and the shallow greyish soil was much less fertile than the deeper yellowish-red soil of the core village. Furthermore, preparatory work had not been done as thoroughly as in Sukamaju. The transmigrants settled here in late 1981 and 1982 found on arrival that the home-lots were not in a ready-to-plant state, so they had to set about clearing the land around houses in order to plant dry rice and corn. They then prepared *Lahan I* for cultivation. The work was heavy since land-clearing contractors had left tree stumps in the ground. Without suitable tools to remove the stumps, transmigrants had to burn them or plant around them.

Yields of rice and corn from home-lots and *Lahan I* were good for three years but then fell sharply. Finding that applications of fertilizer made very little difference, transmigrants turned to the cultivation of cassava as a subsistence food crop. After two more years, not even cassava would grow, and fields were left to revert to scrub. The World Food Programme then supplied foodstuffs to enable settlers to construct unsurfaced roads in the village, while the IFAD program provided cattle. Most of the cattle, however, were sold soon after distribution by households that had virtually no source of cash to buy necessities like clothing. During this period transmigrants survived by felling trees on their own *Lahan II* for sale to timber companies, while those willing to travel several kilometres to land still under primary forest were able to earn a livelihood from the collection of resins like *damar*.

Physical conditions in Karang Tengah were so unfavourable that at least half of the original General Transmigrants had returned to Java by the late 1980s, while 85 of the 100 retired army members who had been resettled in the village in 1984 and 1985 had left within a couple of years. Similarly, all but one of the 23 families who had been persuaded to migrate from West Java when their fields were destroyed during the 1982 eruption of Mount Galunggung had gone back to Java. It was the high drop-out rate that led transmigration authorities to transfer abandoned holdings to Local Transmigrants from the plantation areas of North Sumatra in 1986 and to allow spontaneous settlers to buy land in the village.

CHANGES IN LAND USE

The influence of oil palm

Economic development in Sukamaju was greatly influenced by the activities of a Medan-based oil palm company that had established a plantation and processing factory a few kilometres to the north of the village in 1993. For the first time conflicting claims to land appeared in the area. Government maps prepared in 1983 showed that usage rights to land close to Sukamaju had been granted to the oil palm company in that year, even though the land in question had previously been designated by the provincial government for transmigration settlements. It turned out, however, that the company had acquired usage rights not only to land intended for future transmigration villages but also to the undistributed *Lahan II* of a number of transmigrants in Sukamaju. Despite several representations by village officials to the provincial government, the issue had not been settled to the satisfaction of the transmigrants and was the cause of considerable resentment among Sukamaju residents towards the plantation company.

The establishment of the oil palm plantation soon had an indirect effect on land use in Sukamaju, for it offered opportunities for wage labour. The plantation company hired men to clear land and plant palms, while women were employed to prepare and care for seedlings, although at a lower wage than that paid to men. Plantation work was heavy but wages exceeded any income that settlers could obtain from the cultivation of food crops. As a consequence many transmigrants took jobs on the plantation and neglected food crop cultivation on their home-lots and *Lahan I* fields, which were soon covered in weeds. While the regular cash earnings coming into the village encouraged expansion in non-agricultural activities, this trend lasted only until 1999, when the plantation company dismissed the majority of its workers. The reason was that, with all its land planted and further expansion delayed by the 1997-98 monetary crisis (*krismon*), the company required only a small number of labourers for maintenance and harvesting.

Meanwhile, a change had occurred in land use in the village itself. Attracted by high palm oil prices in the second half of the 1990s, many of the transmigrants who had been growing food crops on *Lahan I* replaced them with oil palm, not realising that the high CPO prices were very largely a reflection of changes in the value of the rupiah during 1997 and 1998. At the same time settlers who had abandoned farming for wage employment on the plantation started clearing their neglected *Lahan I* fields and planting oil palm. Thus only a very small proportion of the *Lahan I* land in Sukamaju remained under food crops.

Rubber, oil palm and logging

Commercial interests also brought about changes in land use in Karang Tengah. In 1990 a company holding a forestry concession adjacent to the land of transmigrants established a sawmill in the village. In addition to removing trees growing on its own concession land, the company purchased any trees that remained on the *Lahan II* land of transmigrants as well as trees felled elsewhere by small-scale illegal loggers. The sawmill provided wage employment for a number of village men but only until 1995, by which time all the valuable timber in the vicinity had been removed and the sawmill closed down. Most of these unemployed men then took jobs as wage labourers on the oil palm plantation near Sukamaju until 1999 when they, like workers from the core village, were no longer needed by the company.

By this time the transmigrants in Karang Tengah had given up trying to cultivate their *Lahan I*. One of the constraints on development in this and many other transmigration villages had always been the insistence on the cultivation of food crops by local transmigration officials, who adhered to policies formulated in Jakarta (World Bank 1988), even when it was obvious that only tree crops could flourish in the area. The staff of the local transmigration office even destroyed small rubber trees that settlers had purchased locally and planted on their home-lots. After transfer of the village to the provincial government in 1993, settlers were free to plant whatever they wished. Very few households in Karang Tengah, however, had the capital to prepare land and establish a tree crop. It was only a timely intervention from outside the village that saved the community from total economic disaster.

As the follow-up to a World Bank initiative for the introduction of a Second Stage Development Program in the late 1980s to help economically weak transmigration settlements (Hardjono 1988:434), a Pekanbaru-based company operating in the smallholder rubber sector agreed to plant rubber on a credit basis on the land originally intended for food crops (*Lahan I*). Transmigrants were employed temporarily by the company as wage labourers to clear secondary growth and plant the land with rubber. As this land was adjacent to home-lots, settlers were able to keep a close watch over the rubber trees and to reduce the risk of fire by removing grass and weeds regularly. When trees started producing latex in 1999, settlers began repaying the loans that they had received from the company, which also handled marketing of the latex.

There was a further change in land use in 1996 when a small oil palm company acquired the former timber concession adjacent to Karang Tengah. The company, which was based in Pekanbaru, planted oil palm on this land and also on the partly cleared but uncultivated *Lahan II* land of transmigrants under an agreement that was arranged by the village head and had the endorsement of the provincial government. Although the company was introduced to members of the transmigrant community as a *bapak-angkat* (foster father) that would help settlers, the latter, who legally owned the land, were not included in negotiations. The basis of the agreement was supposed to be profit-sharing, with 40 per cent of output from each 0.75 ha of *Lahan II* land going to the company and 60 per cent to the owner. Although the palms planted in 1996 began bearing fruit in the year 2000 and the company commenced regular harvesting, settlers had still received no money in 2001. Most were feeling apprehensive about the future, especially since they had been obliged to entrust their land ownership certificates to the company as part of the 'agreement'.

Meanwhile, in its own interests the company allowed transmigrants to grow annuals like dry rice, corn, long beans, chilli and mung beans between the rows of young palms planted on their *Lahan II* land, as cultivation of the soil restricted the growth of weeds and the young palms benefited from the fertilizer applied to the food crops. This system of intercropping was the only form of arable farming in the village. It was possible for only three years, however, because of the decline in fertility and the increase in the size of palms, which prevented sunlight from reaching ground crops. Farmers who practiced intercropping were finding it necessary to move further away from the village in order to obtain temporarily fertile soil, even though, beyond the boundaries of company-controlled land, there were stretches of degraded forest to which they could make no claim.

During the 1990s several industrial timber estates (*Hutan Tanaman Industri,* HTI) were set up in Riau to cultivate fast-growing trees as raw material for pulp factories. The establishment of two HTI estates some 80 kilometres from the village marked a further stage in commercial activities in the area, as recruitment agents made frequent visits to Karang Tengah and other transmigration villages in search of labourers. Since workers had to live in barracks on the timber estates because of distance from the villages, it was mainly young, unmarried men who undertook this kind of work. The two timber estates provided regular employment during the 1990s but only one was still operating in 2001. Like the plantations, it too had reduced its workforce once the work of preparing land, raising seedlings and planting small trees had been completed.

One further commercial activity in the immediate vicinity of Sukamaju and Karang Tengah during the later 1990s was the small-scale logging industry. Men who were physically strong could obtain regular employment at one of the ten sawmills within a couple of kilometres of their homes. The sawmills depended for trees on the 100-hectare stretches of land for which logging permits had been issued by the local *bupati* (district head). They also relied on illegal felling, which was done much further away by labourers whose so-called 'bosses' organized the sale of logs to the sawmills. Sukamaju had two self-employed 'timber entrepreneurs' who bought trees growing on privately owned land and then employed local labourers to fell them and transport the logs to one of the sawmills. This form of small-scale logging had been much more common in the 1980s before companies from Medan, Pekanbaru and even Jakarta took over the local timber industry.

SOURCES OF LIVELIHOOD

Employment

Patterns of land use are reflected in the sources of income of transmigrant households in Sukamaju and Karang Tengah in 2001, as shown in Table 1. Agricultural employment was much more important for first generation households than for those of the second generation. At the same time first generation households tended to have multiple occupations and hence more than one source of income. These occupations generally consisted of crop cultivation and the raising of cattle in conjunction with some form of trade. Landlessness was not a problem among generation I households. All had a home-lot and, even though one third had sold a part of their *Lahan I* and *Lahan II* at some time in the past, only three had no agriultural land at all. Some 29 per cent had increased the size of their holding by purchasing additional land from other transmigrants or from indigenous people. Fragmentation of ownership had begun to occur with home-lots but not with agricutural land, which will, however, be subdivided through the traditional Javanese system of equal inheritance for all children as the number of first generation transmigrants becomes smaller.

Table 1
Major Sources of Household Income, 2001 (percentage of households)

Source of income	Generation I		Generation II	
	Sukamaju n= 66	K. Tengah n = 69	Sukamaju n = 53	K. Tengah n = 59
Agricultural self-emploment	45.5	50.0	28.3	20.3
Agricultural wage labour	6.1	2.9	15.1	10.2
Plantation/HTI wage labour	4.5	1.5	1.9	18.6
Non-agricultural self-employment	9.1	8.	13.2	3.4
Non-agricultural wage lbour	1.5	0	13.2	18.6
Non-agricultural skilled work	12.1	10.1	15.1	6.8
Trade	18.2	20.3	9.4	13.6
Salary employment*	3.0	1.5	3.8	8.5

* = teachers and community health centre staff

For second-generation households the non-agricultural sector was more important than farming, reflecting the fact that 57 per cent of this generation in Sukamaju had no farming land of their own. Occupational multiplicity was less common among this generation. Some earned a living from agricultural wage labour, opportunities for which were more frequent in Sukamaju than in Karang Tengah because a greater area in the former village was under food crops, which require more intensive input of labour than do tree crops.

In the case of Karang Tengah, self-employment in agriculture included intercropping on land controlled by the palm oil company and also the raising of livestock. Several households, in particular the poorer ones among the first generation, raised cattle to rent out for ploughing and the pulling of carts or, more commonly, to sell for slaughter. The 'sharecropping' of cattle occurred in both villages as in Java, where the 'sharecropper' looks after a cow and later shares the offspring with the owner. A couple of households kept chickens and ducks on a commercial scale, while three well-off households in Karang Tengah had established fishponds, reflecting their place of origin in West Java, where inland fish-breeding is common. All these products, from poultry to eggs and fish, brought good prices from intermediate traders (*bandar*), who could easily sell them at a profit in towns like Pasir Pangarayan and Pekanbaru.

Not many people were working on oil palm plantations or timber estates in 2001. Between 1994 and 1999 the larger of the two plantations, near

Sukamaju, had employed men and youths from both villages but, as already noted, it had reduced its workforce considerably at the end of 1999. The small oil palm plantation adjacent to Karang Tengah also reduced its work- force once planting was completed, but it still employed village men to harvest the fruit. Both men and women were employed to do weeding and other maintenance tasks, although much of this was casual work, available only when labour was needed. With the expansion of oil palm in the Province of Riau, wage employment was available on the large plantations established by companies some 75 kilometres to the south of the transmigration villages. It was here that 18.6 per cent of second-generation Karang Tengah men, shown in Table 1 as working on plantations or HTIs, had found jobs.

Non-agricultural self-employment in the two villages, which largely involved the production of cement roof tiles and the digging of river sand for local building purposes, also included food processing, which in these villages meant the making of tapioca crisps (*krupuk*), soya bean products (*tahu* and *tempe*) and sweets from red sugar. Non-agricultural wage labour included the employment of women to assist in food processing. The relatively high figure (18.6 per cent) for non-agricultural wage labour for the second generation in Karang Tengah reflects the employment of men in local sawmills. Skilled work outside agriculture takes in bricklaying, carpentry and furniture-making as well as the management of small repair shops for radios, motor-cycles and bicycles and the driving of trucks and *ojek* (motorcycles that carry paying passengers).

Trade has always been a major source of livelihood or at least supplementary income for transmigrant households. A few large-scale traders in the two villages purchased oil palm fruit and latex from small producers for sale to factory agents. They also dealt in commodities from outside the region, like fertilizer, cement and kerosene. Others with less capital worked part-time as *bandar*, purchasing local products and selling them in other transmigration villages, where poor soils, similar to those in Karang Tengah, had been planted with oil palm. A number of women (and a few men) had stalls (*warung*) in or close to their homes, where they sold cooked food, household necessities and cigarettes. Other women worked as itinerant vendors, either riding bicycles or walking around the village every day to sell food that they had prepared themselves or bought from a producer. Some of them also sold food and small quantities of fresh produce like beans and tomatoes at the weekly market.

Income levels

Social stratification based on economic position was evident in both villages. Since it proved impossible to obtain any clear statement of income from respondents, the socio-economic position of households was estimated using the following indicators: extent of land ownership, type of housing, non-agricultural employment, the scale of trading activities and the level of education provided for children. On this basis households in Sukamaju and Karang Tengah fell into four broad groups, as shown in Table 2.

Households in the high income group earned most of their income from trade, as they owned the four large village shops that sold goods like building materials and kerosene for lamps. At the same time they had large land holdings, which were cultivated by agricultural labourers. In 2001, households in this group had monthly incomes over Rp 750,000. Most householders in this income category had been young adults when they migrated from Java with their parents in the 1980s and already had a junior high school education. Others were retired army men who, besides having a relatively good education, had had the initial advantage of a regular pension. In many cases they could afford to send their children to high schools and universities in Java.

Table 2
Estimated Income Levels, 2001 (percentage of households)

Income group	Generation I		Generation II	
	Sukamaju n= 66	K. Tengah n = 69	Sukamaju n = 53	K. Tengah n = 59
High	6	4	0	0
Medium	17	14	9	9
Poor	23	19	30	29
Very poor	54	62	60	71

Although all households in the medium income group (monthly incomes between Rp 750,000 and Rp 500,000) owned land, in many cases as much as three to four hectares, very few depended entirely on agriculture. They preferred to leave cultivation of their land to wage labourers while they themselves undertook more profitable economic activities. A few people in this group were elementary school teachers or public servants employed in the Community Health Centre in Sukamaju, while others were producers of *tahu*, *tempe* and *krupuk*. Some ran small shops that sold clothing or daily necessities like rice, while others had roadside stalls that sold petrol and oil for motor-cycles. A few raised fish in ponds near their homes and also traded in cattle and latex, although not on the scale of the high-income group. Many households in this group had been able to put their children through six years of secondary schooling and in a few cases tertiary education in Pekanbaru.

Households in the poor group (monthly incomes of Rp 300,000 to Rp 500,000) obtained most of their income from the agricultural sector. The majority of Generation I households owned land, and several still had the two hectares allocated to them in the 1980s. Even so, most did agricultural wage work if available, while a few were employed by the households that made *tahu* and *tempe*. Several owned or 'sharecropped' a cow. In some households husbands worked as carpenters and brick layers or collected building sand from the river, whenever work of this kind was available. Petty trade was important for many in this group, although a shortage of capital limited the scale of their activities. A few worked occasionally as *bandar*, buying local products like chickens and coconuts and selling them to bigger traders from outside the village.

Most households in the very poor group (monthly incomes below Rp 300,000) obtained the greater part of their income from employment on the land of households in the first- and second-income groups. First generation households in the very poor group still had a small piece of land but the majority of second-generation households in this group had no land at all. It would be difficult for both first- and second-generation households in this group to diversify their sources of income as they do not have the financial resources or knowledge to undertake activities like trade or food processing.

The Effects of the 1997-98 Monetary Crisis

On the whole regions outside Java that produced cash crops for export fared better than Java during and immediately after the 1997-98 monetary crisis because the value of these crops rose as the rupiah weakened (Booth 1999:26). For this reason the crisis, which caused the prices of goods of all kinds to rise in Java, had relatively little effect on the overall level of economic security of households in the two villages. Within the village communities, however, the crisis had a differential impact that was related to the individual family's sources of livelihood. Houses with land under productive oil palm or rubber felt an immediate benefit, while traders dealing in fertilizer made a good profit. Households growing food crops also did well because demand for products like mung beans and corn remained high and they were able to increase their selling prices. Households dependent on the processing of foodstuffs were unaffected, for although there was a rise in the prices of raw materials like soya beans, they too were able to put their prices up. Other non-agricultural workers like *ojek* drivers were able to raise their rates in keeping with the higher prices for oil palm and rubber, while those employed in the local building industry benefited from the higher incomes of oil palm growers, who could now afford to have extensions and improvements made to their houses.

People on a fixed salary like school teachers, however, immediately experienced a negative impact since the benefits of high oil palm and rubber prices were not passed on, yet their cost of living rose. Petty traders selling manufactured goods from Java like plastic buckets were also affected as village households could no longer afford the prices, which had risen sharply. Plantation and timber estate labourers were not affected at first since the oil palm companies and timber estates were able to increase wages slightly. They felt the impact in 1999, however, when the plantations and estates scaled down their own activities because of the financial situation. Meanwhile, households dependent on agricultural wage labour in the villages were much more seriously affected because wages for this kind of work did not keep pace with the rise in the prices of food and other daily necessities.

The Land Use Dilemma

As it turned out, a steady decline occurred in palm oil prices between 1999 and 2001, reflecting changes in international prices and exchange rates as well as overproduction in the local palm oil industry itself. There was only a slight drop in food crop prices but the price of oil palm fruit, which had been Rp 700 per kg in 1997, had fallen to Rp 100 by early 2000. Prices remained low during 2000 but by mid March 2001 growers were receiving Rp 175. Within another week the price was Rp 210, indicating trends in the value of the rupiah. Prices continued to improve during 2001 and by February 2003 growers were receiving Rp 600 per kg for oil palm fruit. By mid March of the same year, however, world market conditions were beginning to change once again and the price had gone down to Rp 550.

These fluctuations in prices created a dilemma for households that had all of their land under oil palm, since the practice of monoculture meant that they had to purchase the food that they needed for the family. Settlers had to decide whether to write off the money that they had invested in oil palm and go back to food crops or to retain the oil palm in the hope of better prices in the future. The same dilemma applied to the utilization of home-lots. When oil palm prices fell in 1999-2000, households in the two villages were obtaining very little for home consumption or sale from their home-lots. The reason was that, with the rise in oil palm prices in the 1990s, most had uprooted the plants and trees that they had carefully tended for many years, including fruit trees originally provided by the transmigration agency, in order to plant palms around their houses. Only a few had continued to grow cooking spices, pepper, ginger, medicinal herbs, vegetables and fruit on their home-lots, even though these commodities were always in demand. Similarly, only a small number of households still cultivated corn, mung beans, chilli and other dry-field crops on *Lahan I*. Even though lack of water in the dry season limited cultivation to nine months of the year, these farmers were comparatively well off in terms of household income for, despite the need to buy fertilizers to maintain yields, prices for food crops continued to rise in response to the relative scarcity of these commodities in the region.

CONCLUSION

Expansion in oil palm cultivation in Riau and other provinces was encouraged by the Indonesian government during the 1990s when, with favourable export prices, CPO was a good source of foreign exchange. The provincial government of Riau had always shown considerable enthusiasm for expansion in the area under this crop, especially in the western and southern parts of the province. With the transfer of authority to the *kabupaten* level of government, however, conflicts of interest began to occur. The existing plantations near the two study villages were soon at odds with each other over their demands for access to more land, while friction arose between adjacent *kabupaten* over sources of revenue. Those *kabupaten* without a palm oil factory were eager to have at least one processing facility established locally, as they were reluctant to see truckloads of unprocessed fruit leaving the district every day without any financial benefit to the local government. Given the fluctuations that have occurred in CPO prices, however, the wisdom of a *kabupaten* relying on revenue derived very largely from a one-crop system of land use can be questioned.

The presence of oil palm plantations near the transmigration settlements has two major social implications. The first is the potential for future disputes over land between settlers and the plantations. The extent to which the local government will support smallholders, indigenous or otherwise, in disputes with plantations is uncertain, since oil palm has been given priority over other crops in land use policies. In any case local governments tend to show a preference for plantation rather than smallholder production as it is much easier to collect taxes and other levies from companies than from individual cultivtors. Nevertheless, in the interests of maintaining social stability, they may have to support smallholders' concerns against the interests of companies, especially where rights to land and the acquisition of large stretches of land for new plantations are concerned. As noted above, the acquisition by a plantation company of the undistributed *Lahan II* land of transmigrants in Sukamaju caused great resentment. Furthermore, the local government did not respond to the complaints of Sukamaju farmers about the discharge of polluted water from the company's processing factory, even though this made it impossible for the farmers to cultivate a part of their land. Nor are hopes for an irrigation system that would enable them to cultivate their fields in the dry season likely to be realized, since construction of the necessary weir across a river would cause water to inundate part of the company's land.

The second implication is the general insecurity that was already apparent in the area in 2001 because of clashes between the indigenous people and the North Sumatran staff of the plantation company. The latter were accused of acting 'arrogantly' in their dealings with the local people, particularly in the use of public infrastructure like roads. Local people certainly had a point when they complained about the deep ruts cut in roads by company trucks transporting oil palm fruit. Feelings on both sides were expressed somewhat violently on one occasion in 1999 when a company truck collided with the motorcycle of a local man in a small town 10 kilometres from Pasir Pangarayan. The local people responded by attacking and damaging the truck. In retaliation, company employees burned down 300 houses belonging to the indigenous community. In the general disturbance the sub-district administrative office and the police station were also destroyed. The local people then blocked the road used daily by company trucks to transport oil palm fruit to the processing factory. As a consequence, the transmigration villages were cut off from Pasir Pangarayan for several days.

Hostility towards the plantation company stemmed from more than anger over the condition of roads. Local people had hoped to obtain jobs with the company but they were unwilling to work as field labourers. Yet very few had the educational background required for employment as drivers, bookkeepers and factory foremen. Furthermore, while they felt that their communities should be getting direct advantages from the produce of 'their' land, they ignored the fact that the company was paying various taxes and levies to the *kabupaten* government. Company managers, for their part, felt that they had no obligations to the local people of the area, and from the beginning had made no attempt to establish good relationships with these communities. In dealing with issues concerning indigenous communities in past years, they had depended on support from the government agencies in Jakarta that had granted their original land concessions in Riau. Transmigrants, for their part, have always kept out of conflicts between indigenous people and the plantation company in the belief that such disputes did not concern them.

Clashes have not occurred between transmigrants and the indigenous people of the area. On the whole, however, while the local people appear to have no objection to the presence of the Javanese settlers despite ethnic differences, there has been very little contact between the two groups apart from occasional small-scale trade. Claims to land allocated to transmigrants in the 1980s are unlikely to arise because, unlike the situation that had prevailed in other transmigration settlements, the transmigration agency had issued individual ownership certificates for the two-hectare holdings before the Pasir Pangarayan settlement was transferred to the provincial government. In cases where transmigrants purchased additional land from indigenous people, however, disputes could occur since transactions of this kind were witnessed only by the village head. The statement signed by the latter at the time of the transaction is no guarantee of security of tenure, and it is very unlikely that other written records exist.

Riau has long had an ethnically diverse population. The relatively low population density of the province and the absence of a dominant local culture comparable to the cultures of adjacent provinces have encouraged spontaneous in-migration to Sukamaju and KarangTengah, despite the great increase in the value of land in the transmigration villages after 1995. Most of the spontaneous migrants are the descendants of Javanese plantation workers who moved to North Sumatra several decades ago. Unable to afford even a small piece of land in the overpopulated plantation areas where they were born, they have moved to the transmigration villages to purchase land for a home-lot for their family while they look for work in other places. They have chosen this area because the village population is predominantly Javanese and the culture is one with which they are familiar.

The indigenous people of Riau live between two very strong economic and cultural groups, the Bataks to the north and the Minang people to the southwest. In the past they found it difficult to rise to a dominant economic and cultural position in their own province, but decentralization is now providing the opportunity for them to assert themselves politically. There is a growing awareness in Riau, as in many other provinces, of who is indigenous (*putra daerah*) and who is not. Associated with this is the feeling of many indigenous people that they have a greater right to local resources than do 'newcomers'. But this attitude cannot do away with the consequences of past national policies like transmigration or internal population movement in the form of spontaneous migration.

The extent to which newcomers will have a voice in provincial and district-level government and play a role in the political life of Riau remains to be seen. While the heads of former transmigration villages will most probably continue to be persons of Javanese origin, it is less likely that the position of sub-district head (*camat*), let alone that of district head (*bupati*) will be open to a newcomer, even from the second or third generation. Nevertheless, these newcomers are an important element in the composition of the regional labour force, for it is the younger generation of settlers, whether they are of transmigrant origin or the descendants of plantation workers, who are providing much of the manpower required for the expansion of oil palm plantations and timber estates in Riau and for a range of non-agricultural activities like the construction industry in Pekanbaru and the eastern part of the province.

BIBLIOGRAPHY

Books

Hardjono, J. 1977. *Transmigration in Indonesia.* Kuala Lumpur: Oxford University Press.

World Bank. 1988. *Indonesia: the Transmigration Program in Perspective*. Washington, D.C.: World Bank Country Study.

Articles

Booth, A. 1999. "Survey of Recent Developments". *Bulletin of Indonesian Economic Studies.* Vol. 35, no. 3: 3-38.

Hardjono, J. 1986. "Transmigration: Looking to the Future."*Bulletin of Indonesian Economic Studies.* Vol. 22, no. 2: 28-53.

Hardjono, J. 1988. "The Indonesian Transmigration Program in Historical Perspective". *International Migration*. Vol. 26, no. 4: 427-439.

INDONESIA'S ACHILLES HEEL IN THE FIRST DECADE OF THE 2000s: EMPLOYMENT AND LABOUR PRODUCTIVITY IN MANUFACTURING

Chris Manning

Australian National University

ABSTRACT[1]

In Indonesia, sluggish growth in productivity and job creation in manufacturing was particularly disappointing in the first decade of the 2000s. The work of Anne Booth has grappled with the nexus between productivity, employment and welfare in Indonesia and Asia. While she has been especially concerned with these relationships in the agricultural sector, Anne would be the first to acknowledge that some of the key relationships cut across sectors. Further, the benefits from agricultural reforms can only be broadly realized in terms of poverty reduction if better jobs are available for agricultural workers to move into in manufacturing and services as countries develop. This article takes up some of the productivity and employment relationships outside agriculture that are critical to poverty alleviation, focusing especially on labour regulations, contracts and management systems. It thus touches indirectly on a subject that has been a focus of many of Anne Booth's writings on Indonesia since the 1980s.

Keywords: Labour productivity, Labour regulations, Job creation, Manufacturing,

INTRODUCTION

Improvements in productivity and creation of better jobs are at the heart of an improvement of living standards. One of the big challenges of development is to achieve both improved productivity and employment at the same time. This is especially important in manufacturing that plays a central role in absorbing low-productivity workers in the early stages of economic growth.

[1] Analysis of the data on which this article is based was undertaken jointly with Raden Purnagunawan and was supported by the USAID SEADI Project in 2012-13. I gratefully acknowledge Raden Purnagunawan's contribution and also thank Tim Buehrer and Peter McCawley for support in developing ideas expressed in this article.

In Indonesia, sluggish growth in productivity and job creation in manufacturing was particularly disappointing in the first decade of the 2000s. Unlike several neighbouring countries, in particular China, India and Vietnam, slower GDP growth has been a major factor contributing to less impressive productivity growth after the Asian financial crisis of 1997/98. Manufacturing was below par compared with services, and this is a problem shared by several Southeast Asian countries.

Anne Booth has grappled with the nexus between productivity, employment and welfare in Indonesia and Asia for most of her professional life. While she has been especially concerned with these relationships in the agricultural sector, Anne would be the first to acknowledge that some of the key relationships cut across sectors. Further, the benefits from agricultural reforms can only be broadly realized in terms of poverty reduction if better jobs are available for agricultural workers to move into in manufacturing and services as countries develop. This article takes up some of the productivity and employment relationships outside agriculture that are critical to poverty alleviation, focusing especially on labour regulations, contracts and management systems. It thus touches indirectly on a subject that has been a focus of many of Anne Booth's writings on Indonesia since the 1980s.

In the second last year of Yudhoyono government (2013) the level of minimum wages and the nature of labour contracts appropriate for Indonesia were both being hotly debated in the public arena. These issues have tended to be discussed mainly from the standpoint of labour welfare and protection. There has been surprisingly little reference to labour productivity. Economic theory teaches us that productivity not only determines market wages in a competitive environment in the short term but also should be a major determinant of employment, better jobs and living standards in the longer term.

After a general discussion of some the key relationships, the article compares Indonesia with several other East Asian countries with a focus on labour productivity and employment. Here it is found that employment growth was very slow in Indonesia in the 2000s at a time of moderate productivity gains, a pattern common among several Southeast Asian countries.

The links between productivity, employment and labour management systems are then examined through the case study of a small sample of manufacturing enterprises in Bandung region, West Java. The latter highlights two sets of issues. First, the relationship between labour management systems and productivity, and the potential impact of changes in the regulatory environment for labour productivity. Second, the analysis highlights variations by scale of firm and between industries in labour management systems that impact on labour productivity and employment. We contrast management in more capital-intensive firms in metals and machinery industries (M&M) with that of firms in textiles, clothing and footwear industries (TCF).

It is suggested that a medium-term strategy might encourage an environment that guarantees firms greater flexibility in setting the wages of blue-collar workers. Given political constraints, a short-term strategy might focus on distinguishing between different kinds of industries in setting some of the basic labour standards.

GROWTH, LABOUR PRODUCTIVITY AND EMPLOYMENT: WHAT DO WE KNOW?

What are the main factors that have influenced labour productivity in developed and developing countries in recent years, and what are the implications for employment, with special reference to the manufacturing sector? Labour productivity growth is driven by two factors: first, the quantity and quality of labour (as the denominator in dY/dL); second, capital accumulation and innovation. In the early stages of growth capital accumulation plays the major role in raising output growth in a 'labour surplus' country like Indonesia. The rate of employment growth (*d*L) can be quite high owing to rapid growth of the labour force and the deployment of 'surplus' labour from the agricultural and informal sectors in the modern sector. This tends to counterbalance the positive impact of capital accumulation on labour productivity.

As capital becomes more abundant, however, countries depend much more on total factor productivity (TFP) growth, and on the quality rather than the quantity of labour inputs. Labour productivity thus tends to rise more steeply.

Four interrelated factors have been closely associated with both productivity and employment growth in manufacturing (Tybout 2000). First, export orientation has associated with higher labour productivity and TFP growth in many contexts. Exports facilitate the purchase of imported capital equipment and raw materials required for industrial growth. Dynamism at the micro level appears to partly depend on the capacity of firms to access new technology embodied in imports (Davis & Haltiwanger 1992).

Second, foreign direct investment (FDI) has also been identified as a positive factor in many multivariate studies of productivity growth. The direct effects from more open policies towards FDI on growth and employment are well documented (Moran, Graham & Blomström 2005). Although uneven, indirect effects through spillovers to domestic firms have also been observed as significant determinants of labour productivity and TFP growth (Sjöholm & Lipsey 2004; Liu, 2008).

Third, firm size is often positively correlated with productivity and hence the dynamics of firm growth is relevant. In more dynamic competitive systems there are many opportunities for entry and progression to larger-sized establishments, and also exits as older firms face difficulties in competing with newcomers (Davis & Haltiwanger 1992). Smaller firms enter, and some grow bringing new technology and processes, even if many exit.[2]

As seems to be the case in Indonesia, there is a twist: the 'missing middle'. In some environments, small firms often prosper as do larger firms, but those in the middle do not. There is now a growing literature on the problems faced by middle-sized firms with anything from 50-250 workers, which do not graduate, and either exit altogether or slip back to a much smaller scale. Invasive regulations, including tax and labour laws, hurt these middle-sized firms most and prevent them from moving up the ladder (Richmond & Klapper 2010). Such burdens are either 'absorbed' by scale effects (including a greater capacity to pay bribes) enjoyed by large firms, which are in a better position to defray the costs of regulation. Larger firms can also adopt various strategies (such as outsourcing) to minimize the fixed costs associated with appointment of regular employees. At the other extreme, costs are avoided by more nimble, smaller firms choosing to remain under the regulators' radar screen.

Finally (and partly related to the above), the institutional environment in general, and specifically with regard to labour institutions, can play an important part in trends and patterns of productivity and employment. Thus more competitive, export-oriented performance in East Asian countries has often been attributed to less regulation, and more flexible labour markets

---

2 Scale effects are often but certainly not always important for productivity (Tybout 2000).

compared with many countries in Latin America (Fields & Wan 1998; Posso 2008). Similarly, the OECD has compared labour market adjustments in the United States with those in several of the more regulated European economies.

INDONESIAN AND SOUTHEAST ASIAN MANUFACTURING AFTER THE CRISIS

In the decade after the Asian financial crisis Indonesian manufacturing output, employment and productivity growth had all been quite slow. Unit labour costs rose quite steeply (Aswicahyono, Hill & Narjoko 2010; Aswicahyono & Manning 2011). At a high-level meeting with representatives of the business community (KADIN), the Indonesian Vice President identified slow growth in total factor productivity (TFP) and labour productivity as a major national challenge (*Kompas* 16 May 2012). Professor Boediono drew attention to the need for further empirical analysis to support a sharper policy focus. He noted that a better mix of policies focusing on improving productivity can be expected to contribute to higher rates investment and technical change, as well as to the expansion of employment, better wages and living standards.

These issues need to be viewed in the context of several key patterns of change in the 2000s: a struggling manufacturing sector and jobless growth; a diminished role for FDI and exports; struggling labour-intensive exports; and finally, changes in the institutional and regulatory environment.

Manufacturing output growth slows and jobless growth emerges as a problem in Indonesia and some other Southeast Asian economies. Output and investment never really recovered in Indonesia after the Asian financial crisis, following a general pattern experienced by several of the more established Southeast Asian economies. In contrast to robust growth in China, India and Vietnam, output growth halved in manufacturing in Thailand and Malaysia in the first half of the 2000s (Figure 1). However, slow output growth is only part of the poor employment record. It has been observed that 'jobless growth' (a lower output-employment elasticity) was also a feature of manufacturing development in Indonesia as well as in several neighbouring countries in this period (Aswicahyono, Hill & Ardiyanto 2011).

Exports and FDI are no longer drivers of both output and employment growth. The slow growth in manufacturing output has been attributed partly to slower growth in exports and FDI. Exports slowed and contributed only around 20-25 per cent of total growth in Indonesia. The policy focus turned away from encouraging exports to industry policies that support domestic sources of growth in services, and more capital and resource-intensive products.[3]

Labour-Intensive exports have floundered. Not only have exports slowed but exports of labour-intensive products never recovered after a short period of growth in the immediate post-crisis period.[4] In addition to uncertainty, tight labour regulations and supply constraints after the Asian financial crisis, discouraged private sector investment. FDI turned to China, Vietnam and to a lesser extent Cambodia and Bangladesh.

Changes in institutional arrangements and the regulatory environment and the *'missing middle'*. Indonesia liberalized in a number of sectors after the crisis, while extending regulations in the field of labour. The new Labour Law (No. 13, 2003) made the management and deployment of regular workers more costly. However, while all firms were affected the impact seems to have been felt differently across the three main enterprise-size groupings.

The regulations are likely to have been most binding on larger firms. However, enterprises in this group were more likely to find ways of conserving on jobs by adopting new technology, outsourcing jobs or employing workers on short-term contracts, rather than retaining regular workers.[5] In contrast, small firms were least likely to comply because there were mostly below the radar screen of regulators. It was the medium scale firms that appear to have suffered most. They were caught in no-man's land: unable to 'hide' from the regulators, yet not large enough to be able to develop strategies that conserve labour costs in the new regulatory environment (see below).

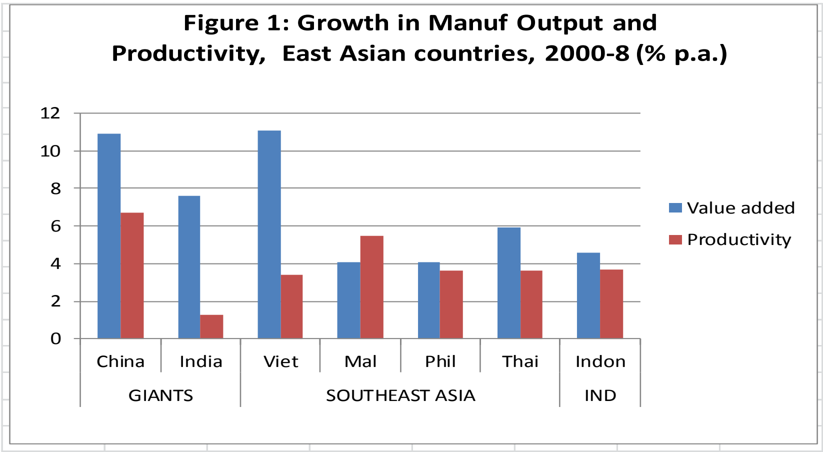
---

3 Indonesia is an outlier among middle income East Asian countries (even the Philippines) in that it has participated only to a limited extent in global production networks in the 2000s, which link to China as the main assembler and producer of final goods destined for Europe and the USA (Athukorala, 2006a, 2006b, 2009).

4 See especially Basri & Hill 2008; Aswicahyono, Brooks & Manning 2011. Basri & Hill (2008: 1406) report that the key labour-intensive manufacturing segment collapsed, from annual growth rates of 25 per cent in 1990/96 to 7 per cent in 2000/06.

5 See Manning 2012 for data on the expansion of casual work in several sectors, including manufacturing, which the author attributes partly to the tight labour regulations.

Figure 1
Growth in manufacturing output and productivity in East Asia, 2000-2008 (per cent per year).



Source: APO 2011.

Labour Productivity

What about the more favourable (relative) changes in labour productivity compared with output shown for Indonesia and neighbours in Figure 1. The earlier stages of growth when employment expanded rapidly (reflecting a high output-employment elasticity) and hence labour productivity grew slowly inevitably gave way to a period of less robust sluggish labour supply in response to production increases. This second stage contributed to more rapid increases in labour productivity in much of East Asia, as countries adjusted technology and institutions to cope with a less elastic supply of unskilled labour.[6] However, in contrast to the more advanced countries in East Asia (Korea and Taiwan) innovation and TFP has growth has been less important for labour productivity growth in Indonesia, Thailand, Malaysia and the Philippines in the 2000s (APO 2011: 66).

Figure 1 clearly shows that Indonesia is not an outlier in East Asia, neither in terms of the growth in labour productivity or its determinants in relation

[6] Vietnam and Cambodia, both of which joined the WTO and introduced a raft of reforms in the early 2000s, were an exception to patterns experienced by the more established capitalist economies of Southeast Asia.

to its level of per capital income. But it does face some major challenges. As indicated by data assembled by the Asian Productivity Institute (2011), average levels of productivity in Indonesia still remain very low compared with Japan and Singapore, and even the middle-income countries of Southeast Asia such as Malaysia and Thailand.[7]

At a macro level, Indonesia appears to have followed the experience of other countries in the region in relation to productivity growth. Before the financial crisis, physical and human capital accumulation and to a lesser extent growth in employment were the dominant factors contributing to of output growth, and TFP effects were estimated to be quite small (Alisjahbana 2009; Van der Eng 2010).[8]

Labour productivity in manufacturing has long been very low and variable across sectors compared with more developed countries (Szirmai 1994). Labour productivity growth (3.4 per cent) was on a par with Thailand, Cambodia and Vietnam, although slower than in Korea, Taiwan and Malaysia during the first decade of the 2000s (APO 2011: 87). This appears to have been due to the higher productivity of new entrants rather than a progression to higher levels of productivity among existing firms (Wengel & Rodriguez 2006). However, before the Asian financial crisis, entry was more common and contributed to higher rates of productivity growth than after the crisis, when fewer new firms entered into manufacturing (Aswicahyono, Hill & Narjoko 2010).

Among the determinants of productivity, foreign firm participation has tended to have a positive impact on productivity and also for spillovers to domestic firms (Takii & Ramstetter 2005; Takii, 2005). The missing middle seems to be strongly felt in Indonesian manufacturing; this has been associated with 'burdensome regulations and imperfect financial markets', justifying more support for dynamic 'start-ups' to help solve this problem (World Bank 2011).

7 Hourly rates of productivity across all sectors were estimated to be $3.40 in 2008, one-tenth of Japan ($32.60), one quarter of Malaysia ($13.30) and 60 per cent of Thailand ($5.80) (APO 2011: 52). The differences were smaller but still marked in manufacturing.

8 Van der Eng 2010 shows a repeated pattern of quite high rates of productivity improvement after periods of slower economic growth, stagnation or sharp economic downturns. Alisjahbana 2009 estimates the effect of improved human capital.

The impact of the regulatory environment has not been examined closely in the Indonesian case, except for minimum wages. In regard to minimum wages, some studies have found a negative impact on more vulnerable sections of the work force (younger, less educated and female workers) while others have found the effects to be quite small.[9] The subject of labour outsourcing received strong media attention as a result of a Constitutional Court ruling in January 2012 that required all labour-outsourcing companies to pay wages and benefits similar to those mandated by law for regular workers. Subsequently, during 2012 the trade union movement mounted a campaign to ban all labour outsourcing outside five non-core and service related activities: catering, cleaning, security, transport of workers to the office and recruitment of workers for mining operations.[10]

The labour law does not ban fixed term contracts or outsourcing. The spirit of the law encourages a shift from these arrangements to regular employment contracts. There are loopholes however. It appears that many firms especially in labour-intensive industries have taken advantage of these.[11]

To sum up, a close relationship between productivity on the one hand and wages and employment on the other is to be expected, and this will vary partly in relation to the stage of development and partly to the regulatory regime and its implementation. In the Indonesian case, three issues deserve special attention: (1) the regulation of labour contracts in the labour law; (2) the tendency for some firms to develop management systems which circumvent the law; and (3) strong union opposition to fixed term contracts and outsourcing of employment contracts to third parties.

Below we look at to some findings of a field study throw some more light on these matters.

---

9 See especially Suryahadi *et al.* 2003; Alatas and Cameron 2008; Purnagunawan 2011.

10 The restriction of outsourcing of labour recruitment to these activities and tighter control over the process was subsequently introduced in a Ministerial Regulation from the Department of Manpower and Transmigration issued in December 2012.

11 Other studies have found outsourcing (and fixed term contracts) to be widespread in other industries as well. For example, field surveys by AKATIGA Foundation in collaboration with the Metal Workers Union found that the majority of firms in the industry performed some form of outsourcing in what might be defined as core business activities. (Tjandraningsih, Herawati & Suhadmadi, 2010).

A CASE STUDY OF TWO INDUSTRIES IN BANDUNG REGION

We now turn to a report on regulations, productivity and labour contracts in a small sample of firms in two industries in the Bandung region.[12] The two industries were intentionally selected to represent different segments of manufacturing: an unskilled, labour-intensive group (textile, clothing and footwear or the TCF industry) and a group which fits more into the group of the footloose, capital-intensive group of industries identified by Aswicahyono, Hill & Ardiyanto in 2010 (metals and machinery and related industries, or M&M). To some extent these two industries represent two extremes in regard to the main variables of interest: growth of employment and labour productivity in the post-crisis period.

We report first on firm characteristics relevant to productivity, second in regard to firms' assessment of trends in productivity and key determining factors, and third on labour contracts, wages and turnover that are relevant to labour productivity. In this case study we also survey the expectations of private enterprise in regard to future labour regulations and their management response in order to maintain competitiveness.

Firm characteristics and productivity

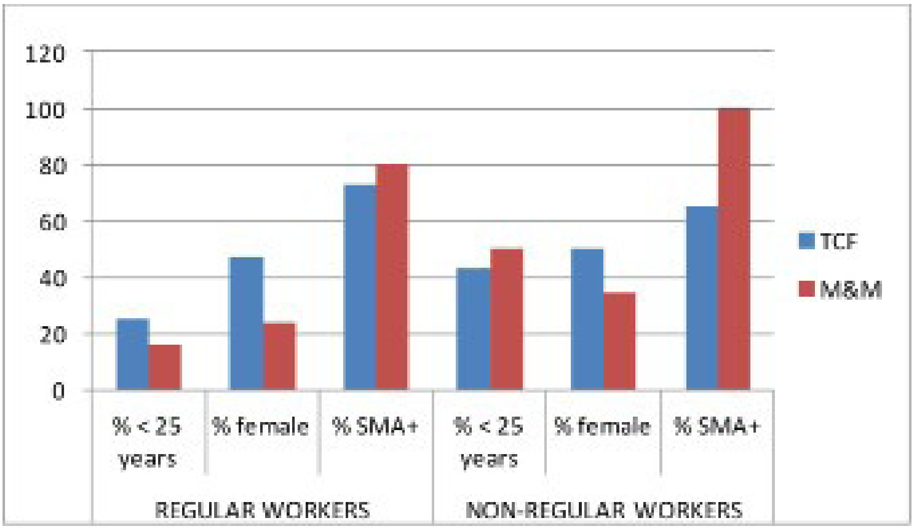
Consistent with data at the national level, the sample firms in the TCF industries tended to have been established more recently they were also smaller and a much larger number of among these firms experienced a fall in output in the recent past compared with the M&M firms. Relevant to productivity, socio-demographic characteristics of employees also differed quite significantly across the two industries. The proportion of females and less educated blue collar workers was larger in the TCF firms than in the more capital-intensive M&M enterprises among both regular and non-regular employees (Figure 2). A large majority of the regular workers were aged above 25 in both industries, whereas this was not true for non-regular employees.

Somewhat surprisingly, quite a high proportion of these younger non-regular workers educated had a senior high school degree or more, and did not differ significantly in this respect from their older counterparts who were

[12] The survey was conducted over the period October-November 2012 in the City and Kabupaten of Bandung. While the sample was stratified by size and industry, the selection of individual firms to be interviewed depended heavily on contacts and chance factors.

employed on more permanent employment contracts.[13] Average levels of labour productivity were much lower in the TCF firms. Even among the larger TCF firms, output per worker was only slightly above Rp. 100 million per year, compared with nearly 200 million in the smaller M&M firms. However, scale effects were not so marked when it came to output per worker: for example, several small scale firms recorded higher levels of output per worker than medium scale firms, although output per worker was less than the large firms.

Figure 2
Characteristics of workers in the TCF and M&M industries in the Bandung region in 2012 (percentages).



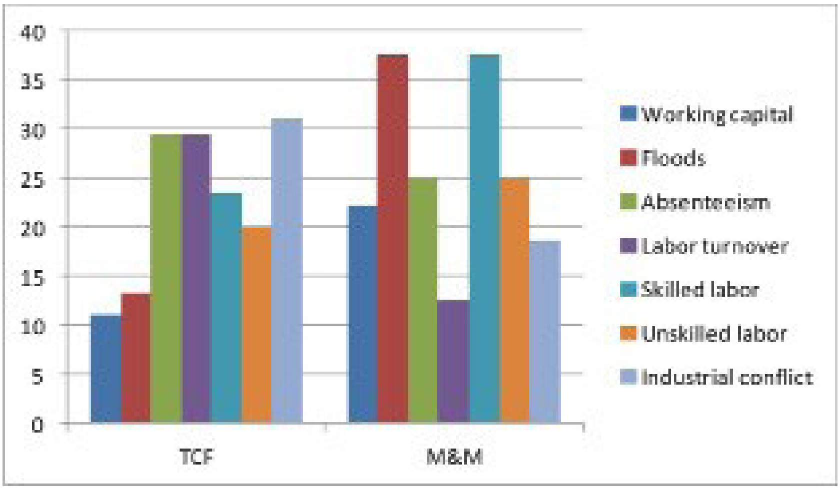
Source: Employment and Productivity Survey, Bandung 2012.

Firms were asked to record various factors that influence productivity. In this case, the contrast between the TCF firms and M&M firms was quite marked. High levels of absenteeism, labour turnover and industrial conflict (including strikes) stood out in the answers given by the TCF managers, whereas more generic factors such as working capital and floods, as well as shortages of

[13] It is worth noting that scale effects were not obvious among firms within industries in terms of the characteristics of workers. For example, younger people and better educated workers were prevalent in both small and large firms in both industries.

skilled labour were rated more highly as problems among the M&M firms (Figure 3). These differences were understandable given the high proportion of non-permanent workers in the TCF firms. In addition, the fact that industrial conflict is more prevalent in the TCF firms may be related to the much greater use of fixed term contracts and lower wages than in the M&M firms (see below).

Figure 3
Problems that had a negative impact on productivity in the Bandung region (percentage of firms).



Source: Employment and Productivity Survey, Bandung 2012.

Thus while rising demand for skilled labour was a general problem experienced in both industries, it was more likely to be an issue among the M&M firms. The latter reported significant increases in the need to recruit more skilled manpower. Firms in these industries were concerned about the shortage of skilled blue-collar workers in particular. TCF firms had experienced less change in demand for skilled manpower, and many did not feel that the quality had improved much.

In addition, fewer TCF firms provided formal training for blue-collar workers, and more offered training through apprenticeship. This was especially true among the smaller firms (most of them in TCF), where apprenticeship systems were much more common.

Jobs, Labour Contracts and Turnover

The two industries provided a stark contrast in the stability of employment, worker experience and the nature of contracts for production workers. In part, the differences appear to be associated with the different levels of technology. They also reflect some of the contrasts in the characteristics of the industries discussed above and have direct implications for productivity.

Consistent with our expectation, both outsourcing and fixed-term contracts are used by labour-intensive firms in textiles, footwear and clothing to a much greater extent than in the more capital-intensive firms in MM industries (Figure

4). The share of regular workers declines, moreover, with size of firm. This implies that both fixed term contracts and outsourcing were especially common among larger-scale firms (Figure 5). Outsourcing was not so prevalent among small scale firms. In many of these (with around 20 workers or less), there were only informal contracts.[14]

In interviews with larger employers, managers explained that the shift away from regular wage to fixed term contracts was motivated by concerns over the potentially high costs of severance when workers are made redundant, as introduced in the Labour Law in 2003 (which is mandated for all regular workers but not workers on fixed term contracts).

Thus a form of contract 'switching' occurred. Firms laid off some or all of regular workers, and reappointed many on fixed term contracts of two years in duration. It was argued that it was quite easy to recruit and provide training to new employees.[15] Labour outsourcing also proliferated in the TCF industries in the Bandung region after the passing of the Labour Law in 2003, especially in small textile towns outside the city and away from the watchful eye of more active unions.[16] Outsourcing companies specialized in recruiting and training workers in an industry in which skills were quite homogenous. The

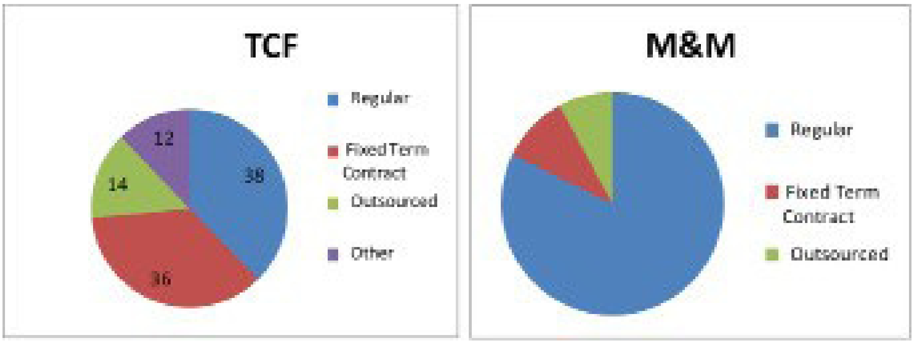
14 The IFLS survey reports that around half of all wage workers had no formal contract, either regular or fixed term (World Bank 2011).

15 This was not universal however; some the metal and machinery firms depended on blue-collar worker skills that were more firm-specific and required considerable learning on-the-job.

16 Information is based on an interview with one outsourcing company on the outskirts of Bandung in early November 2012. Out-sourcing was not unknown among the metal producing firms. One company reported that it adopted a dual labor management system, with a different approach to relatively unskilled workers (recruitment outsourced) compared with more skilled, blue collar workers (employed as regular workers).

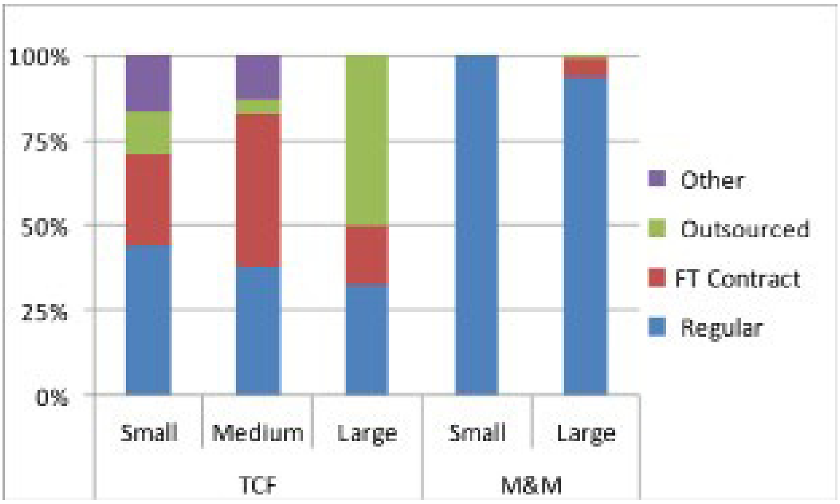
outsourcing companies profited from a fee charged to the TCF company, often passing on this fee on to the workers in the form of lower wages; in some cases this meant that take-home pay was below the legal minimum wage.

Figure 4
Labour contracts in TCF firms (left) and M&M firms (right) in the Bandung region, 2012 (percentage of firms)



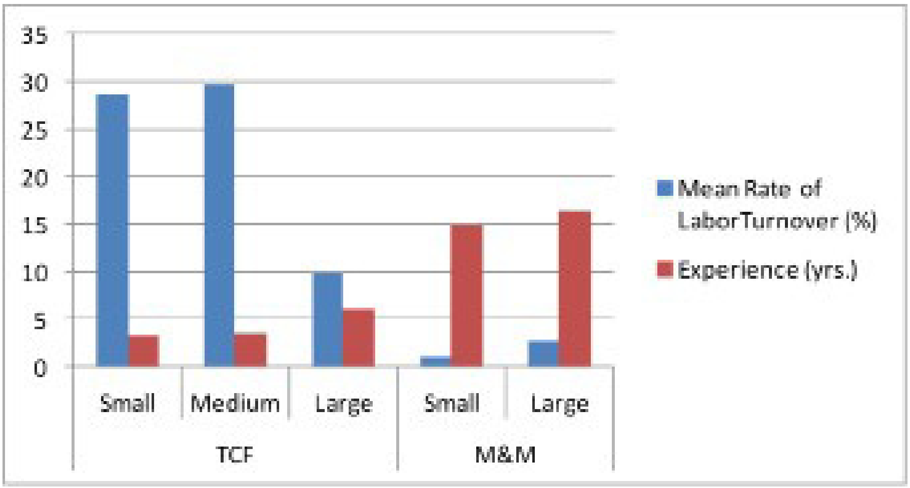
Short-term contracts and outsourcing contributed to extremely high rates of labour turnover (average of 27 per cent per year) and lower wages in the labour-intensive TCF firms, in contrast to more conventional rates of turnover that were closer to 2-3 per cent in the M&M companies. In the TCF industry, large companies recorded much lower turnover compared with medium and small firms (close to 30 per cent). Perhaps this reflects both unstable output in the smaller firms, as well as less formal employment relationships (Figure 6). Therefore it is no surprise that average wages among production workers were about 40 per cent lower in the TCF industries; they were barely above the minimum wage in *kotamadya* and *kabupaten* Bandung in 2012.

Figure 5
Labour contract systems adopted by TCF and M&M firms in the Band- ung region, 2012 (percentage of employees)



Source: Employment and Productivity Survey, Bandung 2012.
Note: Small=<100 employees; medium=100-449; large=500+; For M&M, there is only one medium-scale firm (322 employees) which is included in the large group.

Figure 6
Mean rate of turnover and years of experience in TCF and M&M indus- tries in the Bandung region, 2012



Source: Employment and Productivity Survey, Bandung 2012.

To what extent can we explain the differences in wages between the two industries in terms of institutional arrangements, such as greater unionization and engagement of unions in collective labour agreements. There does not seem to have been a major difference between TCF and M&M firms in the rate of unionization or signing of labour agreements (Table 1). In fact, firms in the latter industries were less unionized and fewer had concluded collective labour agreements than in firms in the TCF industries.[17] It appears that many firms are happier (especially the smaller ones) to allow employer associations such as APINDO to negotiate wages on their behalf rather than settle them through collective agreements.

Table 1
Trade union representation and participation by industry and size group

	TCF	M&M	All Firms			
			Small	Medium	Large	All sizes
% firms unionized	67	40	40	75	80	61
% firms with multiple unions	33	60	60	25	20	39
Among unionized enterprises (% of firms)						
> 50% of workers in a union	67	100	100	50	75	71
Unions engaged in wage negotiations	75	50	100	50	75	71

Source: Employment and Productivity Survey, Bandung 2013.

Future prospects and policies

We have argued that labour management systems adopted by the sample firms examined in our case study do not always support higher levels of productivity. This is in part because of a regulatory environment that does not encourage efficient use of labour. In part, it also reflects the absence of a tradition of

[17] Only around two-thirds of larger firms had concluded collective labour agreements in the TCF group.

collective bargaining which links the level of wages and payment systems to the productivity of blue collar workers.

Public debate about the impact of minimum wages on employment in Indonesia in October-November 2012 drew attention to the potentially large impact of higher wages on employment in small firms and in labour-intensive industries. We found that distinctions across different industries appear to have been more important than by scale of firm. The higher proportion of unskilled workers, lower level of wages, and a greater tendency to employ labour on short-term contract in the TCF industries is a reflection of a greater focus on minimizing labour costs rather than encouraging high levels of skill and productivity than in the more capital-intensive M&M firms. The TCF firms had also been struggling more in a highly competitive environment in recent years, even though they still accounted for around 30 per cent of all employment in large and medium firms in manufacturing in 2010. Designing policies that are consistent with keeping jobs and promoting competitiveness in this industry makes good sense for social as well as for economic reasons.

Thus TCF firms in our sample were more worried about the threat of tighter regulation of outsourcing and a significant increase in the MW in 2012 (Table 2).[18] On both counts, TCF firms were already likely to be more vulnerable to changes in government policy, owing to the quite widespread adoption of outsourcing arrangements and the offer of entry level wages that were much closer to the minimum wage. In contrast, the M&M firms were mostly not worried by changes to outsourcing arrangements. Only 20 per cent were concerned that rises in minimum wages would significantly affect the firm's operations.

In relation to scale of firm, large firms were generally less concerned about restrictions on outsourcing, perhaps because they had already chosen shorter-term contracts for many of their production workers. However, there was apprehension among firms of all sizes, mostly in the TCF industries, about the effect of increases in minimum wages on firm profitability.

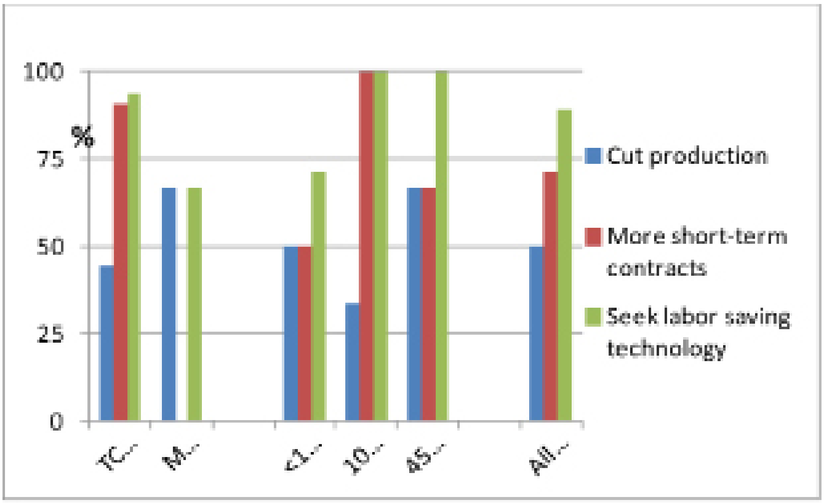
[18] The questions were asked in November 2012 when the unions in the Greater Jakarta in particular were pressing for an end to all outsourcing arrangements and also substantial increases (50-100 per cent) in the minimum wage.

Table 2
Percentage of firms reporting a significant impact of current policies, Bandung
2012

	Limitation of Out-sourcing	Rapid rise in the MW
TCF firms	35	82
M&M firms	0	20
<100 employees	22	56
100-449	50	88
450+	0	60
All sizes	29	68

Source: Employment and Productivity Survey, Bandung 2013.

Figure 7
Strategies planned to deal with rising minimum wages, Bandung 2012 (percentage of firms).



Source: Employment and Productivity Survey, Bandung 2013.

For most firms in the sample, the big policy issue in 2012 was the prospect of a sharp increase in minimum wages.[19] Firms in the two industries tended to give different responses to how they would react to this prospect. In the TCF industry, a higher proportion of firms reported that they would seek to place workers on short-term contracts or seek new technology in an effort to reduce the number of workers and wage costs (Figure 7). No firm in the M&M industry reported that it would seek to place more workers on short-term contracts; some would respond by cutting output and dismissing workers, and others by adopting new technology.

CONCLUSION

Improving productivity is critical for achieving high rates of economic growth, creating jobs and reducing poverty. Indonesia has made significant strides forward on all these fronts over the past thirty years. Capital accumulation accompanied by more opportunities to export and an more open policy for foreign investment have contributed both to more jobs in manufacturing and rising productivity in new, more capital and resource-intensive industries. This is exemplified the findings of our survey of Metals and Machinery (M&M) firms in Bandung which found greater use of skilled labour and a focus on raising labour productivity, partly evidenced by lower rates of labour turnover compared with the TCF firms covered in the survey.

At the same time, Indonesia along with several other countries has struggled in manufacturing in the 2000s and this is reflected in the slow rate of employment growth. A slowdown in FDI (reversed in 2010-12) and in exports of labour-intensive goods after the crisis were two factors that contributed to this slowdown. Productivity has continued to rise but still remains very low compared with many of Indonesia's neighbours. Like in many other countries, the missing middle appears to be a major challenge for manufacturing, as firms struggle against obstacles that would enable them to graduate into higher size brackets and reap more economies of scale.

[19] By the end of November when the survey finished, the West Java Governor had already approved an increase in the minimum wage of 21 per cent for the City of Bandung (up to Rp. 1.54 million) for 2013, but a much smaller increase of only 9 per cent for the City of Cimahi (part of the Greater Bandung region) and 9 per cent for the district of Bandung.

Some of these problems were illustrated in the results of our small survey of textile, clothing and footwear (TCF) firms in the Bandung region. The survey focused in particular on the way in which tight labour regulations and an aggressive minimum wage policy supported by the government have contributed to labour management systems that threaten improvements in labour productivity in the medium term in these industries.

Many commentators agree that some of the Labour Law clauses, especially in regard to severance pay, need to be set more in line with international practice. The level of minimum wages should eventually represent a genuine safety, in relation to existing market wages, allowing firms to adjust wages in relation to productivity. But given political sensitivities it seems unlikely that such reforms will be introduced for some years in Indonesia.[20] Thus, in the short term, it is worth considering special treatment for labour-intensive industries. As a first step, minimum wages could be set at a lower level (perhaps by a margin of 20 per cent) in these industries, and take on more of a function as a social safety net. This would also enable more labour-intensive firms to remain internationally competitive, and ensure that the gap in labour standards between the unregulated informal sector and the formal sector does not become too wide. As Anne Booth has so often reminded us, diversification of jobs into non-agricultural sectors that offer better prospects for the rural population is an essential intermediate step in raising living standards and eliminating poverty.

BIBLIOGRAPHY

Books

Moran, T., Graham, E. & Blomström, M. 2005. *Does Direct Foreign Investment Promote Development.* Washington, D.C.: Peterson Institute.

Posso, A. 2008. *Outward Orientation and Labour Market Outcomes in Asia and Latin America*, PhD Thesis, Australian National University, Canberra. Purnagunawan, R.M. 2011. *Minimum Wages and Labour Market Outcomes in Decentralized Indonesia: A Case Study from Java.* PhD Thesis, Australian National University, Canberra.

[20] The government initiated steps to revise the 2003 Labour Law in 2005-6 and again in 2010 but quickly backed down on both occasions in response to relatively mild opposition (by international standards) from trade unions.

Richmond, C. & Klapper, L. 2010. *The Political Economy of Firm Size.* Washington, D.C.: World Bank.

Tjandraningsih, I., Herawati, R.& Suhadmadi. 2010. *Praktek Kerja Kontrak dan Outsourcing Buruh di Sektor Industri Metal.* Bandung: AKATIGA Foundation.

Articles and working papers

Alatas, V. & Cameron, L. 2008. "The Impact of Minimum Wages on Employment in a Low-Income Country: A Quasi-Natural Experiment in Indonesia". *Industrial & Labor Relations Review*. Vol. 61, no. 2: 201-223.

Alisjahbana, A.2009. "Revisiting Indonesia's Sources of Economic Growth and Its Projections Towards 2030". Working paper in Economics and Development Studies, CEDS, Padjadjaran University, Bandung.

Aswicahyono, H., Brooks, D. and Manning, Chris. 2011. "Exports and Employment in Indonesia:The Decline in Labor-Intensive Manufacturing and the Rise of Services". ADB Working paper 279, Manila: Asian Development Bank.

Aswicahyono, H., Hill, H. & Ardiyanto, D. 2011. "Indonesian Industrialization: Jobless Growth?". In C. Manning & S. Sumarto, editors. *Employment, Living Standards and Poverty in Contemporary Indonesia.* Singapore: Institute of Southeast Asian Studies, pp. 113-133.

Aswicahyono, H., Hill, H. and Narjoko, D. 2010. "Industrialisation after a Deep Economic Crisis: Indonesia". *Journal of Development Studies.*Vol. 46, no. 6: 1084-1108.

Aswicahyono, H. & Manning, C. 2011. "Exports and Job Creation in Indonesia Before and After the Asian Financial Crisis". Departmental Working paper 2011-11, Australian National University, Arndt-Corden Department of Economics.

Athukorala, P. 2006a. "Post-Crisis Export Performance: The Indonesian Experience in Regional Perspective". *Bulletin of Indonesian Economic Studies.*Vol. 42, no. 2: 177-211.

Athukorala, P. 2006b."Product Fragmentation and Trade Patterns in East Asia". *Asian Economic Papers*. Vol. 4, no. 3: 1-27.

Athukorala, P. 2009. "Economic Transition and Export Performance in Vietnam."*ASEAN Economic Bulletin.* Vol. 26, no. 1: 96-114.

Basri, M Chatib &Hill, H. 2008. "Indonesia - Trade Policy Review 2007". *World Economy*.Vol. 31, no. 11: 1393-1408

Davis, S. J. & Haltiwanger, J. 1992. "Gross Job Creation, Gross Job Destruction, and Employment Reallocation". *Quarterly Journal of Economics*. Vol. 107, no. 3: 819-863.

Eng, P. van der. 2008. "The Sources of Long-Term Economic Growth in Indonesia: 1880-2007". Working paper 499 in Economics and Econometrics, Australian National University, Canberra.

Fields, G.S. & Wan, H. 1989. "Wage Setting Institutions and Economic Development". *World Development*. Vol. 17, no. 9: 1471-1483.

Liu, Z. 2008. "Foreign Direct Investment and Technology Spillovers: Theory and Evidence". *Journal of Development Economics*, Vol. 85: 176–193.

Manning, C. 2012."Indonesia's Turnabout in Employment and Unemployment in the 2000s: Progress or Not?". In A. Booth et al., editors. *Land, Livelihood, the Economy and the Environment in Indonesia.* Jakarta: Obor Foundation, 216-242.

Sjöholm, F. & Lipsey, R.E. 2004. "Foreign Direct Investment, Education, and Wages in Indonesian Manufacturing". *Journal of Development Economics.* Vol. 73: 415-422.

Suryahadi, A. *et al.* 2003. "Minimum Wage Policy and Its Impact on Employment in the Urban Formal Sector". *Bulletin of Indonesian Economic Studies*. Vol. 39, no. 1: 29-50.

Szirmai, E. 1994. "Real Output and Labour Productivity in Indonesian Manufacturing 1975-90". *Bulletin of Indonesian Economic Studies*. Vol. 30, no. 2: 49-90. Takii, S. 2005. "Productivity Spillovers and Characteristics of Foreign Multinational

Plants in Indonesian Manufacturing 1990-1995". *Journal of Development Studies*. Vol. 76: 521-542.

Takii, S. & Ramstetter, E. 2005. "Multinational Presence and Labour Productivity Differentials in Indonesian Manufacturing, 1975-2001". ICSEAD Working Paper, Kitakyushu.

Tybout, R. 2000. "Manufacturing Firms in Developing Countries: How Well Do They Do and Why?". J*ournal of Economic Literature.* Vol. 38: 11-44.

Wengel, J. ter & Rodriguez, E. 2006. "Productivity and Firm Dynamics: Creative Destruction in Indonesian Manufacturing, 1994-2000". *Bulletin of Indonesian Economic Studies*. Vol. 42, no. 3: 341-355.

Reports

APO. 2011. *Productivity Databook*. Tokyo: Asian Productivity Organization.

World Bank. 2011. *Productivity Performance in Indonesia's Manufacturing Sector.* Policy Note 5. Jakarta: World Bank.

SOUTHEAST ASIAN MACROECONOMIC MANAGEMENT: PRAGMATIC ORTHODOXY?

Hal Hill

Australian National University

ABSTRACT

This article provides an introductory analytical survey of macroeconomic policies and outcomes in seven Southeast Asian economies, Cambodia, Indonesia, Malaysia, The Philippines, Singapore, Thailand and Vietnam. It draws on the framework proposed by Corden (1996) to explain the generally good macroeconomic outcomes in the earlier World Bank study of the East Asian 'miracle economies'. The main conclusion is that, notwithstanding the institutional and economic diversity of the seven, macroeconomic outcomes have generally been good. However, there are some notable exceptions to this generalization, and the unfinished reform agenda is substantial in some countries

Keywords: Macroeconomic, Pragmatic, Asian economies

INTRODUCTION

Max Corden (1996) provided a comprehensive analytical framework for understanding and explaining the generally effective macroeconomic management in seven East Asian economies through to the early 1990s. Commencing with the observation that inflation rates in most of these economies were relatively low most of the time, he characterized the policy stance as one of 'pragmatic orthodoxy', drawing attention to policy makers' aversion to inflation, grounded on prudent fiscal policy, and also to their capacity to respond quickly to potential crises caused by external shocks. The focus of his paper was the seven East Asian 'miracle economies' that were the subject of the World Bank's 1993 volume, namely (South) Korea, Taiwan, Hong Kong, Indonesia, Malaysia, Singapore and Thailand.

This article revisits the subject with reference to seven Southeast Asian economies, and employs a similar framework and methodological approach. The countries are Cambodia, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. Four of these were in the original 'Miracle' study, and have continued to grow quite strongly in the two decades since the Corden study, except briefly during the Asian financial crisis. Two of the additions, Cambodia and Vietnam, would now be on the verge of qualifying for inclusion into the high-growth club. The Philippines has maintained positive growth throughout the period, albeit at a slower rate. It is included in the study primarily because its major macroeconomic reforms in the early 1990s have delivered consistently low inflation, thus constituting a decisive break with its earlier macroeconomic history.

Two major economic events have occurred since the Corden paper. One is the Asian financial crisis of 1997-99, which resulted in a sharp but brief contraction in economic activity, and which prompted a major rethink of macroeconomic policy tools and instruments. The second is the ongoing global economic recession since 2008 which, while originating outside the region, had a major effect on the region's growth dynamics as well as prompting renewed interest in regional and global macroeconomic coordination, including specifically the issue of regional financial safety nets.

The scope of this subject matter is very large, well beyond the scope of one short article. Our intention is to sketch, by way of a bibliographic essay, an analytical framework to be employed as part of a larger ongoing study of macroeconomic management in Southeast Asia. Consistent with the theme of pragmatic orthodoxy, we highlight the diversity of policy mixes and institutional capacities. For example, Singapore, with its highly open economy and well-developed institutional capacity, continues to employ the exchange rate as its principal inflation policy tool. Indonesia and the Philippines, with histories of higher inflation and weaker institutional capacities, have opted quite successfully for independent central banks that do not have to accommodate fiscal deficits. The two small Indochina economies, Cambodia and Laos, have limited scope for monetary policy owing to high levels of dollarization, reluctantly accepting the proposition that this serves as their effective monetary policy anchor. Vietnam also has quite high levels of foreign currency in circulation, in the context of a central bank that remains very much an arm of the central government. Brunei and Timor Leste have opted to forego US dollar respectively as their currency.[1]

We focus initially on inflation outcomes, asking the question, to what extent the countries have achieved low and stable inflation (section 2). Section 3 then investigates fiscal policy, specifically budget balances and public debt management. In section 4 we examine the other key building block of stable macroeconomic management, monetary and exchange rate policy, and the performance of central banks. Section 5 sums up.

Owing to space limitations and the need to establish an analytical framework, the article aims for breadth more than depth. We also eschew a range of additional factors that are relevant to macroeconomic policy. One is the quality of financial market supervision. Crises often have their origins in this sector and, since the resolution of financial crises frequently requires government bailouts, apparently conservative fiscal policy may suddenly be derailed by the large-scale socialization of these private debts.[2] Another factor is the changing institutional context in which macroeconomic policy is conducted, including notably the increased autonomy of central banks, the reduced flexibility of labour market policy, and the scope for greater regional monetary policy cooperation. There is also the issue of country reputation and credibility, including the ability to assure financial markets that public finances are on a sound footing.

This is also not the place to examine the broader issue of the relationship between macroeconomic management and economic growth. The general presumption in the literature is that there is a positive relationship, in the sense that low and stable inflation is conducive to faster economic growth. However, it is likely to be a non-linear relationship, in that inflation becomes a drag on growth only above some threshold level, or if there is considerable inflation

1 The three very small economies, Brunei, Laos and Timor Leste, are not included here. Note that the major foreign currency in circulation in Laos is the Thai Baht, and that it is far more widely used that the Lao currency, the Kip. We also do not include Myanmar (Burma) in the study, owing to the paucity of statistics and information on that country's macroeconomic settings. Until its recent currency unification, it had the distinction of having the world's largest discrepancy between the official and black market exchange rates, in the order of 250:1, that is 6 Kyat to the US dollar officially, as compared to 1,400-1,500 on the black market (Odaka forthcoming).

2 This was the case recently in several European economies, notably Ireland. See the special issue of *Asian Economic Policy Review*, Vol. 7, no. 2 (2012) on fiscal policy, edited by Takatoshi Ito, for a broad study of global fiscal policy experiences in recent years.

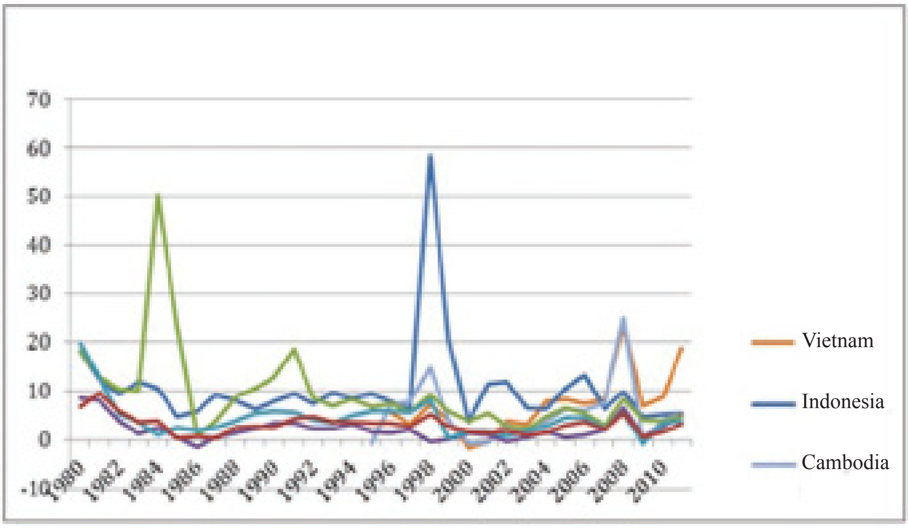
volatility.[3] Within Southeast Asia, the three strongest-performing economies, Malaysia, Singapore and Thailand, have had the best macroeconomic record, but obviously one should not draw strong conclusions from single-variable explanations. An additional caveat is that we are not comparing the Southeast Asian record with that in other developing regions. Globally, inflation has been a less serious problem since around 1990, as compared to earlier periods, particularly in Latin America with its history of hyperinflation. In this sense, East Asia is no longer the exception that it was for the period in Corden's survey. Arguably also, the criteria for evaluating macroeconomic performance have changed, embracing not just inflation outcomes but also maintaining economic growth, preventing financial crises, and managing external shocks.

THE INFLATION RECORD

Figure 1 shows annual inflation rates for the Southeast Asian economies since 1980. Two major outcomes are evident. First, annual inflation has been consistently low, less than 10 per cent, for over 95 per cent of the observations, and always for Malaysia, Singapore and Thailand. Second, the rare cases of double-digit inflation have been quickly contained, with inflation returning to less than 10% within a year or two. These achievements are particularly noteworthy: not only do they confirm Corden's conclusion of inflation-aversion and prompt responses to occasional inflationary episodes, but they have been achieved during one of the most tumultuous periods in global economic history, including two major crisis periods, food and commodity price volatility and, in several countries, considerable domestic political turbulence.

[3] Anne Krueger has argued that 'Analysts [cannot] assert with any conviction that there is, for example, a certain rate of inflation, a particular size of the fiscal deficit, or a specified maximum average rate of protection, above which rapid growth is impossible.' Sala-I-Martin (1997) in his growth econometrics survey notes the fact that inflation or fiscal deficits do not appear among the fundamental determinants of growth is probably due to the presence of some unmeasured non-linearities in the relationship.

Figure 1
Inflation Rates, 1980-2012



The vertical scale has also been drawn to display the occasional inflationary episodes. There are two serious inflation peaks evident, two cases where prices rose by about 20 per cent and some further cases of inflation briefly in the range 10-20 per cent. First, the high-inflation cases, in excess of 50 per cent on an annual basis (and higher still on a quarterly basis), These are the Philippines in the mid-1980s and Indonesia in 1998. Both episodes occurred in the context of disarray, featuring deep economic and political crises. Long-lived authoritarian regimes collapsed, Marcos after twenty years in power, and Soeharto after thirty-two years. The economies contracting by over 12 per cent in one year (1998) in the case of Indonesia, in two years (1985-1986) in the Philippines. Both inflationary periods had their origins in large fiscal deficits that were quickly monetized.[4] In the case of the Philippines, the deficit was primarily the result of the then President Marcos's desperate attempt to cling to power in the forthcoming election through reckless spending in the context of slowing economic growth, rising capital flight, mounting political unrest

[4] This analysis draws on Gochoco-Bautista & Canlas 2003 for the Philippines, and several "Surveys of Recent Developments" in the *Bulletin of Indonesian Economic Studies* for Indonesia.

and the repayment of large debts contracted a decade earlier in a phase of aggressive borrowing.[5] In the event, the strategy backfired, the inflation spike was short-lived, and the monetary authorities were able to quickly control the inflation, aided by the economic collapse.

The Indonesian case differs in the sense that the fiscal expansion was directly crisis-related. Unlike in the Philippines, pre-crisis fiscal policy had been conventionally prudent. However, the capital flight that gathered momentum in late 1997 resulted in exchange rate collapse, and in turn a widespread banking and corporate collapse. Almost all domestic debtors had no foreign currency hedging and few had the automatic insurance of a secure foreign currency income flow. Thus they were unable to repay their debts, the Rupiah value of which had suddenly risen several hundred per cent. In an attempt to secure financial and corporate stability, the government – by then incapacitated politically – entered into large-scale and largely ad hoc blanket guarantees, which fuelled further capital flight and dramatically increased public debts, which were quickly monetized. Here also the inflationary episode was quickly brought under control, aided by an anaemic economy. However, consistent with its longer-term macroeconomic history, while Indonesia has generally kept inflation to single digits, it has struggled to maintain very low inflation, of less than 5 per cent.

Over the past decade, Cambodia and Vietnam have experienced episodes of moderately high inflation, but in both cases the inflationary pressures have been contained, and not allowed to escalate into a more serious monetary crises. The origins of these events differed, although there are some common explanatory factors linked to the inadequacy of the usual macroeconomic policy tools at the disposal of the central banks. Cambodia experienced a brief period of hyperinflation around 1990, in the wake of the sudden withdrawal of Soviet aid, then equivalent to about 15 per cent of GDP, and a government, clinging to power in a protracted civil war, resorting to deficit financing. The result was a brief period of triple-digit inflation.[6] This was quickly brought under control following the Paris peace settlement of 1991, which resulted in large-scale foreign aid flows and hence non-inflationary deficit financing. The large foreign presence, combined with a lack of trust in monetary policy,

5 It is worth remembering that these borrowings were sanctioned by the international financial institutions as a means of recycling accumulating 'petro dollars'.

6 See Menon 2008 and references cited therein for a fuller discussion.

also resulted in high levels of dollarization, as much as 80 per cent of the money supply, and this in turn stabilized prices, which increasingly came to be denominated in US dollars. Subsequently, Cambodia's inflation has generally been moderate, except for brief double-digit increases in 1998 and of heightened domestic political tensions, in which the government briefly introduced counter-cyclical fiscal policy responses. In the latter period, high food and oil prices exacerbated the problem.

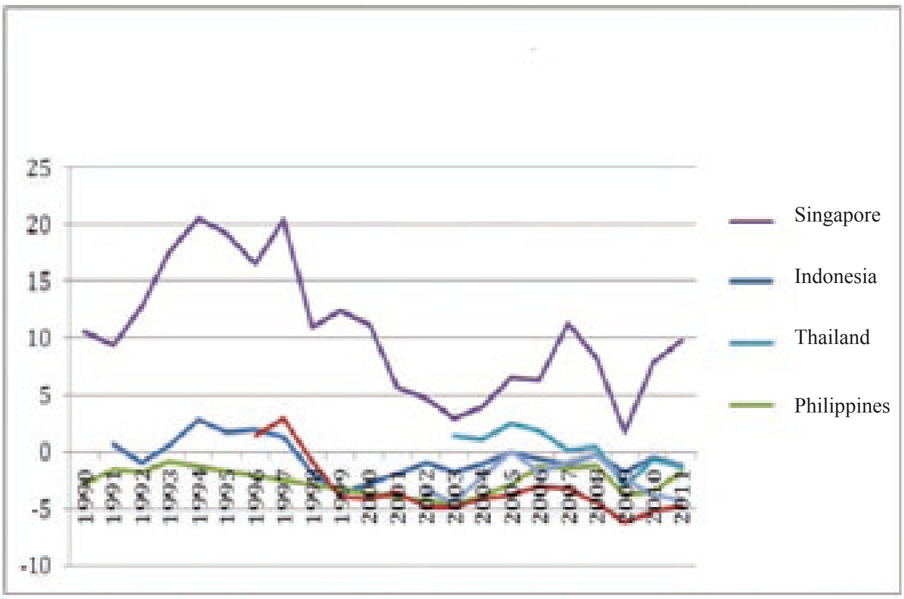
Vietnam has experienced two periods of double-digit inflation in recent years. In their comprehensive analysis of the country's monetary policy, Pham and Riedel (2012) place less emphasis on fiscal policy, and rather argue that the basic problem is Mundell-Fleming's 'impossible trinity'. That is, it is not possible for governments to simultaneously maintain a fixed exchange rate, an open capital account, and an independent monetary policy, combined in Vietnam's case with an underdeveloped financial sector in which the State Bank of Vietnam, the nation's central bank, has limited scope for pursuing open market operations. Thus the government has attempted to maintain a peg to the US dollar, through a fixed but adjustable exchange rate. It has also opened the capital account, which for several years prior to 2009 resulted in very large capital inflows, peaking at the equivalent of about 25 per cent of GDP at the time of Vietnam's accession to the World Trade Organization in 2007. There were also speculative bubbles in the country's real estate and nascent stock exchange. The government has sought to sterilize these large inflows, primarily through changes to reserve requirements and compulsory transactions with the commercial banks. But the interventions have been insufficient to contain inflationary pressures. The resulting volatility in money supply, and therefore in interest rates, has created an unstable economic policy environment and also impaired the quality of bank loans. Pham and Riedel recommend a package of policy reform measures, including financial deepening and controls over capital mobility, with the desirable goal of greater exchange rate flexibility postponed until the first of these measures is soundly established.

FISCAL POLICY

As noted, fiscal policy is central to macroeconomic management, since the monetization of fiscal deficits is typically the most important explanation of inflationary episodes. The general Southeast Asian record of fiscal prudence over the past quarter century of volatility and crises has therefore been all the more commendable.

Reinhart and Rogoff (2011) observe that 'Debt crises tend to come out of the blue, hitting countries whose debt trajectories simply have no room for error or unplanned adversity.' Crises frequently lead to large increases in public debt, owing to the effects of automatic stabilizers, and as governments resort to deficit financing to expand social safety nets, and as a result of the socialization of corporate and banking debt. This is arguably the most important macroeconomic impact of the GER in OECD economies. US general government debt (federal, state, local) has now surpassed the post-war record of 120 per cent of GDP. Japan is more than 200 per cent while several other OECD economies are approaching 150 per cent.[7] Moreover, this is in peacetime, and low interest rates are restraining debt service costs.

Figure 2
Fiscal Balances, 1990-2011 (% of GDP)



[7] See the special issue of the *Asian Economic Policy Review*, Vol. 7, no. 2 (2012), and also Reinhart & Rogoff 2011.

Figure 2 shows fiscal balances for selected years for the seven Southeast Asian economies. Prior to the Asian financial crisis, most countries ran small fiscal deficits or surpluses, a reminder that the early IMF policy conditionality towards fiscal tightening constituted a general misdiagnosis of policy settings in the affected economies. For the reasons mentioned above, budgets swung from surplus to deficit in the late 1990s, except for Singapore where its extraordinary record of fiscal thrift resulted only in a smaller surplus. Although most of the countries have run fiscal deficits since the late 1990s, they have been modest for several reasons. First, the tradition of prudent and powerful finance ministries somewhat immune from the political pressures that intrude into other portfolios has been maintained, and if anything strengthened. Second, the establishment of independent central banks that do not have as their remit the responsibility to finance a budget deficit has added a layer of fiscal policy caution. Third, explicit legislative restrictions on the size of fiscal deficits have been introduced or reinforced, most notably in Indonesia and Thailand.

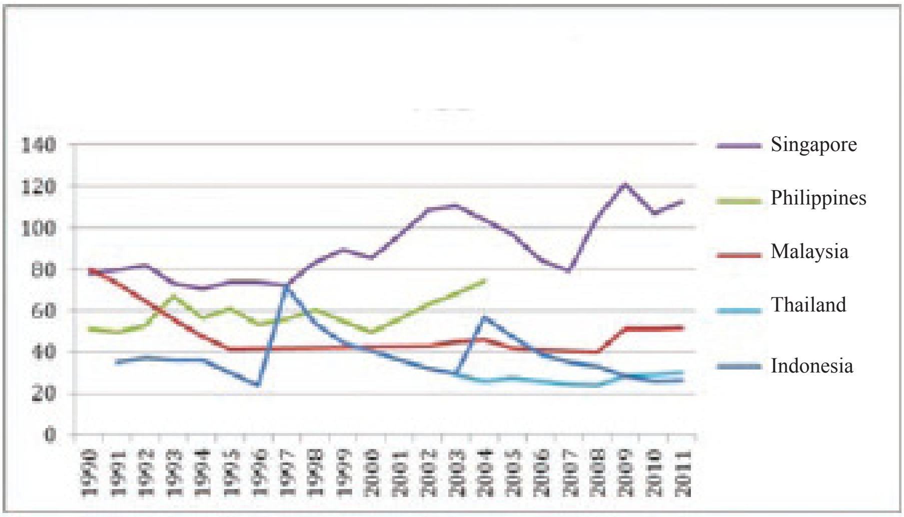
As a result, public debt rose in the wake of the Asian financial crisis, but since then it has either declined, or been stable relative to GDP (Figure 3).[8] That is, in the latter case, deficits relative to GDP have been no greater than the rate of growth of GDP, resulting in a stable ratio. Some governments ran larger fiscal deficits during the peak of the global economic recession in 2008/09, either deliberately or as a result of the automatic stabilizers, but these were largely one-off injections that did not change the fundamental debt dynamic. Hence the medium-term fiscal consolidation challenges for these economies are not nearly as serious as in most OECD economies.

Of course, these aggregate figures conceal both considerable country diversity and a range of looming fiscal policy challenges. Some countries have been able to carry considerable larger debt than others without difficulty. For example, Malaysia's has run persistent fiscal deficits since the late 1990s, and these deficits have not been used to finance long-term productive investments (Narayanan 2012). Malaysia is able to run consistently larger deficits than for example neighbouring Indonesia and the Philippines for at least three reasons. First, like Japan, the debt is almost entirely domestic. Therefore it is less likely

8 The Singapore figure refers to gross public debt. On a net basis for the consolidated public sector account (that is, including its large government-linked corporations), it would be a net creditor.

to suddenly exit the country, and it is not subject to a sudden increase caused by currency depreciation, on the scale that occurred in 1997/98. Second, and related to the first, Malaysia has long been a high-saving nation, in addition to the fact that its compulsory national savings scheme, the Employees Provident Fund, has provided a pool of quasi-captive domestic resources. Third, the country has a long-established reputation for effective monetary policy, centered on its credible central bank, Bank Negara Malaysia.

Figure 3
Central Government Debt (% of GDP)



In most Southeast Asian economies, fiscal policy has been at best mildly counter-cyclical and often pro-cyclical. Traditionally, the explanation in developing economies has been that, when hit by a crisis, they did not have alternative fiscal financing means at their disposal: they could not borrow internationally, the domestic bond market is underdeveloped, and printing money would be inflationary and would anyway be prohibited by an IMF program if operative. Bhanupong (2013), for example, attributes the absence of counter-cyclical fiscal policy in Thailand during the past decade to weak institutions and a highly politicized environment. As in Indonesia currently, public servants are also reluctant to sign off on major infrastructure projects, especially those prepared in haste as part of a crisis-related spending program, for fear that the inevitable cutting of corners would subject them to the scrutiny of anti-corruption agencies and NGOs.

Governments have also frequently lacked the administrative capacity to quickly push up expenditures, especially in much-needed infrastructure, with the result that crisis responses have tended to focus on the revenue side, which is less effective as tax cuts are more likely to be saved in times of uncertainty. Most Southeast Asian governments introduced fiscal stimulus packages in response to the global economic recession of 2008/09. These varied in both size and composition, with the richer economies Singapore and Malaysia introducing larger packages, of 5 per cent of GDP or more, while in the lower-income economies the magnitudes were typically 1-2 per cent. The composition of these packages also varied. The government in the highly-open economy Singapore economy, worried about the import leakage effects of a stimulus, focusing inter alia on measures that would encourage firms to retain their workforces as a means of limiting the rise in unemployment, in a country where no formal support for the unemployed exists. In Thailand and Indonesia, where the stimulus magnitudes were much smaller, for political economy reasons the former opted mainly for increased expenditures, while the latter resorted mainly to tax cuts (Kanit & Basri 2012). The Indonesian stimulus was introduced as a one-off measure, and was also constrained by the looming election. The Thai stimulus was more open-ended, and is part of a general trend in that country towards more populist fiscal and labour market policies (see further Ammar 2011).[9] In the case of Vietnam, its rapid economic growth was underpinned by liberalization and macroeconomic stabilization in the late 1980s. However, public debt began to rise rapidly during the 2008/09 global economic crisis, owing to slower global growth and a home-grown crisis referred to below. Although the policy response has been quite effective, Adams (2012) highlights continuing ongoing vulnerabilities related to potential contingent liabilities in the state-owned banking sector, to the narrow coverage of the budget, and to exchange rate and interest rate sensitivities.

In addition, the medium-term fiscal policy agenda is substantial in many of these countries. The revenue effort is often weak. There are low levels of public sector efficiency and probity. More cost-effective social safety nets are required,

[9] For example, by mid-2013, the controversial 'rice pledge' program is estimated to be costing the equivalent of more than 3 per cent of GDP.

in place of large, poorly targeted subsidies. In particular, the two net energy exporters, Indonesia and Malaysia, have wasteful energy subsidies that are inequitable and contrary to environmental objectives. The fiscal implications of the region's rapidly ageing populations are yet to be addressed. Large public sector projects are often corruption-prone, while state enterprise sector reform is slow. Moreover, the facilities for longer-term debt markets for infrastructure are underdeveloped. In the latter respect, fiscal policy may actually be too cautious, in the sense that there is a case for public sector borrowing for high-return infrastructure spending, providing it can be undertaken on purely technical grounds, insulated from narrow political interests.

One reform that is gaining currency in the wake of the global economic recession is the establishment of independent fiscal advisory councils, to elevate public understanding of the issues, to force governments to acknowledge the hidden costs of their guarantees and off-balance sheet costs, and to help overcome the very strong deficit bias inherent in the political cycle. Several countries are discussing the possibility of independent fiscal watchdogs, such as the United States Congressional Budget Office, but these typically have limited analytical capacity and they generally accept official budget documents at face value. More powerful bodies might be created, with an independent charter analogous to that of many central banks. Nevertheless, the US budget shutdown of October 2013 serves as a reminder that the creation of formal institutional structures is no guarantee of improved fiscal policy.

MONETARY AND EXCHANGE RATE POLICY

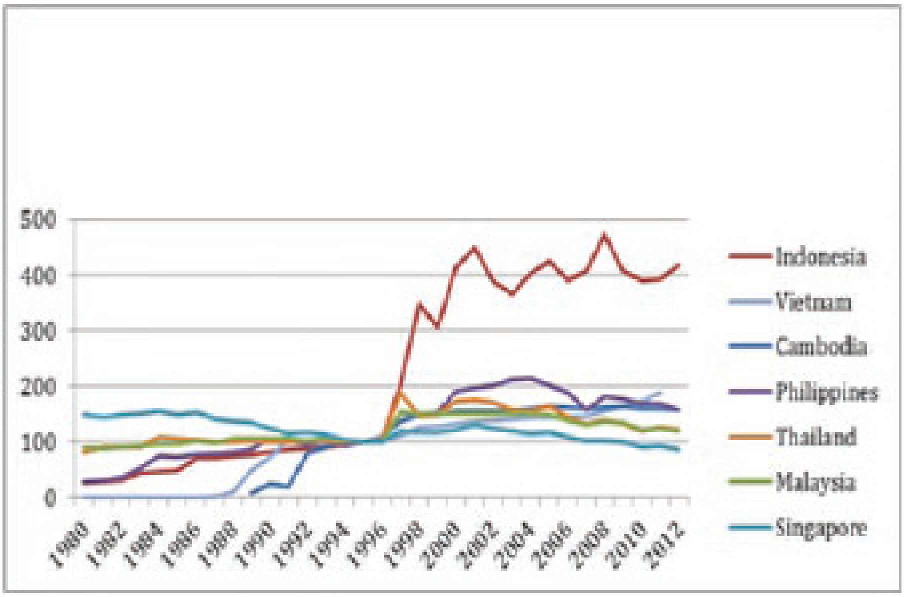
This has been the one area of significant policy advance in the region since the Asian financial crisis, as emphasized in retrospective studies of this event.[10] Most countries have gradually adopted a regime of independent central banks, inflation targeting and greater exchange rate flexibility. That is, there has been recognition that 'fixed but adjustable' crawling peg regimes do not work in the case of large and sometimes volatile capital flows (and terms of trade movements), in which private borrowers assume no exchange rate risk.

Exchange rates fell steeply during the Asian crisis as central banks found they could no longer defend their fixed rates, but after this sharp adjustment, over the past decade, including during the global economic recession, they have

[10] See for example Corden 2007 and Ito 2007.

generally remained quite stable (Figure 4). Financial markets and corporates are becoming more comfortable with flexible exchange rates. This flexibility also acts as a discipline on government excesses.

Figure 4
Exchange Rate
(per U.S. Dollar, end of period, based at 1995= 100)



These reforms are consistent with the proposition that economic crises are often triggers for major policy reform.[11] Elsewhere (Hill 2013) I have argued that the reforms in the two most crisis-affected economies, Indonesia after 1997/98 and the Philippines after 1985/86, were driven by a constellation of forces. First, they were introduced after very deep crises. There was a broad recognition of the costs of bad policy, and a predisposition to reform. Second, the reforms did not confront any immediate and powerful vested interests. They were not controversial, and there was no grand ideological debate over them. In fact, especially in the Indonesian case, they were introduced without much fanfare,

[11] In the words of Lal and Myint (1996: 288), in summing up a large comparative project on the political economy of reform, '[t]urning points [in economic policy] are invariably associated with macroeconomic crises.'

almost 'reform by stealth'. Third, they had strong backing inside government, from key technocrats in the central bank and ministry of finance. Fourth, they occurred under the presidency of leaders who were either predisposed to reform (Ramos in the Philippines) or inclined to listen to their technocratic advisers.[12] Fifth, the reforms occurred while the countries were under IMF programs, which is presumptive evidence that the Fund played a role. But in both countries, the Fund's role was then controversial (and still is in Indonesia), and so it is unlikely that the reforms could have been achieved if any of the four factors mentioned above were strongly negative. Moreover, Indonesia's fiscal law was introduced precisely because the government wanted to exit the Fund program a year ahead of schedule, owing to its unpopularity, and this strengthened the hand of President Megawati's advisers, who urged that some institutionalized restraints on fiscal policy needed to be in place prior to the exit.

Within the context of a generalized shift towards greater exchange rate flexibility, the experience of the three Indochina transition economies is of particular interest.[13] The process of dollarization has been the most extensive and persistent in Cambodia, which is one of the most heavily dollarized countries in the world. High levels of dollarization commenced mainly during the United Nations (UNTAC) transitional period of 1991–1993, and in this sense it can be viewed as a direct legacy of the destruction of economic and financial institutions after the 1970s, economic mismanagement in the 1980s, and the large inflows of US dollars in the early 1990s. Recent estimates put the share of foreign currency deposits (FCDs) in broad money (M2) to be about 80 per cent.

Quasi-dollarization has costs and benefits. Arguably the main costs are the loss in seigniorage and the reduced ability of the monetary authority to implement discretionary monetary policy, that is in foregoing access to a major macroeconomic policy tool. The monetary authority also loses its capacity to act as lender of last resort in order to guarantee the payments system in the event of a banking crisis. There is a loss of seigniorage, but this is estimated to be small, in range between 0.1 to 0.5 per cent of GDP. Nevertheless, the benefits have been substantial. The hyperinflation of the early 1990s soon dissipated as the level of dollarization increased exogenously, and as noted the country's inflation rate since then has generally been modest.

12 The Indonesian reforms occurred during the administrations of Presidents Habibie (central bank independence) and Megawati (the fiscal law).

13 The following discussion draws on Menon *et al.* 2009.

With dollarization, Cambodia's nominal exchange rate acts as a nominal anchor to manage inflation. In an environment of price and exchange rate stability, both trade and growth have increased sharply. This contrasts with the recent experience in neighbouring Vietnam, for instance, where declining dollarization has been accompanied by significant increases in the volatility of prices and exchange rates. There is an understandable 'nationalist' frustration in government circles over their inability to control monetary policy. But thus far, an approach of pragmatic non-interference has generally been maintained. Presumably dollarization will decline only when the community's faith in the capacity of the monetary authorities to run prudent monetary policy is restored. In this sense, dollarization acts as both a restraint on policy excess and an incentive to strengthen policy reform.[14]

Returning to the general issue of exchange rate flexibility, this regime only work of course if the overall policy settings are supportive. For example, many observers would judge that the single most important economic policy reform in the post-Marcos Philippines has been the establishment of an independent and effective central bank, the BSP. Nevertheless, as Desierto and Ducanes (2013) also point out, effective monetary policy cannot alone achieve high growth. It cannot overcome the problems of occasional deep political impasse between the executive and the legislature, of a weak revenue effort starving the country of much needed investments in infrastructure, education and health services, and of structural rigidities in the goods and factor markets. More generally, especially for poorer countries, to the extent that exchange rate fluctuations introduce greater food price volatility, in countries where 30-50 per cent of the population is clustered very close to the poverty line, cost-effective social safety nets are required to protect the poor in the face of large external shocks transmitted through the exchange rate.

There continues to be a debate over whether, and how far, capital accounts should be opened. The extensive international literature regarding the effectiveness of these controls is ambiguous and cautious.[15] If they are to be implemented, this historical evidence suggests that they are likely to be

[14] Conversely, one might argue that, given the country's devastating historical traumas and small economy – its GDP is about $16 billion – surrounded by its much larger neighbours of China, Vietnam and Thailand, it might never make sense to aspire to monetary policy independence, as in the case of smaller emerging economies in the Americas, the Pacific Islands, and Eastern Europe.

[15] See Gochoco-Bautista, Jongwanich & Lee 2012 for some recent Asian evidence.

more effective when they take the form of market-based mechanisms, such as unremunerated reserve requirements, 'analogue' measures that can be more easily altered to adjust to flows, and they are not 'over-engineered' and too detailed. Obviously, also, they should not be employed to prop up a fundamentally disequilibrium exchange rate, there needs to be a clearly communicated exit strategy, and there needs to be a distinction between short and long-term capital flows. Moreover, in the context of any globally coordinated measures, it is important to focus on the 'push' factors, principally the extremely loose monetary policy in the rich economies as much as these 'pull' factors.

Another lesson from the Asian financial crisis is that such capital account opening needs to be accompanied by a reform package centered on effective financial supervision. For example, Bhanupong (2013) concludes that, in the case of Thailand, 'The major deviation from the long-term [growth] trend can be attributed to the premature liberalization of the capital account.' As noted, Pham and Riedel (2012) caution against Vietnam liberalizing its capital account until the country has achieved greater financial depth. However, there is a contrary case, from the experience of other countries in the region. Indonesia decided to open its capital account relatively early, in 1971, after a long and bitter experience with the distortions and rampant corruption associated with multiple exchange rates. The Philippines opened its capital account in the early 1990s for similar reasons (Gochoco-Bautista & Canlas 2003). Cambodia has such porous borders and high levels of dollarization that it would be virtually impossible to attempt to close its capital account. Moreover, there is not much evidence that, once capital accounts are opened, capital controls can be effectively re-imposed.

One related exchange rate issue in Southeast Asia concerns the availability and effectiveness of financial safety nets. These have been actively discussed and formally progressed since the Asian financial crisis, owing principally to deep dissatisfaction with the IMF intervention in the late 1990s. The first step was the creation of the Chiang Mai Initiative (CMI) in 2000. When the CMI proved inadequate in the 2008/09 global economic recession, it was first multilateralized (CMIM), and then doubled in size to $240 billion, while the IMF de-linked portion was increased to 30 per cent of the available country quotas. A surveillance unit, the ASEAN+3 Macroeconomic Research Office (AMRO), was set up in 2011. These are apparently significant developments, but have they created a workable institution? Without clear and rapid-response procedures to handle a fast-developing financial emergency, Hill and Menon (forthcoming) argue it is unlikely that the CMIM will be used even as a complement to the IMF. Moreover, currently it seems even less likely that it could be used as a stand-alone option: its size, or the IMF de-linked portion of funds, needs to be further increased, as does its membership to add diversity. AMRO also needs to be developed into an independent and credible surveillance authority before it could reasonably be in a position to lead a future rescue.

Faced with this uncertainty, and the continued unpopularity of the IMF, governments have mainly resorted to two main options. The first is foreign exchange accumulation, which has risen steadily in all countries, both absolutely and relative to GDP (Figures 5 and 6). For most countries, this has now become the front-line macroeconomic insurance mechanism. But it is a costly strategy, as it locks up funds in low (or even negative) return assets, most notably US government treasury bills.

Figure 5
Foreign Exchange Reserves ($ billions)

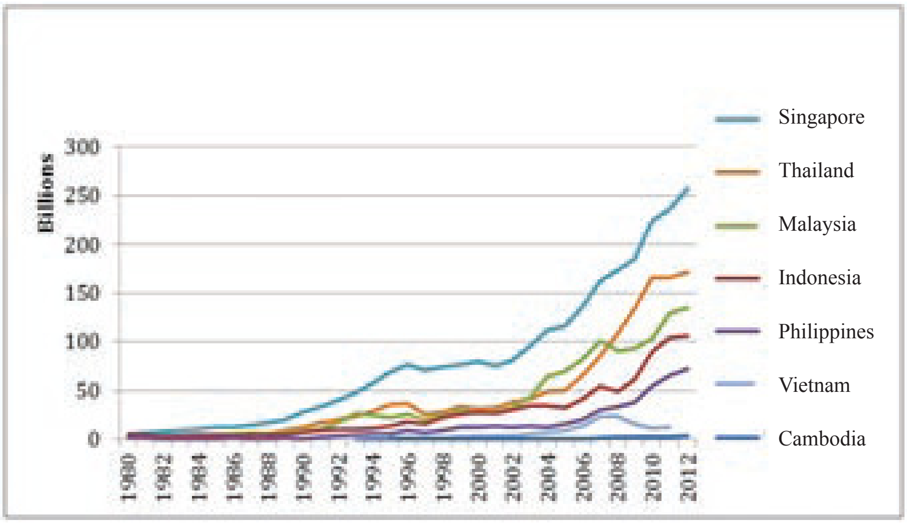
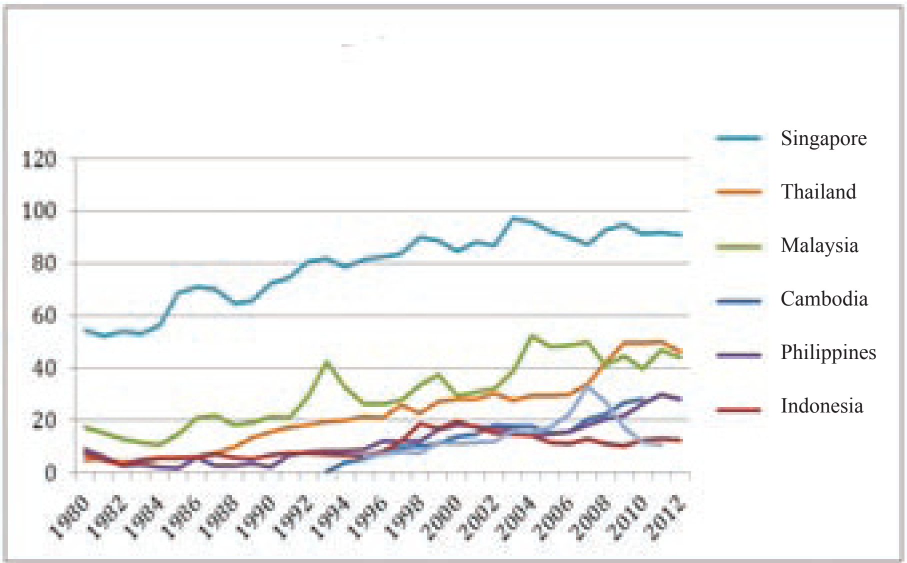


Figure 6
Foreign Exchange Reserves (% GDP)



Some central banks have to bear a direct balance sheet cost in holding these reserves, to the extent that they offer significantly higher interest rates on their security instruments, which are used to sterilize the large capital inflows of recent years. Large foreign exchange reserves are also potentially risky, to the extent that they may be seen as prima facie evidence of mercantilist international commercial policy, in the form of deliberately suppressing the exchange rate. For example, since the late 1990s Singapore, Malaysia and occasionally Thailand have run current account surpluses which, relative to their GDPs, are significantly larger than that of China. It is only their relatively small size that has presumably spared them from the threat of United States retaliatory action. The second defence strategy has been various bilateral swap agreements with larger economies, principally the United States, China and Japan. Whatever the merits of these arrangements, they are administratively burdensome as they require protracted negotiation renewals, and may not necessarily be available when a crisis suddenly emerges.

CONCLUSION

In rapidly changing global and domestic political circumstances, the major Southeast Asian economies have generally maintained the region's reputation for prudent macroeconomic management. With only two brief exceptions, inflation has been low, almost always in single digits and often less than 5 per cent for the past thirty years. This low inflation has been achieved through generally prudent fiscal policy, sometimes enshrined in legislative restraint, and competent central banks that are increasingly independent from political pressures. Although this is broadly a continuation of the earlier macroeconomic record, particularly among the three more advanced economies, governments have also learned some major policy lessons from the 1997/98 Asian financial crisis. The crisis generally reinforced the bias towards fiscal prudence by strengthening finance ministries. Central banks were given greater autonomy, and greater exchange rate flexibility has been introduced. Financial sectors are now more carefully supervised, thus lessening the macroeconomic risks associated with financial crises.

There are a variety of policy approaches and institutional arrangements that underpin these outcomes, thus underlining the continuing relevance of Corden's 'pragmatic orthodoxy' framework, of policy approaches that broadly deliver the desired outcomes in diverse institutional and economic contexts. Thus the latecomer Indochina economies have experimented with partial dollarization with reasonable success. The Philippines has achieved major central bank reform while broader policy reform still lags. Malaysia experimented with short-term capital controls in the wake of the Asian financial crisis, and its intervention was judged to be a success (Athukorala 2012). Indonesia has reduced its public debt dramatically, from equivalent to about 100 per cent of GDP in 1999 to about 25 per cent currently.

For every success, however, there are new challenges. First, there continue to be moderate inflationary episodes, especially in the lower middle-income group, and so the inflation dragon has not been exterminated. Second, the requisite financial deepening, on which central bank open market operations rely, is developing slowly in some countries. Third, one of the region's historical macroeconomic success stories, Thailand, now appears to be abandoning its traditional fiscal prudence. Malaysia also may be headed in the same direction. Fourth, the partial dollarization measures employed in the Indochina economies are at best only temporary strategies. Fifth, foreign reserve accumulation in several economies is arguably excessive, and reflects in part the fact that workable and trusted financial safety nets are not in place. Sixth, labour markets in several economies have become much more tightly regulated, in the process weakening the economic flexibility – and by extension the capacity to achieve major real exchange rate depreciations – that has been a hallmark of the region. Seventh, although the macro fiscal indicators mostly appear impressive, the micro foundations of fiscal policy are much weaker. Serious challenges are present, with regard to the efficiency and equity of tax and expenditure policies, in addition to the looming contingent liability of unfunded national pension schemes in the context of rapidly ageing societies. Moreover, these challenges are occurring against an international backdrop where the region is no longer such a standout performer in the developing world, as Latin American reforms in particular have resulted in that region no longer being the macroeconomic outlier that it once was.

BIBLIOGRAPHY

Books

Corden, W.M. 1996. *Pragmatic Orthodoxy: Macroeconomic Policies in Seven East Asian Economies*. San Francisco: International Center for Economic Growth.

Lal, D. & Myint, H. 1996. *The Political Economy of Poverty, Equity and Growth*. Oxford: Oxford University Press.

Menon, J. et *al*. 2009. *Dealing with Multiple Currencies in Transitional Economies.* Manila: Asian Development Bank.

Articles

Adams, C. 2012. “Public Debt Sustainability and Fiscal Vulnerability in Viet Nam”. In Ferrarini, B., Jha, R. & Ramayandi, A., editors. *Public Debt Sustainability in Developing Asia*. London: Routledge, 170-192.

Ammar Siamwalla. 2011. “Thailand after 1997”. *Asian Economic Policy Review.* Vol. 6, no. 1: 68-85.

Athukorala, P.-C. 2012. “The Malaysian Economy During Three Crises”. In Hill, H., Tham S.Y. & Ragayah H.M.Z., editors. *Malaysia's Development Challenges: Graduating from the Middle*. London: Routledge, 83-105.

Corden, W.M. 2007. “The Asian Crisis: A Perspective after Ten Years”. *Asian-Pacific Economic Literature*. Vol. 21, no. 2: 1-12.

Bhanupong Nidhiprabha. 2013. "Thailand". In Hill, H. & Gochoco-Bautista, M.S., editors. *Asia Rising: Growth and Resilience in an Uncertain Global Economy.* Cheltenham: Edward Elgar, 345-384.

Desierto, D.A. & Ducanes, G.M. 2013. "The Philippines". In Hill, H. & Gochoco-Bautista, G.M., editors. *Asia Rising: Growth and Resilience in an Uncertain Global Economy*. Cheltenham: Edward Elgar, 385-407.

Gochoco-Bautista, M.S. & Canlas, D. 2003. "Monetary and Exchange Rate Policy". In Balisacan, A.M. & Hill, H., editors. *The Philippine Economy: Development, Policies and Challenges*, New York: Oxford University Press.

Gochoco-Bautista, M.S., Jongwanich, J. & Lee, J.-W. 2012. "How Effective are Capital Controls in Asia?". *Asian Economic Papers.* Vol. 11, no. 2: 122-143.

Hill, H. 2013. "The Political Economy of Policy Reform: Insights from Southeast Asia". *Asian Development Review*. Vol. 30, no. 1: 108-130.

Hill, H. & Menon, J. Forthcoming. "Does East Asia have a Working Financial Safety Net?". *Asian Economic Journal*.

Ito, T. 2007. "Asian Currency Crisis and the International Monetary Fund, 10 Years Later: Overview". *Asian Economic Policy Review.* Vol. 2, no. 1: 16-49.

Kanit Sangsubhan & Basri, M.C. 2012. "Global Financial Crisis and ASEAN: Fiscal Policy Response in the Case of Thailand and Indonesia". *Asian Economic Policy Review*. Vol. 7, no. 2: 248-269.

Menon, J. 2008. "Cambodia's Persistent Dollarization: Causes and Policy Options". *ASEAN Economic Bulletin.* Vol. 25, no. 2: 228-237.

Narayanan, S. 2012. "Public Sector Resource Management". In Hill, H., Tham, S.Y. & Ragayah, H.M.Z., editors. *Malaysia's Development Challenges: Graduating from the Middle.* London: Routledge, 131-154.

Odaka, K., editor. Forthcoming. *New Light to Shine? Past, Present and Future Prospects of the Myanmar Economy*. Cambridge: Cambridge University Press.

Pham, T.T.T. & Riedel, J. 2012. "On the Conduct of Monetary Policy in Vietnam". *Asian-Pacific Economic Literature.* Vol. 26, no. 1: 34-45.

Reinhart, C.M. & Rogoff, K.S. 2011. "A Decade of Debt", NBER Working paper no. w16827.

Sala-I-Martin, X. 1997. "I Just Ran 2 Million Regressions". *American Economic Review.* Vol. 87, no. 2: 178-183.

INDONESIA'S DEMOGRAPHIC DIVIDEND OR WINDOW OF OPPORTUNITY?

Mayling Oey-Gardiner and Peter Gardiner

Social Science Commission of the Indonesian Academy of Sciences
Insan Hitawasana Sejahtera

ABSTRACT[1]

As the world's fourth largest populous nation, Indonesia is predicted to reach the height of its so-called demographic dividend between 2020 and 2030 when the share of population in working ages will be at its highest level and the potential for increased output per capita and hence more productive investment will theoretically be at its peak. But the ability to maximize this potential is far from certain and depends on a variety of social and economic underpinnings, including key issues associated with human resource capacity and gender equality that will determine how well Indonesia is placed to meet the challenges involved. This contribution first reviews the history of demographic and social transformations, including the dramatic shift from anti- to pro-natalist policies that have occurred in Indonesia since independence. Set against a deterministic trend of an age-sex specific population projection, we seek to provide an assessment of these past trends in demographic and social dynamics in relationship to the current state of preparedness, with a focus on social and gender-related issues. Finally, we will outline several of the key challenges, particularly in the context of the current socio-economic and political climate that will ultimately determine whether Indonesia will move into a future real demographic dividend or only observe the world through a window of opportunity.

Keywords: Demographic dividend, Population, Labour, Pro-natalist policies

[1] This article was originally prepared for and presented at the International Convention of Asian Scholars (ICAS) 8, held at Macao on 24-27 June 2013.

INTRODUCTION

The idea of a potential demographic dividend is a direct result of the increased attention in the development literature being paid to Age Structure Transformations or AST (Poole 2007). Attention is in particular paid to the process of population ageing, reflected in declining proportions of children and youth and increasing proportions of elderly brought on by the demographic transition from a regime of high fertility and mortality to low mortality and fertility rates at or below replacement levels. And these changes have economic ramifications. As noted by Bloom, 'because people's economic behavior and needs vary at different stages of life, changes in a country's age-structure can have significant effects on its economic performance' (Bloom *et al.* 2003: xi).

The idea of a demographic dividend emerged from the relatively straightforward observation that as the ageing process progresses there will necessarily emerge a period in which the proportion of the population in the most productive ages will be at a maximum and that this rise in the share of the working-age population will, all else being equal, necessarily lead to a rise in overall output per capita and hence in more rapid economic growth than would otherwise occur (Mason no date), in short, a demographic dividend just waiting to be realized. While more deterministic economic-demographic models more or less guarantee a positive outcome, there is a body of literature suggesting that a significant economic dividend may not be inevitable and that the dividend may be better viewed as a window of opportunity (Poole 2007; de Carvalho & Wong 1998). In fact, it could even turn out to be a 'curse' if the country is faced with a large cohort of young unemployed (Tahkur 2012.)

A pertinent question, at least for countries like Indonesia approaching the peak dividend period, is thus one of the degree to which they are prepared to maximize the potential benefits from what will inevitably be a transitory phenomenon and may thus help to ensure greater social and economic security as the population structure increasingly moves towards higher dependency, this time among the elderly. It is therefore relevant to look more closely at the current state of preparedness, especially as related to trends in areas such as education and work, and to relate this to challenges, both in terms of quantity and quality, in those areas that will ultimately determine whether Indonesia will move into a future real demographic dividend or only observe the world through a window of opportunity

THE DEMOGRAPHIC BACKGROUND

Following the achievement of independence and in a bid to cement a position in the world stage, one of the moves taken by Soekarno, the first Indonesian president, was to take a firm pro-natalist stance, among others as a defence against perceived aggressors. Given the country's size,[2] Soekarno claimed Indonesia needed and could hold up to 250 million people, more than twice as many people as lived in the country at the time.

Moreover, population growth had been suppressed during the 1940s due to rising mortality and declining fertility as a consequence of Japanese occupation during World War II and the subsequent Indonesian Revolution, which not only caused suffering due to loss of life but also family separation. The perceived low population growth, particularly in Java, helped reinforce Soekarno's position to encourage couples to have many children. In any case, the 1950s did form a period of relatively high fertility as political conditions slowly stabilized and fertility returned to pre-war levels (Nitisastro 1970).

While the Indonesian post-war baby-boom was hardly unique, the important consideration was that it was backed by a highly pro-natalist regime. In the face of slowly declining mortality (as a result of greater stability and some priority applied to basic health) the stage was set for a population age structure increasingly weighted towards the young. In this environment, the first post-independence census, conducted in 1961, sixteen years after independence, counted a population of some 97 million people (BPS 1963). At the time, China's population numbered almost 650 million people (United Nations 2009).China, in particular, was considered a major threat and this further cemented the pro-natalist position of the Indonesian government.

The change in regime in the mid-1960s from the 'Old Order' to the 'New Order' government introduced drastic ideological changes. Soekarno was a nation-builder, mostly concerned with establishing Indonesia's place in the global stage as an important new nation and country. On the other hand, the New Order government emphasized development under the presidency of Soeharto, a general who still emphasized security but also promoted economic

2 The country is an archipelago consisting of some 13,000 large and small islands stretching some 5,236 kilometers between the Western-most city of Sabang in North Sumatra and the Eastern-most city of Merauke in Papua. The distance is slightly further than the longest East-West distance in China that measures some 5,026 kilometers.

and social development. A leading light here was Widjojo Nitisastro, a population economist who earned his doctorate in the anti-natalist environment of the University of California and who was soon appointed to head the National Development Planning Board (Bappenas).

The New Order government also came into power during a period of environmental concern when proponents took to a Malthusian platform to build their anti-natalist argument of high fertility leading to a collapse in limited resources and impeding economic development. Noted proponents of this position emphasized the necessity of population control, particularly for less developed or poor societies who bore the heavy burden of a large proportion of their population being in a state of dependency as children and consuming far more than they could ever produce.[3] Key proponents included Paul Ehrlich, author of the *Population Bomb* (1968), in fact written together with Anne Ehrlich, a position they reinforced several decades later (Ehrlich & Ehrlich 2009).

In this model, for development to occur, the age structure had to shift upward to become dominated by those in productive ages and this would be achieved by reducing fertility (Coale & Hoover 1958). This was the time when voices regarding an impending population explosion became louder as developments in medicine steadily reduced mortality in the developing world, whereas efforts to slow down fertility were less advanced. Population economists have continued to remind the world of the hazards of high population growth constraining economic development and poverty eradication (Kelley & Schmidt 2001, Eastwood & Lipton 2001, Frankenberg & Tomas 2008, Sachs *et al.* 2004). Similarly, the large numbers of children in a family were generally seen to be negatively related with welfare through curbing women's participation in the labour force (Bloom *et al.* 2007).

In any case, shortly after the Soeharto government took office, the government recognized the Indonesian Planned Parenthood Association (IPPA),[4] that had been established already in 1957, but had remained 'underground' during the Soekarno years. Only a few months after taking office, the New Order

[3] Concerns about high fertility hindering development continue to question whether societies shall in fact reap the benefits of the lowest dependency ratio, the so-called demographic dividend or demographic bonus (Mason 2002, Mason and Lee 2004, Poole 2007, Thakur 2012).

[4] IPPA is an NGO (Non-Government Organization), member of the London-based IPPF (International Planned Parenthood Federation).

government established the National Family Planning Institute in 1968, which was then superseded in 1970 to become the National Family Planning Coordinating Board or *Badan Koordinasi Keluarga Berencana Nasional* (BKKBN) as an independent body responsible directly to the President (Soetedjo & Clinton 1972). This special position for a young organization allowed it to be flexible. BKKBN was able to move imaginatively and experiment with the latest technology and social engineering methodologies to socialize the public in favour of the benefits of a small family, relying on use of contraceptives, thus delaying first births and extending inter-birth intervals. BKKBN benefited from the leadership of Dr Haryono Suyono, trained in public communication, who adapted the 'two child family' as a hallmark of the organization.

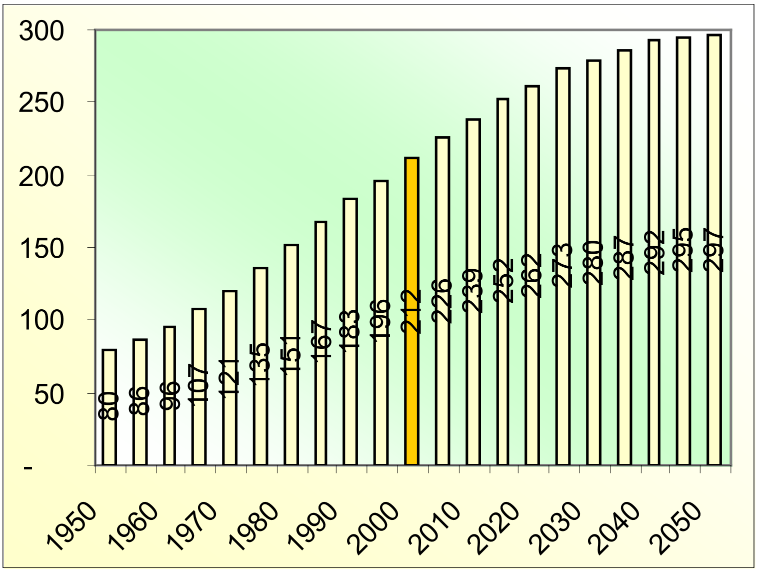
Initiated with international support, including free contraceptive distribution as well as skills development of service providers through large-scale training activities, the family planning program recorded significant success spreading the word and value of fewer children. The success story was built on a phased movement, starting in the heartland of Java and Bali in 1971, where the greatest potential lay, and then following development efforts to Sumatra in 1974 and East Indonesia in 1979. The results placed the program on the world stage of success stories. The Total Fertility Rate (TFR) declined significantly from 5.6 to 2.3 children per woman of reproductive age between the late 1950s and the end of the 1990s (Adioetomo 2004). It was this sharp decline in fertility which hailed the initial demographic transition leading to the promise of a favourable age structure underlying the concept of a demographic dividend.

THE DEMOGRAPHIC TRANSITION IN INDONESIA

The demographic transition refers to the changing composition in the age structure of a population. The Indonesian demographic transition has been well documented by Adioetomo (2004, 2005). It started during the years following independence with at least some emphasis on improving health conditions, yet only accelerated when the New Order Government seriously implemented the national family planning program. It coincided with the government's increased emphasis on development, not just directed towards achieving high economic growth but also investing in social development in key areas such as education and health.

When the National Family Planning Program started, Indonesia was blessed with windfall profits from sudden rising oil prices allowing for the social investments. Welfare improved through creation of employment opportunities, not just for men but also for women, particularly young women. This occurred both in the public sector, notably in health services and education, and in the private sector as Indonesia adopted an import-substitution labour-intensive policy to produce goods domestically. In the meantime, health services became more available and accessible through expansion in numbers of community health centers aimed not just for the better off but also the poor. Education policy, which targeted having at least one primary school in every village in rural and urban areas alike, made schools closer to home resulting in girls too being sent to school with their brothers.

Figure 1
Growth in Total Population, Indonesia 1950-2050



Source: United Nations 2009

All these programs and conditions set the stage for a rapidly expanding and widely accepted family planning program. As parents realized that their children were more likely to survive, they also realized that they did not need as many children as insurance to guarantee care in old age. They were also faced with increased costs for child rearing. And thus when the means to prevent pregnancy become available and accessible, mothers were more willing to use them whether to delay or extend inter-birth intervals. Consequently, parents had fewer children. And as fewer children were born over time it resulted in relatively smaller cohorts of young children and a start of an ageing process of the population.

The success story of Indonesia's family planning program has been well recorded (Hull, Hull & Singarimbun 1977). The consequent slowdown in overall population growth is shown in Figure 1. Indonesia's population is projected to grow from 80 million in 1950 to 297 million, a century later when Indonesia added more than 200 million people.

The slowdown in the growth rate is striking. During the first fifty years of the projection period, the population expanded by more than 165 per cent, rising from 80 to 212 million. During the last fifty years, up to the middle of the current century, Indonesia's population is expected to increase by only a further

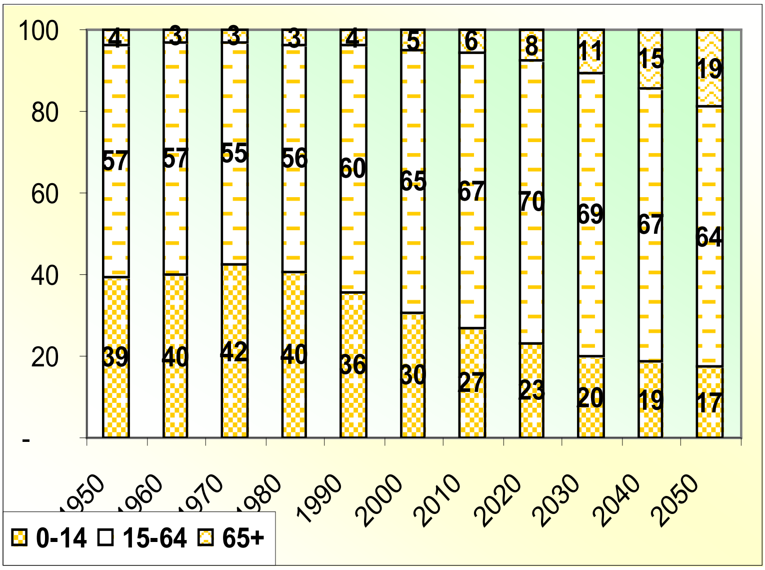
40 per cent to 297 million people (United Nations 2009 [High Variant]). At its peak, between 1965 and 1970, Indonesia's population grew at 2.35 per cent per year. The growth rate has more or less continuously declined ever since to 1.39 per cent for the period 1995-2000 and is projected to reach around 0.98 per cent for the period 2010-2015.

THE DEMOGRAPHIC DIVIDEND

As a consequence of Indonesia's strong and successful fertility control program the slowdown in overall population growth has also changed the age structure. Fertility reduction has led to a contraction of a broad-based pyramid composed of children to one where there is an expanding proportion in the prime working ages that will ultimately lead to a more rapidly increasing share among the elderly as the country moves on to the future.

The population projections prepared by the United Nations reflect these demographic dynamics. As mentioned above, when the country stabilized after independence it experienced a baby boom resulting in a rise in the share of children in the overall population with the share of the population aged 0-14 increasing from 39 per cent in 1950 to 42 per cent in 1970 (Figure 2). However, as the family planning program started to take hold the percentage also started to decline, reaching 40 per cent in 1980 and 30 per cent by the turn of the century; it is projected to decline to only 17 per cent by 2050 (United Nations 2009).

Figure 2
Age Composition of Indonesia's Population 1950-2050



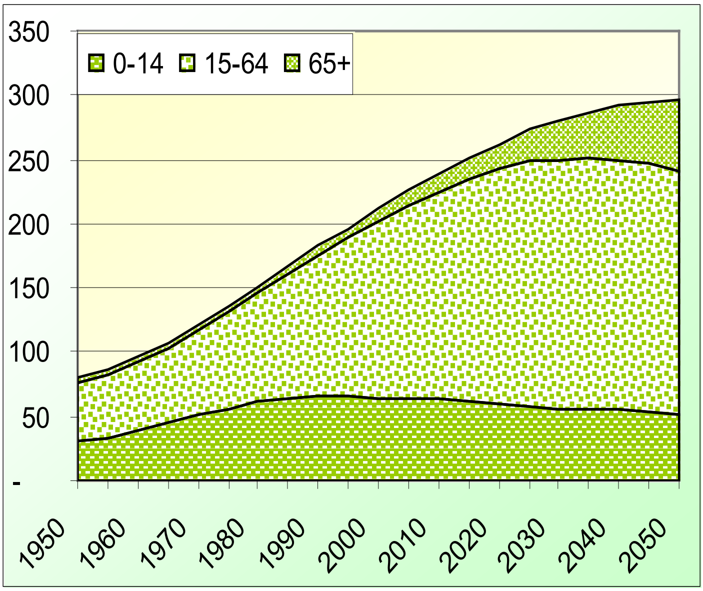
Source: United Nations 2009
Note: Based on medium projection

The decline in the share of children has resulted in a complementary increase in the share in the productive or so-called 'working ages', here using the common definition of the population aged 15-64 years. From a low point at 55 per cent in 1980 the proportion in this age group reached 65 per cent in 2000 and is expected to peak around 70 per cent in the period 2020-2030 before declining, due to the increase in the share of the elderly (ages 65 and over) to closer to 64 per cent by the middle of the century. It is this period between roughly 2020 and 2030 that is seen as the core of the window of opportunity for Indonesia.

Yet because of the relatively low proportion of elderly in countries like Indonesia and in spite of a call by a number of scientists for more attention to an impending increase in this ratio (*Preparing for the Challenges of Population Ageing in Asia* 2010; AIPI 2011), little attention is being paid to their well-being. Until today, the share of the elderly, here defined as those aged 65 and over, has remained less than one in ten and, not surprisingly, the issue of ageing continues to take a back seat. Basically, the elderly remain the responsibility of their offspring with the state paying extremely limited attention to their needs. Until today in Indonesia the elderly have little voice (Oey-Gardiner 2011).

But the elderly in Indonesia are, in fact, rapidly becoming the fastest growing group in the country. Based on the projections used in Figure 2 this will happen from 2030 onwards and, once 'unleashed' there will be no return; the share of the elderly will continue to grow as the share of younger age groups continues to contract.

Figure 3
Population Growth, Indonesia 1950-2050



Source: United Nations 2009.

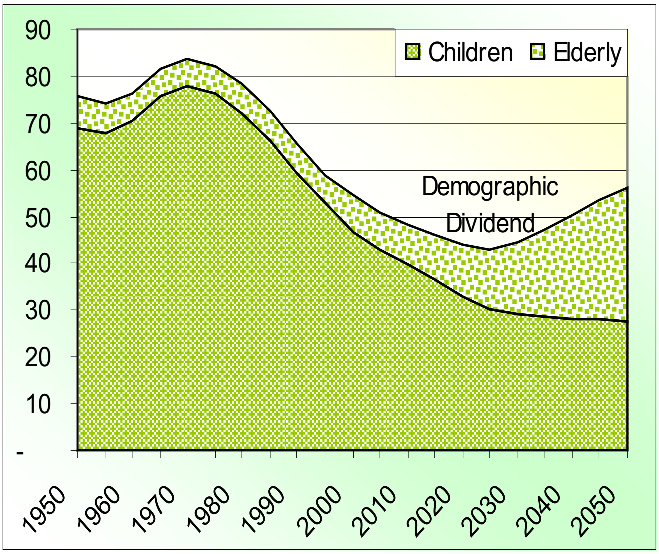
Note : Based on Medium Projection.

The absolute numbers are equally staggering. Using the medium projection of the United Nations, at the beginning of the projection period (1950), children aged 0-14 years numbered some 31 million, the working-age population (ages 15-64 years) some 45 million, with only 3 million counted as elderly at ages 65 years and over (Figure 3). Half a century later in 2000, the number of children had doubled to 64 million, the working-aged population had became threefold larger at 137 million, and the number of elderly had grown even faster, proportionately reaching a total of more than 10 million people. By the middle of the twenty-first century, when the total population is projected to reach close to 300 million, numbers of children are actually projected to decline to around 52 million, the working-aged population to increase moderately to 190 million, but with numbers of elderly increasing by more than five times from 2000 nearing 55 million people. Such is the rapidity of the ageing process when it takes hold.

The so-called burden on society represented by the young and old is reflected in the dependency ratio, measured as the number of people aged 0-14 and 65 and over to the working-age population aged 15-64. It indicates the 'burden' borne by those in the more productive years in supporting those who generally are seen to consume more than they produce (Mason no date). In a high-fertility regime the dependency ratio is relatively high with most of the burden being caused by a high proportion of children who, particularly in a more modern society, require significant social investments in areas such as health and education. Although they may also contribute economically, including as unpaid labour in housework and with future expectations of their being able to care for their ageing parents, these contributions and expectations also tend to diminish with development with children becoming more of a cost to their parents.

With extended fertility decline there is a shift of the age pyramid towards the working ages and a concomitant decline in overall dependency caused by a relatively high proportion of both children and the elderly. But later, there comes a time when, even though the burden of children continues to decline, the burden of the elderly starts to rise at an increasingly rapid rate. It is the period when the dependency burden is the lowest that demographers identify as 'the demographic dividend', when the opportunity presented by their productive forces can be utilized to the greatest benefit of society.

Figure 4
Dependency Ratio Contributed by Children and Elderly, Indonesia 1950-2050



Source: United Nations 2009.
Note: Dependency ratio = ratio between children and elderly over the working-aged population.

The reason for referring to this phenomenon as a 'dividend' arises from recent macroeconomic analysis on the consequence of population dynamics on economic development. Various studies using aggregate level panel data show the impact of demographic factors on saving rates (Bloom, Canning & Graham, 2003; Schmidt & Kelley 1996; Kinugasa 2004; Williamson & Higgins 2001) and on economic growth (Bloom & Canning, 2001; Bloom & Williamson 1998, Kelley & Schmidt 1995). Moreover, the Asian economic miracle attests to the important contribution of the demographic dividend to economic success.

Under the authoritarian New Order regime of President Soeharto and in large part due to a booming economy and a highly centralized set of development policies spreading access to basic services more widely across the country, Indonesia was able to make significant strides in education and health, albeit from a relatively low base, during the 1980s and 1990s, which was even noted by the World Bank in its famous study of the Asian economic miracle (1993).

It appeared that Indonesia was well positioned to take advantage of an age structure transformation that was starting to occur at the same time

But things changed following the 1998 financial crisis. The financial crisis became a political crisis and there was both a change in government and a change in focus in the economy towards greater austerity as a condition for the bailout provided by the IMF. While there may have been some legitimate fears that this forced austerity and hardship would derail at least some of the previous progress, this now appears to have been less the case; such that by the middle of the first decade of the twenty-first century, one of Indonesia's noted demographers even hailed the possibility of an imminent demographic dividend (Adioetomo 2004, 2005).

Thus even though the height of 'demographic advantage' will not be reached until the 2020s, with the now significant movements of previously larger cohorts of youth into prime working ages some of the benefits of the Indonesian demographic dividend are currently already being realized. It is no accident that Indonesia advertises itself on TV as having a young and dynamic population with half of them under the age of 30.

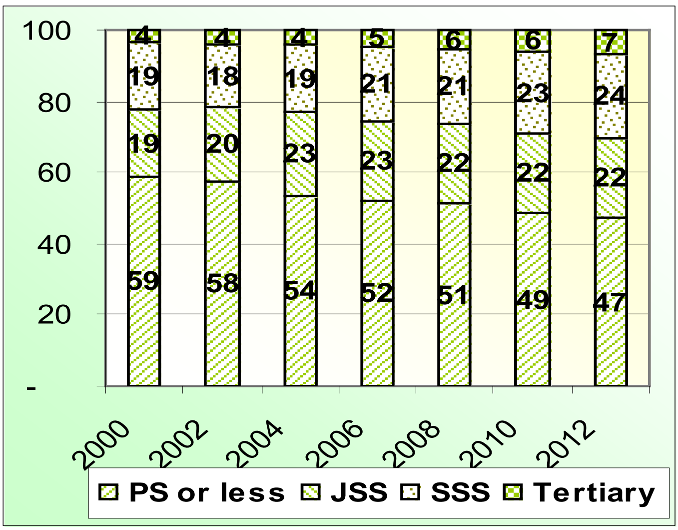
Here, the century long UN demographic projections from 1950 to 2050 (Figure 4) tell the overall story of an initial rise in dependency followed by decline as fertility rates fell and family planning became more widely adopted. The declining share of children is being met in recent years with concomitant increases in the share of the working-age population and only moving into marked increases in the share of the elderly in the second quarter of the twenty-first century. Thus, while the nature of the demographic transformation and the timing of this 'window of opportunity' is clear, numbers alone are not necessarily sufficient to create the welfare circumstances supportive of taking advantage of this change. To clarify our position we shall turn to a discussion on whether the country will be able to realize her potentials.

REALIZING INDONESIA'S POTENTIAL

Whether Indonesia will realize her potentials depends not just on quantity but also on the quality of the workforce as exploiting the dividend has as much to do with productivity as with the simple numbers of workers. Here we need to focus our attention on education which continues to expand and improve, at least in quantitative terms. Improvements in education are a result of the dynamics between growing numbers of youth creating demand for continuously increased schooling that has a mutual impact on the quality of labour and on economic growth. We also look briefly at labour force transformations that can impact on the capacity to take advantage of the demographic dividend.

In some ways Indonesia stands at a crossroads in education. Policies under the New Order government led to rapid expansion in elementary education in the 1980s and 1990s such that in most parts of the country primary school completion was nearly universal by the turn of century. This has led in turn to subsequent increases in secondary school enrolment that are now starting to work their way into the labour force as well.

Figure 5
Trends in Education Composition of the Working-age Population (15+), Indonesia 2000-2012



Sources: BPS 2000-2012.

Admittedly the current labour force structure does not yet demonstrate these trends to a great degree and skeptics are quick to emphasize low education levels in the labour force. The latest available annual National Labour Force Survey (SAKERNAS) data for 2012, for example, shows that seven of every ten persons of working ages has had at the most completed junior secondary schooling; and at the other end that only three of every ten had graduated from senior secondary school or enjoyed post-secondary education.

On the other hand, the trends are promising. Even if we only focus on the period starting this century from the year 2000, changes in the education composition of the Indonesian population are impressive. Based on the same SAKERNAS surveys, the share of the population aged 15 and over with primary schooling or less has declined from nearly six in ten at the beginning of the century to only less than one-half (47 per cent) in 2012 (Figure 5). The proportion of those with junior secondary schooling also expanded slightly through 2006, but by 2012, this had already started to contract in favour of those with senior high school credentials.

The most impressive increase can perhaps be seen among those with senior secondary schooling, where the share rises from one of five to one of four over the period 2000-2012. Even tertiary education shows a positive trend although still at relatively low levels with only a 7 per cent share among those aged 15 and over in 2012, up from 4 per cent in 2000.

What do the above trends imply? As indicated above, these are largely a result of past education policies in line with the UNICEF call for countries to ensure 'Education for All'. Indonesia has translated this commitment into the provision of 'basic education' facilities[5], including six years primary and three years junior secondary school. This is now moving upward as Indonesia has basically achieved universal primary school attendance and is progressing toward meeting targets at the secondary level in any parts of the country. In recent years this has been facilitated by provision of free schooling as a political platform and supported by a legal framework requiring 20 per cent of state and local budgets to be allocated to education.

5 Indonesia has generally taken a supply side approach, through provision of facilities which are brought 'closer to home' by targeting villages for primary schools and at least initially sub-districts for junior secondary schools, districts/municipalities for senior secondary schools and with public universities targeted at the provincial level. As it stands current incentives are for local governments to split up causing continuous growth in the numbers of local governments. By the end of 2012 there were already 79,075 villages from 75,666 in 2008; sub-districts grew from 6,520 to 6,793; while districts and municipalities were prevented from splitting up resulting in a relatively stable number of 399 districts and 98 municipalities and 33 provinces (BPS 2012).

Classified by the World Bank as a 'lower-middle income' country, Indonesia compares favourably with other middle-income ASEAN countries in terms of human resource potential. Indonesia's secondary net enrolment ratio is comparable to Malaysia and Thailand, both classified as 'upper-middle income' countries (Table 1).

Table 1
Selected Indicators for ASEAN Countries in 2009 and 2010

Country	WB Income Class	Per Cap GDP (PPP$)	% Population Living on <$2/day	Per Cap Public Expenditures on Health (US$)	Net Secondary Enrollment	
					Female	Male
		2010	2009	2009	2010	
Cambodia	Low	2,150	56	9	32	36
Indonesia	**Lower Middle**	**4,293**	**51**	**29**	**68**	**69**
Laos	Lower Middle	2,543	66	7	33	39
Malaysia	Upper Middle	14,591	2	151	71	66
Myanmar	Low	-	-	1	50	49
Philippines	Lower Middle	3,940	45	23	66	55
Thailand	Upper Middle	8,490	12	127	77	68
Vietnam	Lower Middle	3,181	38	31	-	-

Source: **Population** Reference Bureau 2012.
Note: **No** data available for Brunei Darussalam.

In general socioeconomic terms, however, Indonesia most closely compares to the Philippines (Table 1). Both countries enjoy comparable levels of per capita GDP of around $4,000 PPP (Purchasing-Power Parity) with about one-half of the population living in poverty (using the World Bank definition of $2 PPP per day); public sector expenditures on per capita health at still less than $30 but with Indonesia showing slightly higher secondary enrolment than the Philippines, with net enrolment rates of 68 and 69 per cent for females and males respectively in Indonesia and 66 and 55 per cent for the Philippines.

In fact, a similar pattern emerges when measured at the tertiary level. Focusing at the turn of the decade in 2010, it seems that Indonesia with a gross tertiary enrolment rate of 23 per cent is already catching up with the Philippines at 28

Per cent although still well behind Thailand and Malaysia yet noticeably ahead of other ASEAN countries.

Table 2 shows that Indonesia has made significant strides in increasing access to tertiary schooling during the recent past, a phenomenon extensively described in the literature (Hill & Thee 2012). This trend is in response to both rising demand caused by the rapidly growing population of young adults with secondary education seeking further qualifications and similarly by the rising supply of tertiary education institutions in both the public and especially the private sectors. Here, the private sector has been particularly responsive with more than 1,000 new private institutions of higher education being created during the first decade of this century; from 1,944 to 3,011 between 2000 and 2010. Even so, most of the increase in numbers of registered students that went from 2.9 to 4.3 million over the same period occurred in public institutions (58 percent),which expanded and competed with private schools (based on statistics from the Ministry of Education).

Table 2
Tertiary Education Enrolment Rates for ASEAN Countries, 2005-2011

Country	2005	2010	2011
Brunei Darussalam	16.9	17.3	19.6
Cambodia	3.4	12.9	14.5
Indonesia	**16.5**	**23.1**	
Malaysia	29.3	40.2	
Myanmar			14.8
Philippines	24.5	28.2	
Thailand	43.9	46.2	47.7
Vietnam	15.7	16.7	

Source: World Bank country education indicators

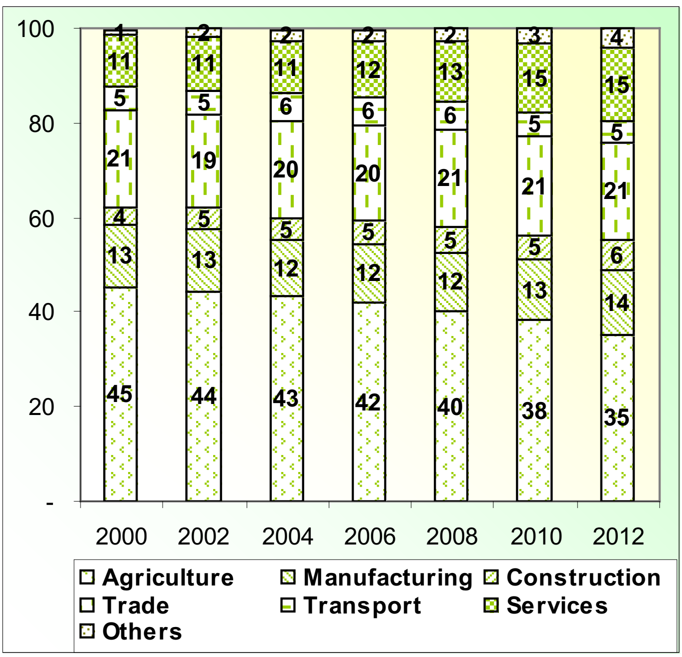
These dynamics in the education sector affect the labour market. At the personal level education is a means to improve one's life chances and at the population level it is usually noted that level of education is positively related to earnings. The impact of improved education in the overall population is reflected in the transformation of the Indonesian labour market, the focus of analysis in the next section.

LABOUR MARKET DYNAMICS

As education of the population improves the labour market is being similarly transformed, away from agriculture. Education is usually regarded a ticket to exit out of agriculture, particularly small-scale agriculture which is associated with lack of education and poverty. This exit out of agriculture has been a continuous process. When Indonesia conducted her first Population Census in

1961, three of every four workers found their livelihood in agriculture. By the turn of the century less than one-half (45 per cent) of the workforce remained in agriculture, and the decline has continued so that now only one in three workers remain in agriculture, according to the latest national labour force survey in 2012 (Figure 6).

Figure 6
Workforce Growth by Sector, Indonesia 2000-2010



Source: BPS, 2001-2012.
Note: Others include mining and quarrying and finance.

Complementary to the decline in the share of workers in agriculture has been the expansion of the service sector, rising from 11 to 15 per cent between 2000 and 2012. This is an interesting phenomenon. Whereas labour markets in many currently developed countries transformed from agriculture through industry to move on to the services sector, Indonesia seems to have followed a somewhat different path. Indonesia's manufacturing sector did grow during the 1990s with the expansion of import-substitution industries opening up to multinational labour-intensive production, but the sector was also severely affected by the 1998 financial crisis in Indonesia when many international footloose industries moved away to other low- labour cost countries in the region offering more competitive opportunities (Sugiyarto, Oey-Gardiner& Triaswati, 2006). Since then, manufacturing has remained relatively stagnant as a share of the workforce at around 13 per cent and with the service sector picking up most of the slack (Figure 6).

Here, of course, trade remains the most significant part of the service sector absorbing around one of five workers throughout the past decade. While some and an increasing number of jobs in modern businesses do require education, petty trade remains widespread not just in urban but also in rural areas. This is generally seen as a sector that is easy to enter and that can absorb excess labour when no other jobs are available.

Public services have also seen significant change since 2000, heavily influenced by the massive decentralization of governmental authority that was legislated (after the fall of the New Order government) in 1999 with key bills dealing with central-local relations and with regional finance, [6]and implementation starting in 2001. Because of this legislation, regional (provincial, district and municipal) leadership is now directly elected whereas before they were appointed by higher level authority and these leaders (and regional legislative bodies) are now responsible for much of the public sector planning and administration that was previously directed from the centre.

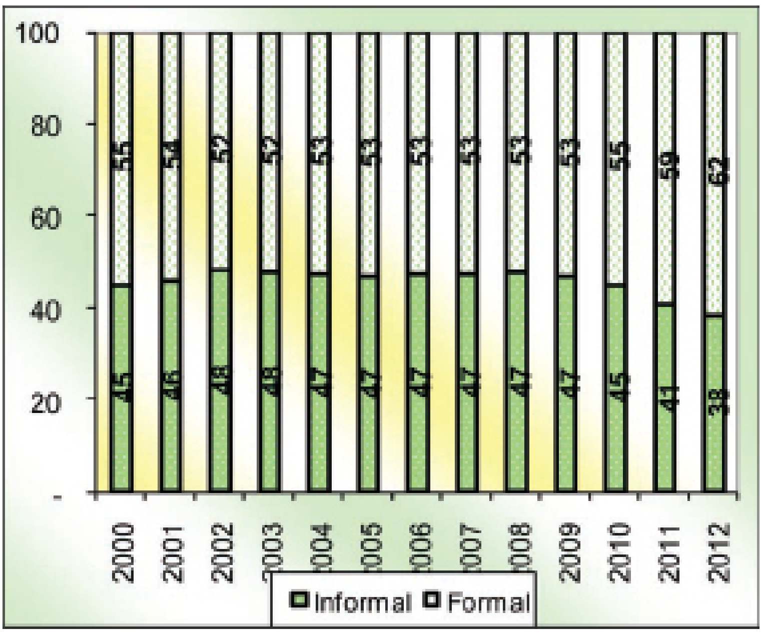
The financial conditions of this legislation also made it advantageous for regions to split into two or more new regions of the same status, particularly where the main region would not be negatively affected and the new regional government would benefit from additional funding from the centre to support their activities. This also meant that the establishment of these

6 These bills were later amended in 2004, but the principles remained the same.

new governments would necessarily allow for new employment creation to serve in the government bureaucracy and local parliaments. Since the turn of the century a significant number of autonomous governments have been established – numbering 4 new provinces, 136 new districts and 14 new municipalities giving a current total of 34 provinces, 404 districts and 99 municipalities (BPS 2012).

Transformation in the Indonesian labour market can be seen not only in terms of changes in sectoral composition but also in changes in status composition. In this case we can differentiate workers in terms of whether they work as formal or informal sector workers. This differentiation is based on information collected on the workers' status. Formal sector workers are composed of those categorized as (1) employers (assisted by permanent workers);(2) employees; and (3) non-agricultural casual workers. Informal sector workers include (1) own account workers; (2) self-employed with temporary or unpaid assistants; (3) casual workers in agriculture; and (4) unpaid family workers.

Figure 7
Status Composition of the Labour Market in Indonesia, 2000-2012



Source: BPS 2000-2012

Formal sector work is generally more desirable given generally higher earning potential as well as greater benefits including legal protection. As a result, it is also the better educated who have access to such employment. Anecdotal evidence has it that numerous modern employment opportunities such as security and sales jobs, for instance, require at least senior secondary schooling and cleaning in modern buildings require at least a junior secondary certificate.

Most important to the discussion here, as with movement out of agriculture, movement from informal to formal sector jobs is more indicative of a situation of greater advantage in terms of the demographic dividend. In this regard, over the past decade, the labour market has transformed favourably. Even though the formal sector initially contracted from 55 to 52 per cent between 2000 and 2003 it then increased significantly, reaching 62 per cent according to the latest available SAKERNAS, for 2012 (Figure 7). This rather rapid transformation over the past several years is one to watch as it may portend a major shift in the Indonesian labour market and one that could turn out to be favourable for taking advantage of the so-called dividend.

CONCLUSION

The analysis presented here on the transformation of Indonesia's human resources shows marked levels of progress in a positive direction: the population continues to be better educated (even if mainly still in terms of quantity) and the labour force shows that employment creation and transformation is leading towards the more desirable outcome of higher proportions of the workforce in non-agricultural and formal sector activities. This is in line with meeting conditions required to take the most advantage from the first demographic dividend where the high proportions of people in the more productive ages favour the kinds of savings and investments that can further spur economic growth and prosperity over the longer term.

While it does appear, at least from the point of view of human capital and job structures, that Indonesia, is moving in the right direction, the question remains from a political as well as a social and economic perspective of just how much the country will be able to reap the potential rewards provided by this so-called 'window or opportunity'. In a competitive international economic environment, Indonesia has fared relatively well over the past several years and has turned this into what appears to real social and economic change. But it is not clear how this will continue and continuation of this progress, including an increased quality as well as quantity in human capital, will be critical if the benefits of the demographic dividend are to be maximized to the benefit of the Indonesian people.

BIBLIOGRAPHY

Books

AIPI [Indonesian Academy of Sciences]. 2011. *International Conference on the Population Ageing Explosion: Opportunities and Challenges*. Bali, October 11-12.

Bloom, D., Canning, D. and Sevilla, J. 2003. *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change.* Santa Monica, CA: RAND.

Coale, A.J. and Hoover, E. 1958. *Population and Economic Development in Low-Income Countries.* Princeton, NJ: Princeton University Press

Ehrlich, Paul R. 1968. *The Population Bomb*. New York: Ballantine Books.

Hull, Terence H., Hull, Valerie J. and Singarimbun, Masri. 1977. *Indonesia's Family Planning Program: Success and Challenges.* Washington, DC: Population Reference Bureau.

Kinugasa, T. 2004. *Life expectancy, Labour Force and Saving*. PhD dissertation, University of Hawaii at Manoa.

Nitisastro, Widjojo. 1970. *Population Trends in Indonesia*. Ithaca, NY: Cornell University Press.

World Bank. 1993. *The East Asian Miracle: Economic Growth and Public Policy*. Washington, DC: World Bank.

Articles

Adioetomo, Sri Moertiningsih. 2004. "Age Structural Transitions and its Implication. The Case of Indonesia over a century, 1950-2050". Paper presented at a seminar on "Age Structural Transitions: Demographic Bonuses, But Emerging Challenges for Population and Sustainable Development", Paris, CICRED 23-26 February.

-------. 2005. "Bonus Demografi: Menjelaskan hubungan antara pertumbuhan penduduk dengan pertumbuhan ekonomi." Pidato pada upacara pengukuhan sebagai Guru Besar Tetap dalam bidang Ekonomi Kependudukan, Fakultas

Ekonomi Universitas Indonesia. ["Demographic Bonus: Explaining the Relation between Population Growth and Economic Growth". Inaugural lecture as Professor in Population Economics, Faculty of Economics University of Indonesia.] Jakarta, 30 April.

Bloom, D.E.*et al*. 2007. "Fertility, Female Labor Force Participation, and the Demographic Dividend". *NBER Working Paper 13583*. Cambridge, MA: National Bureau of Economic Research.

Bloom, D.E. and Canning, D. 2001. "Cumulative Causality, Economic Growth, and the Demographic Transition. In: N. Birdsall, A.C. Kelley, and S.W. Sinding (editors), *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*. Oxford: Oxford University Press, pp. 165-200.

Bloom, D. E., Canning, D. and Graham, B. 2003. "Longevity and Life-cycle Savings". *Scandinavian Journal of Economics*. Vol. 105, No. 3, pp. 319-338.

Bloom, D.E., and Williamson, J.G.. 1998. "Demographic Transitions and Economic Miracles in Emerging Asia". *World Bank Economic Review*, Vol. 12, No. 3, pp. 419-456.

Carvalho, J. de and Wong, L., 1998. "Demographic and Socioeconomic Implications of Rapid Fertility Decline in Brazil: A Window of Opportunity". In: G. Martine, M. Das Gupta and L. Chen (editors). *Reproductive Change in India and Brazil.* Oxford: Oxford University Press, pp. 208-240.

Eastwood, Robert and Lipton, Michael. 2001. "Demographic Transition and Poverty: Effects via Economic Growth, Distribution and Conversion. In: N. Birdsall, A.C. Kelley, and S.W. Sinding (editors), *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*. Oxford: Oxford University Press.

Frankenberg, Elizabeth and Tomas, Duncan. 2008. "Health and Productivity Impacts on Poverty for the case of Bangladesh, Indonesia, Mexico and South Africa, as a Part of Hewlett's Research Programme on Population and Poverty. Duke University, Durham, NC.

Hill, Hal and Thee Kian Wie. 2012. "Indonesian Universities in Transition: Catching up and Opening up". *Bulletin of Indonesian Economic Studies*, Vol. 48, No. 2, pp. 229-251.

Kelley, A.C. 1988. "Economic Consequences of Population Change in the Third World". *Journal of Economic Literature*, Vol. 26, No. 4, pp. 11685-17728. Kelley, A.C. and Schmidt, R.M. 1995. "Aggregate Population and Economic

Growth Correlations: The Role of the Components of Demographic Change. *Demography*, Vol. 32, No. 4, pp. 543-555.

-------. 2001. "Economic and Demographic Change: ASynthesis of Models, Findings, and Perspectives". In: N. Birdsall, A.C. Kelley, and S.W. Sinding (editors), *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*. Oxford: Oxford University Press.

Mason, Andrew. No date. "Demographic Transition and Demographic Dividends in Developed and Developing Countries". Department of Economics, University of Hawaii at Manoa and Population and Health Studies, East-West Center, Honolulu.

-------. 2002. "Capitalizing on the Demographic Dividend". [unpublished].

-------. and Lee, R. 2004. "Reform and Support Systems for the Elderly in Developing Countries: Capturing the Second Demographic Dividend". [unpublished].

Oey-Gardiner, Mayling. 2011. "Living Arrangements among Elderly Indonesians". Paper presented at the Southeast Asian Countries Meeting and Active Ageing Workshop on "Designing Age Friendly Communities to Enhance Aging in Place", Denpasar, 13-14 October.

Poole, Ian. 2007. "Demographic Dividends: Determinants of Development or Merely Windows of Opportunity?". *Ageing Horizons*, Vol. 7, pp. 28-35.

Sachs, Jeffrey, McArthur, John W., Schmidt-Traub, Guido, Kruk, Margaret, Bahadur, Chandrika, Faye, Michael and McCord, Gordon. 2004. "Ending Africa's Poverty Trap". *UN Millennium Project. Columbia University and UN Millennium Project.*

Schmidt, R.M. and Kelley, A.C. 1996. "Saving, Dependency and Development". *Journal of Population Economics*, Vol. 9, No. 4, pp. 365-386.

Sugiyarto, Guntur, Oey-Gardiner, Mayling and Triaswati, Ninasapti. 2006. "Labor Markets in Indonesia: Key Challenges and Policy Issues". In: Jesus Felipe and Rana Hasan (editors), *Labor Markets in Asia: Issues and Perspectives*. New York: Palgrave/ Macmillan.

Thakur, Vasundhra. 2012. "The Demographic Dividend in India: Gift or Curse? A State-level Analysis on Differing Age Structure and its Implications for India's Economic Growth Prospects". Working paper series Development Studies Institute, London School of Economics and Political Science, No. 12-128.

Williamson, J.G., and Higgins, M. 2001. "The Accumulation and Demography Connection in Eastern and South-Eastern Asia". In: A. Mason (editor),*Population Change and Economic Development in Eastern and South-eastern Asia: Challenges Met, Opportunities Seized.* Stanford, CA: Stanford University Press, pp. 123-154.

Reports and statistics

BPS. 1963. *Population Census 1961 Republic of Indonesia.* Jakarta: Biro Pusat Statistik.

-------. 2000-2012. *Labor Force Situation in Indonesia.* Jakarta: Badan Pusat Statistik.

-------. 2012. *Statistik Indonesia 2012.*[Statistical Yearbook of Indonesia]. Jakarta: Badan Pusat Statistik.

Preparing for the Challenges of Population Aging in Asia: Strengthening the Scientific Basis of Policy Development. 2010. Report by the Chinese Academy of Social Sciences, the Indian National Science Academy, the Indonesian Academy of Sciences, the National Research Council of the US National Academies, and the Science Council of Japan.

Population Reference Bureau. 2012. *Population and Economic Development 2012 Data Sheet.* Washington, DC.

Soetedjo M., and Clinton. J. 1972. *Trends in Contraceptive Use: The Indonesian Experience*. *Technical Report Series,* Monograph No. 4 (September). Jakarta: National Family Planning Coordinating Board.

United Nations. 2009. *World Population Prospects, 2008 Revision*. Department of Economic and Social Affairs, Population Division. ST/ESA/SER.A/287.

Websites

Ehrlich, Paul R. and Ehrlich, Anne H. 2009."The Population Bomb Revisited", *Electronic Journal of Sustainable Development,* Vol. 1, No. 3, pp. 63–71.www.ccsenet.org.

Ministry of Educaton and Culture. www.psp.kemdiknas.go.id/upload/Statistik. Kementrian Pendidikan Nasional.

World Bank. www.worldbank.org. Country education indicators.

POPULATION HISTORY IN A DANGEROUS ENVIRONMENT: HOW IMPORTANT MAY NATURAL DISASTERS HAVE BEEN?

Anthony Reid

Australian National University

ABSTRACT

The longer the time-depth considered, the more human history is dependent on the beneficence of the planet we inhabit. The disastrous Aceh tsunami of 2004 stimulated geological research which has revealed similar mega-tsunamis resulting from earthquakes of 9.0 magnitude or more every few centuries in the past. Even more destructive to civilization and agriculture are the massive volcanic eruptions such as Tembora (1815), which caused crop failures around the world, let alone in under-researched Indonesia itself. The new geological research strengthens a growing sense of Indonesian population history as one unusually exposed to the disruptive rhythm of the planet. In periods of relative quiescence on the 'ring of fire', such as the twentieth century, a benign climate and fertile volcanic soils can produce rapid population growth and development. But rather than forming a constant, this pattern appears to have been interrupted by periodic disasters. Interdisciplinary research is desperately needed to locate past traumas, and relate them to what we know of the historical record. It may also reveal, on the positive side, that the Archipelago's celebrated human and biological diversity owes something to the periodic disruption to agriculture-based civilization.

Keywords: Natural disaster, Volcanic, Population

INTRODUCTION

Since the sequence of disasters between the Aceh-Nias tsunami of December 2004 and the Merapi eruption of October 2010, attention is at last being paid to Indonesia's past record of disasters. Whereas this had been a scientific backwater, many earth scientists are now seeing the Sunda megathrust as one of the key parts of the world to study tectonic subduction, since the upheavals are relatively regular, and dramatically extreme in their impact (Perkins 2008).

We now know that ruptures in the earth's crust occur with necessary regularity, and that the bigger events every few centuries have enormous impacts not only on Indonesia, but on the planet as a whole. Our politically focused histories look woefully inadequate to explain this pattern. The scientists use the data of historians when they can, though in Southeast Asia we have not been particularly helpful to them. A comprehensive record began to be available for the whole planet only once the seismograph was invented, around 1900, and long after that descriptions of the effects of seismic movements on human societies remained underreported in Indonesia. Before 1900 our understanding is above all dependent on written records of observers, although the ring of fire around the Pacific where the periodic pattern should be clearest is, except for Japan, poorly provided with historical records before 1600.

The geologists have done a little better than the historians at recording data for Southeast Asia, but this region remains badly underreported in comparison with other parts of the ring of fire. The US National Geophysical Data Center records only four tsunamis in Sumatra before 1800, because they damaged the Dutch pepper-posts, and none in Java where the endangered south coast was then of no interest to the Dutch. By contrast 29 Indonesian tsunamis have been recorded in the 23 years since 1990, including nine massive ones each killing over 100 people, two of them in Java. The missing earlier records need to be reconstructed by patient comparison of the ignored fragments of data in the historical sources with physical evidence on the ground.

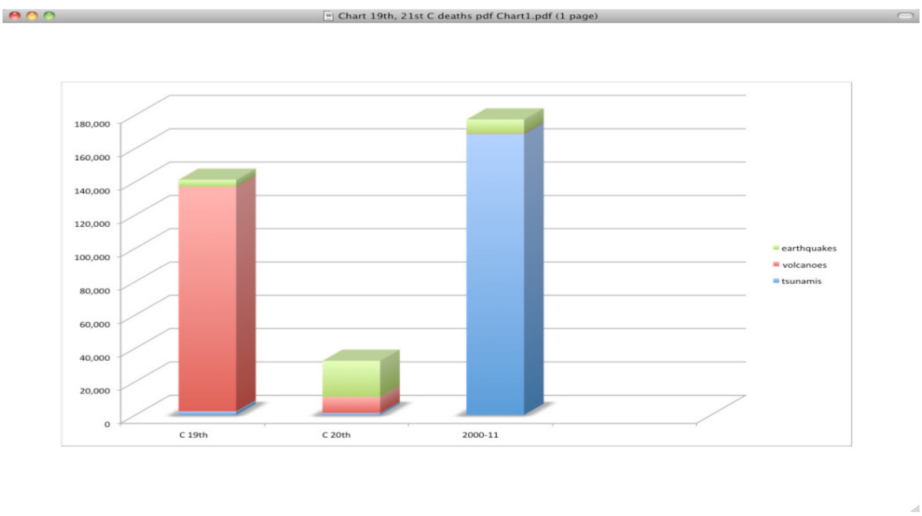
Volcanic eruptions were more spectacular and therefore slightly better recorded, though the record before Krakatau (1883) is far more poorly documented than elsewhere. The Smithsonian volcanism database shows that 25 per cent of the world's major eruptions, measured in terms of Volcanic Explosivity Index (VEI) at four or more, since 1982 have been in Indonesia. The further we go back in time, the more Indonesia drops off the data bases. Out of more than 500 probable major eruptions dated by various systems between 10,000 BCE and 1500 CE, only five, or one per cent, are proposed very questionably for Indonesia (Smithsonian GVP). Almost everything remains to be done. No destructive (VEI 4+) Southeast Asian eruptions before 1500 have been documented to the more exacting standards of the National Geophysical Data Centre, although 35 are acknowledged elsewhere (NOAA). Yet Indonesia has many more calderas than any other country big enough to have been the source of one or more global years without normal sunlight (Keys 2000: 372-374).

Southeast Asian sources themselves were surprisingly little concerned to record natural disasters, except insofar as volcanic eruptions served as portents for human events. They were relatively little affected by earthquakes because of the light and flexible construction of their buildings, and by tsunamis because earlier generations had learned, no doubt painfully, how devastating they could be. The tsunami-prone coasts of Nias, Mentawai, western Sumatra and southern Java were relatively deserted before 1800, and only a careful re-reading of sources begins to show that past disasters played a role in this choice. The people of Nias, probably the most vulnerable to tsunamis of all complex Indonesian societies, regularly made offerings to the god of the sea and of earthquakes, recognizing the connections between big earthquakes and tsunamis. They threw gold and other offerings into the sea and into the cracks appearing with earthquakes (Schröder 1917: 415-416, 514). Until sea-based Dutch infrastructure arrived in the second half of the nineteenth century, however, the Nias people avoided building homes on the endangered coast, fished primarily in fresh-water rivers, and built their villages on hilltops where possible (Gruber no date).One of their origin-myths shows the creator god sending his sons to people the earth. The first was sent to the south which began to submerge beneath the sea because of his weight, so he sent the second to the north. When that too began to submerge with the centre rising upward he sent the last two sons to the centre, and balance was restored (Hämmerle 1999: 44; Schröder 1917: 515-516). Mentawai islanders also built their villages away from the coast. Their mythology had the lower tier of the cosmos, the underworld, as the abode of the earthquake god, who had to be propitiated with the erection of each house (Schefold 1988: 73-75; Loeb 1935: 134, 161).

INDONESIA TAKES SHAPE IN A QUIET CENTURY

Until the round of disasters in Sumatra and Java since 2004, neither historians nor scientists had given the past record the attention it deserved. After the Krakatau eruption of 1883 there had been more than a century of relative geological calm, with a death toll that by hindsight appears uncannily low (Figure 1). In the quiet time, geologically speaking, between 1885 and 2000,the Indonesian population grew from about 25 million to 205 million, and its urban, predominately coastal population from little over one million to 90 million. A large, modern state was created, its infrastructure built with little consideration of the geological dangers, with urban centres at Banda Aceh, Padang, Bengkulu, Cilacap and Ambon all directly facing some of the world's most dangerous subduction zones. In the cities, moreover, building was predominately of poor-quality brick construction, so that the series of earthquakes since 2000 has produced much greater carnage than previously. Padang's 1833 earthquake had been much bigger than that of 2009 (7.6 magnitude), and was accompanied by a major tsunami, but the population of the West Sumatran littoral was then less than 80,000 compared with over two million today. Whereas the 1833 toll was a few hundred, that of 2009 accounted for over 1,000 dead with 135,000 homes destroyed and 1.25 million people affected.

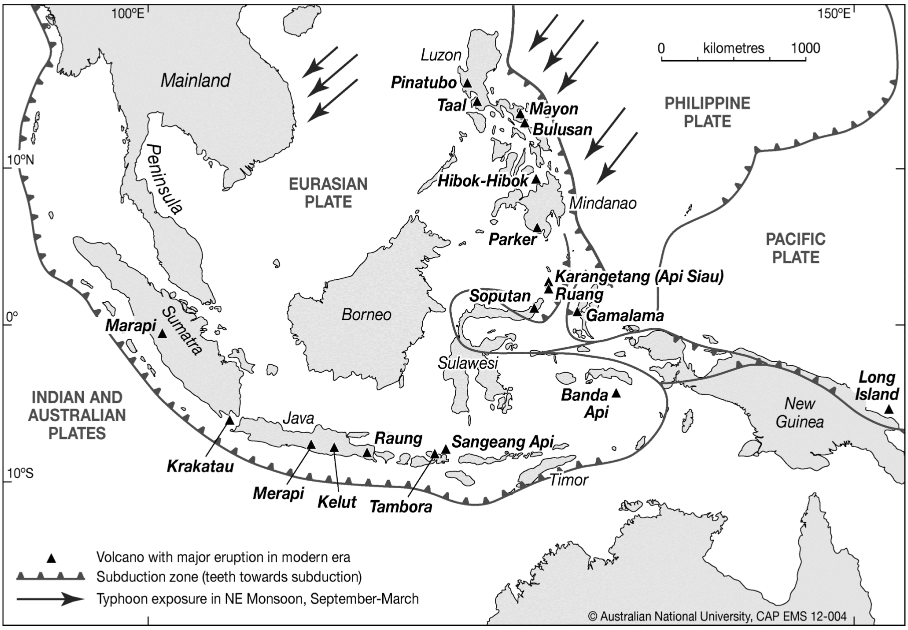
Figure 1
Deaths in Indonesia from 'natural' (tectonic) disasters by century[1]



Map 1

1 The data on which this graph is based was assembled and presented in a separate paper (Reid forthcoming). Deaths from volcanic eruptions would have to be moved substantially upward if based on census figures as done below.

Major natural threats to Southeast Asia



Because of the relatively low number of casualties from Indonesia's natural disasters during the twentieth century, compared to the very high numbers of casualties of political conflict, it is not surprising that historians should have focused on the political events, most of them state-sponsored. Figure 1 shows the low human cost of nature's ravages in the twentieth century, even before allowing for the great underestimates for nineteenth-century deaths due to sketchy knowledge of, or interest in the most vulnerable areas outside Java. Tambora and Krakatau, but not the 'routine' earthquakes and tsunamis, forced themselves into the records. Elsewhere I demonstrate that the deaths directly attributed to political conflict in the twentieth century outnumbered those caused by geological spasms by about 30 to 1(Reid forthcoming). The reversal since 2000 has been dramatic, partly because of the extraordinary death toll of the 2004 tsunami. Natural disasters outnumbered conflict deaths 17 to 1 in the first decade of the twenty-first century. In fact the political killing of the democratic transition finally stopped about 2002, so that the ratio in the decade since then is more like 100 to 1 in favour of natural disasters. Steven Pinker (2011) has shown that violent deaths from human conflict have in fact declined dramatically in most places as a proportion of total deaths,[2] even if the Indonesian figures look high in the mid-twentieth century as the world-system readjusted from empires to nation-states. Since 1980 Southeast Asia has joined the global downward trend for violent conflict deaths. Natural disasters on the other hand had already caused four times as many deaths in Indonesia in the first decade of the twenty-first than the whole of the twentieth century, and will certainly cause many more.

ESTIMATING THE POPULATION EFFECTS OF MODERN ERUPTIONS

There are puzzles about the population history of the tectonically-threatened island arc from Sumatra to Luzon, and especially its volcanic jewel, Java (Map 1). The entire region had population densities well below the rest of humid Asia in the early 1800s when population began to be assessed accurately, even though humans had flourished in this region for longer than in most of Asia, surviving the ice ages as was not possible further north. Its environmental conditions were congenial to human life, and its volcanic soils and humid climate were favourable to agriculture, which had been practiced there for at least 5,000 years. This was demonstrated by the astonishing growth of population of the two main volcanic rice-baskets in the 'mild' period between 1835 and 2000. Java grew from about six to 125 million, achieving one of the highest rural population densities in the world. In general demographers have either struggled to show the earliest estimates must have been much too low, or explained extremely low growth rates prior to the colonial peace by a pattern of disease and small-scale warfare, as indeed did I (Reid 1987). The pattern of periodic mega-disasters, particularly in the form of volcanic eruptions affecting agriculture, must now be built into this explanation. Volcanic eruptions alternately enabled intense agricultural production through the rich volcanic soils, and destroyed it by ash deposits and the blocking out of sunlight. But so little of the destructive power was displayed in the relatively calm period after 1835 that even the historians have neglected this likelihood.

The Tambora eruption of April 1815 has attracted more attention than other Southeast Asian disasters, once it was discovered to have been the cause of the notorious 'year without summer' in Western Europe and North America in 1816. Besides leaving a substantial ash deposit in the ice caps of both

[2] See further Pinker 2011.

polar regions, it lowered temperatures in the northern hemisphere and caused disastrous crop failures and freakish weather (Oppenheimer 2003). Its effects in Indonesia itself were probably the most acute; we know for example that the global climate-affecting Laki eruptions in Iceland in 1783 also killed 20-25 per cent of Iceland's population and most of its livestock through the deposit of hydrogen fluoride and sulphur dioxide. Local effects of southeast Asian mega-eruptions in Southeast Asia, however, are scarcely beginning to be investigated. Most scholarly interest has been devoted to the effects of Indonesia's eruptions on global climate, notably the lowering of temperatures in the northern hemisphere (Mass & Portman 1989; Briffa *et al.* 1998). By looking at population figures here, I hope to suggest the dimensions of damage to the nearby social structure of these mega-eruptions, though much more research is needed to understand the mechanisms by which this occurred.

Those directly killed in 1815 by the explosion of gases and lava flows were mainly on the Tambora Peninsula formed by the mountain on the island of Sumbawa, where the explosion killed virtually everybody, around 11,000 people. The Tambora language, a word-list of which had been collected by Raffles before the eruption, was wiped out, eliminating what is now understood to have been by far the most westerly survival of a Papuan-type (non-Austronesian) language (Donahue 2007). Figures between 60,000 and 90,000 are often cited for the numbers who died from hunger and disease in the remainder of the island of Sumbawa, and in Lombok, Bali and East Java to its west, as agriculture was destroyed by ash deposits and lack of sunlight. Such estimates are necessarily extremely speculative in the absence of accurate population data for the period. Harvests in Bali (the best-documented) were drastically affected for the next four years. The effect was worsened by a severe earthquake in Bali in November of the same year, which caused the crater lake of Mount Pangilingan to burst its banks, destroying seventeen villages in North Bali and killing an estimated 10,000 people. The devastated population was then assailed by infestations of rats which consumed much of the little food left. A Dutch visitor to Bali in 1818 counted 34 corpses lying beside the 25 km track between Badung and Gianyar, having presumably failed to survive the desperate walk in search of food. The same Dutch observer pointed out, 'The lords are dirt-poor, while the people suffer great deprivations and often go hungry'. Only after 10-15 years of misery did the ecological curse turn again to a blessing as the nutrients in the ash were absorbed to fertilise

Bali's soils (Van der Kraan 1993: 107-110 [quotation on p. 109]; see also Creese 1997: 356).

Table 1
Population Effects of Krakatau Eruption May 1883 on Two Java Residencies

	BANTEN			BATAVIA		
	population	if at 1.6%	Missing	popula-tion	if at 1.6%	missing
1882	560,660			838,015		
1883	538,186	569,631	31,445	835,943	851,423	15,480
1884	541,216	578,744	37,528	863,796	865,046	1,250
1885	528,696	588,005	59,309	879,801	878,887	-
1886	544,321	597,413	53,092	926,892	892,949	-
1887	561,003	606,972	45,969	937,289	907236	-

Source: Boomgaard & Gooszen 1991: 116.

At the time of the Krakatau eruption in May 1883 population and production figures were a little better, though still inadequate to determine the full effects of the eruption. The closest regencies to Krakatau, Banten and Batavia in Java and Lampung in Sumatra, all lost a significant population in the years immediately after the eruption, though I am not aware of any specific study of these effects. Table 1 gives official figures for the two Java residencies compared with the expected growth rate for Java of the period, estimated by Boomgaard and Gooszen (1991) as 1.6 per cent per year.

Figures for Lampung are available at five-year intervals, showing a population of 125,400 in 1880 having dropped to 118,550 in 1885, but recovering to 127,300 in 1890. Allowing for expected population growth, which was at 1.9 per cent per year when figures are available for 1900-1905, the population should have grown to 137,774 in 1885 and 151,370 in 1990 (Boomgaard & Gooszen 1991: 44, 224).The missing population would then be 19,224 in 1885 and 24,070 in 1890. Unfortunately there are no such reliable figures for Palembang, Jambi and Bengkulu, which were very likely also affected by the cloud of ash. Officials noted that 'fever' was a particularly virulent killer in 1883 and 1884, 'when large numbers of people were rendered homeless by the eruption of Krakatau', and that this affected not only Banten and Batavia, but also Banyumas and Bagelen further east (Boomgaard & Gooszen 1991: 56). Bagelen's population, indeed, was recorded as suffering an absolute drop from1,287,938 in 1883 to 1,268,966 in 1886 (Boomgaard & Gooszen 1991: 116), which represents a loss of 62,815 inhabitants from the 1,350,753 which would have been reached if Java's overall growth rate of 1.6 per cent per year had occurred. Since the intervening residencies of Priangan and Banyumas did not show such a clear effect, however, we should be cautious in attributing all this loss to the impact of Krakatau.

Nevertheless the longer-term effects of the eruption on mortality through crop failure, starvation, lack of clean water and attendant diseases, were certainly greater than the 30,000 conventionally attributed to Krakatau, mainly as victims of its tsunami. A more realistic estimate for the years 1883/85 would be in excess of 100,000.

Although I have not located rice crop yields in these years, Pierre van der Eng's figures make clear that there was a significant drop in the availability of rice per capita in Java as a whole between 1880 and 1890, with the sharpest drop in 1883. Between 1881/85 and 1886/90 the drop he calculated was 11.4 per cent in rice availability per capita, although only 6 per cent if adding all the five other staple food crops of Java (van der Eng 2000: 599, 616). Nutrition levels and even measured heights of sample populations reached their nadir in Java between 1870 and 1910, Javanese appear to have been about two centimeters shorter in the 1880s than in the 1850s, as well as more poorly nourished (Baten, Stegl & van der Eng 2013). van der Eng and his colleagues already drew attention to the Krakatau eruption as one of contributing factors to this apparent nadir in the living conditions of the inhabitants of Java.

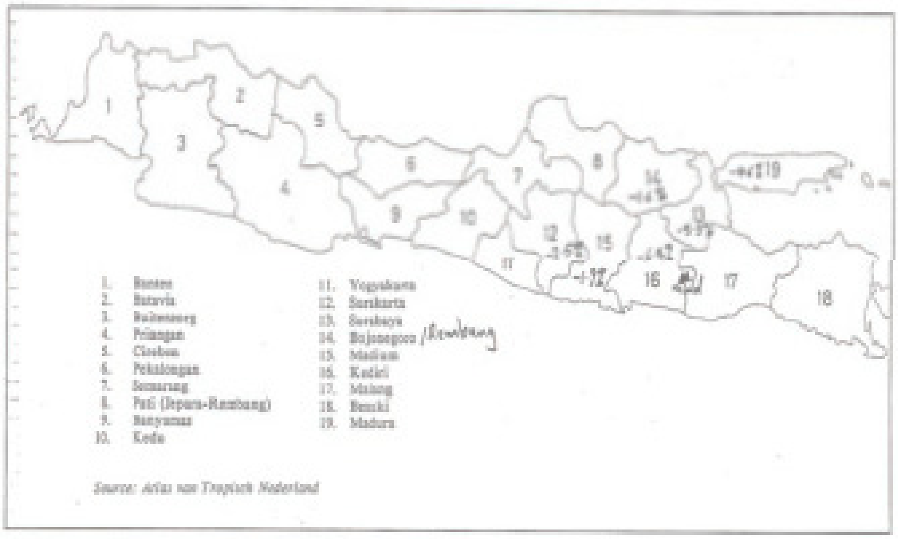
Population data is better for the twentieth century, when the most lethal eruption of a comparatively quiet century was that of Kelud on 19/20 May 1919. The immediate deaths from pyroclastic flows and the bursting of its crater lake were reported as 5,110, primarily in Blitar (Kediri, East Java) to the immediate southwest of the volcano. The deaths resulting from starvation, disease and dislocation were far greater, particularly in the districts to the immediate west and northwest of the mountain, the direction in which prevailing winds carry the ash deposit. This means the regencies of Kediri, Surabaya, Rembang, Madura and even Surakarta and Semarang, all of which showed a substantial population deficit in 1919 and 1920, even from the low point created by the influenza epidemic in 1918, when Java's population was reported as 200,000 below what it had been in 1917. In 1919 it was listed as 249,000 lower again, although the virulent stage of the influenza epidemic was over (Boomgaard & Gooszens 1991: 119).

Siddarth Chandra has made some sophisticated calculations on the population figures of this period to show that, given the expected population increase of 1.75 per cent per annum in this period, Java in fact lost over four million people to the influenza epidemic, rather than the 1.5 million for all Indonesia mentioned in the literature. Chandra does not consider other contributing factors to the high mortality of this period, as those on the ground at the time were obliged to do (Chandra 2013).

Table 2
Missing Population After the Influenza Crisis Year of 1918

	1918	1920	if at 1.75%	missing	missing %
All Java	33,376,545	34,433,476	34,554,945	121,469	0.35%
Kediri	2,062,710	1,990,538	2,135,536	144,998	6.79%
Surabaya	2,445,082	2,396,520	2,531,409	134,888	5.33%
Madura	1,758,056	1,736,651	1,820,126	83,475	4.59%
Madiun	1,561,099	1,586,008	1,616,215	30,207	1.87%
Surakarta	2,010,368	2,029,843	2,081,346	51,503	2.47%
Rembang	1,611,420	1,641,859	1,668,313	26,454	1.59%

Map 3
Administrative division of Java, c. 1935



The particularly high mortality in the residencies in Kelud's 'shadow' in 1919 and 1920, however, makes clear that the effect of the eruption was very great indeed, whether from the deposit of ash and suphorous acids, or reduced sunlight. Table 2 shows that the missing population in the crisis years 1919 and 1920, after the worst impact of the influenza in 1918, was in almost exact proportion to the distance from Mount Kelud in the ash shadow of the eruption. This unexpectedly large discrepancy between the residencies in the immediate shadow of Kelud is a striking demonstration of the indirect effects on health and mortality of major volcanic eruptions. It demonstrates that, whereas the rest of Java was recovering in 1919 and 1920 from the severe impact of the influenza epidemic in 1918, the areas most affected by the Kelud eruption continued to lose population even in absolute terms. That the adjacent residencies should lose in excess of five per cent of their expected population, and that the total loss exceeded half a million, shows convincingly that we need to revisit the larger eruptions in the era before accurate population counts with the expectation that the effect on population will be very great.

The eruption of Mount Pinatubo in 1991 (with a second 1992), the most recent in the region to reach 5 on the VEI scale, revealed how modern monitoring and timely evacuation can reduce deaths from a mega-eruption, especially when it behaves as co-operatively as Pinatubo in a gradually escalating series of warning events. 60,000 people were evacuated in the month before the eruption, including 14,000 from the US Air Force base at Tarlac, 15 km from the volcano, which was never re-established. It was estimated that 20,000 of these would have died immediately from the eruption, though only 700 did so, mostly from collapsing roves from the weight of ash. The recent date of this disaster provides better documentation of the effects on agriculture. Some 2,000 square kilometres were covered with ash at least 10 cm in depth, and 7,000 square km at least 1 cm. Two years after the event, it was estimated that 2.1 million people were affected and 8,000 houses destroyed, mostly in Zambales, Pampanga and Tarlac. 81,900 hectares of rice land were destroyed (compared with 15,000 hectares for Kelud in 1919 ("Kelud Volcano"), at a cost in lost production of 351 million pesos. 779,000 head of livestock and poultry were believed to have died, making a further loss of 203 million pesos. The Department of Agriculture in Central Luzon then (1993) calculated total losses from lahars and ash deposit as 1.5 billion pesos ($55 million) (Mercado *et al.* 1993; Pappas 2011).

OTHER LIKELY VOLCANIC CONSEQUENCES

Although Java was far better known to the Dutch than the other Indonesian islands in the eighteenth and nineteenth centuries, we still know too little about volcanic and other disasters even there before Krakatau (1883) captured the world's attention. When relatively detailed population surveys began to be made by Raffles around 1813 and the returning Dutch from 1820, the low population of two areas stands out – the Sundanese area of Parahyangan (West Java) and the eastern salient of Java. Boomgaard shows population densities for 1820 of ten per square km for the whole of Parahyangan (covering fully half of West Java), nine for Krawang to its north and only four for Banyuwangi, the easternmost of Java's residencies, against an overall density for Java of 43 (Boomgaard 1989: 75).The Tasikmalaya area of West Java was devastated in 1822 by the lava flow from a big eruption of Mount Galunggung (VEI 5), recorded as having directly killed 4011 people (Bronto 1989; Smithsonian GVP). The earliest European accounts in the eighteenth century judged it a sparsely peopled place of 'simple and uneducated mountaineers'. Raffles noted formerly cultivated areas of Parahyangan abandoned in his (Raffles 1829: I, 71-72, quotation on p. 399).

These poorly populated areas are for the same reason among the most fertile in Java, with among the highest productivity per hectare in Java. Their populations increased particularly dramatically during the geologically quieter times after 1830, even though the 1883 Krakatau eruption again depopulated the south-western corner. Today Sundanese-speaking West Java (minus Jakarta and Banten) is Indonesia's most populous province with the densest population (except for the city-provinces) of 1,235 per square km.

In the easternmost salient of Java (the *Oosthoek* to the Dutch), the almost total depopulation of Banyuwangi by 1820 is usually attributed to the prolonged warfare over the area between Hindu Balinese and Muslim Mataram, with the Dutch East India Company (Vereenigde Oost-Indische Compagnie, VOC) adding a nasty kind of scorched-earth policy when they intervened after taking over Mataram's claims in 1734. But it is likely that the eruption of Tambora in 1815, and of the Oosthoek's own unusually active volcanoes, also played a significant role (Kumar 1979: 191). Mount Ijen possesses the largest caldera in Java at 20km, and the world's largest acidic crater lake which confers both benefits of sulphur deposits and great dangers of spillage in eruptions that occurred in 1797 and 1817. Nearby Mount Raung has erupted 43 times since 1880, but its earlier eruptions were more severe, causing numerous deaths in 1638, 1730, and January 1817. There is a suggestion of the memory of past devastations of rice agriculture in a report by Van Ryck on the peoples living on the slopes of Mount Bromo [Brama] in East Java in 1785. While he admired their uprightness and 'peacability', Van den Berg found them astonishingly 'blind and superstitious' when it came to rice agriculture. 'On the whole of (Mount) Brama, and the nearby Tengger and Tjierische ranges, they will plant no padi, and will also stamp husk no padi into rice, in the belief that to do so would cause the greatest misfortune to be visited on their land and people' (Van Ryck 1814: 2-3).[3]

[3] Eruptions of the Tengger Caldera area are thought very uncertainly to have occurred in 1767, 1775, 1804 and 1815.

VOLCANOES AND HINDU-BUDDHIST CIVILIZATION

West Java's discontinuity is particularly striking, as it was the site of the earliest inscriptions in Java, evidence for some kind of polity named Tarumanegara on the coast as early as the fifth century. Javanese legends acknowledge the western area as the source of ancient legitimacy associated with the Baron Sakundar myth as well as that of Ratu Kidul (of whom more below) (Ricklefs 1974; Pigeaud 1968: II, 249). David Keys has assembled plausible evidence for a massive eruption in westernmost Java (though not necessarily an earlier Krakatau event as he proposes), causing the major global cooling now well documented forthe year 535 (Keys 2000: 374-378). He links this to a Javanese tradition, recorded in the nineteenth-century *Pustaka Raja Purwa*, that Sumatra and Java were one island until a vast eruption separated them early in the Common Era. All this means that we should take seriously the likelihood that it was an eruption that moved the centre of Javanese civilization from west to central Java in the sixth or seventh century. West Java appears to have flourished again in the ninth to eleventh centuries, with its Sunda kingdom initially having relations with the first Mataram in central Java. According to the *Carita Parahiyangan*, a manuscript probably of the late seventeenth century found in Cirebon, the rule of Sri Jayabhupati, given as 1030-1042/3 (*Saka* 952-64), appears to have been particularly successful. In 1042/3 (*Saka* year 964), however, 'clouds of ash overshadowed the kingdom of Sunda', the king mysteriously departed and the glorious times were over (Abdurrachman & Ekajati 1991: 23-28, quotation on p. 28).

Could the same eruption have had a role in the better-known collapse of the early Mataram civilization of Central Java, which built the magnificent temples of Borobudur (Buddhist) and Prambanan (Saivite) among many others in the period 600-900 CE. It has been conventional in Java to point to an eruption of Merapi in about 1000 CE as the cause, based on hypotheses going back to IJzerman in 1891, repeated by Dutch geologists such as Van Bemmelen (IJzerman 1891; Van Bemmelen 1949). Recent research summarized by Newhall *et al*. and Jan Christie has replaced this simple hypothesis with evidence of a number of major eruptions that contributed to the absence of dated inscriptions after 928 CE. There are three distinct layers of volcanic ash in the Borobudur area, but the thickest of up to half a meter clearly put an end to occupation of the ninth and early tenth centuries. To the south of Merapi around modern Yogyakarta, perhaps the densest area of settlement then as now, several layers of lava in quick succession appear to have buried temples. Recently excavated temples, such as Sambisari and Kedulan were below seven meters of lava. In the ninth and tenth centuries the centre of activity shifted to East Java, and surviving inscriptions of this period were increasingly concerned to propitiate local ancestor-spirits associated with the volcanoes rather than Indic deities. A number of successive eruptions may be responsible (Newhall *et al.*2000; Wisseman Christie forthcoming). We should now look beyond Merapi for a fuller explanation of why this fertile central Java region fell silent for six centuries. A bigger eruption from a more distant volcano, less given to regular small eruptions than Merapi, may have caused the crops to fail for long enough to put an end to civilization.

The earliest Javanese chronicle with reliable dates for events, such as volcanoes, is the East Javanese *Pararaton*, probably compiled in the late fifteenth or sixteenth centuries, describing much of the history of Majapahit. It clearly regarded eruptions as important and listed nine of them between 1311 and 1481, the last of which ends the chronicle (Phalgunadi 1996). One of these may in fact have buried Candi Sambisari in 6.5 meters of debris from which it was recently excavated, since there is evidence that it was unburied long enough for Muslim forces to plunder it (Newhall *et al.* 2000: 45).The established historiography has given its attention almost exclusively to the challenge of Islam and its trade-based *pesisir* cities to Javanese civilization in the decades before and after 1500, but natural disasters are highly likely to have played a role.

Into our still murky understanding of the collapse of Hindu-Buddhist civilization in Java the date 1258 AD comes as something of a surprise. This has now been confidently established by the climatologists as the date of 'the world's largest volcanic eruption of the past millennium' based on Arctic and Antarctic ice cores, and therefore definitely with a tropical source. It suddenly darkened skies and dropped temperatures in England, and caused crop failures and disease in much of Europe and the Middle East (Stothers 2000; Emile-Geay *et al.* 2008). The careful dating of a Museum of London Archaeology team recently showed it to have been responsible for the mass burial of thousands of victims of hunger or disease in the Spital fields cemetery of London (Hilts 2012). An international and interdisciplinary team that investigated the chemical composition of rocks ejected by leading suspect volcanoes for a match with that of the ash deposits believes it has found the source in a massive eruption at Mount Rinjani in Lombok (Witze 2012).[4]

A date of 1257 (likeliest for effects around the world in 1258) had not suggested itself to the historians of Java, though it is not incompatible with the little we know of the thirteenth century. The rise of Singhasari's power in East Java under Kertanegara from 1268 is reasonably secure from later chronicles, but there is no continuous history stretching before that, back to the legendary mighty founder Ken Arok, who reputedly died in 1227. In Bali, which would certainly have had its agriculture devastated by such a massive explosion in adjacent Lombok, the slim evidence we have also seems compatible with the occurrence of a catastrophe around the middle of the thirteenth century. The dated inscriptions in Bali are relatively numerous from 911 to 1204 CE, with 135 dated inscriptions, or datable by context, falling in those three centuries. There is however only one more inscription in almost a century between 1204 and 1296, with 15 further inscriptions then being produced in the years before the Javanese invasion of Bali in 1343. That one anomaly is the Bulian B inscription, mentioning a ruler or chief named Adidewa Lancana and a date. This date was read by Van Stein Callenfels as *Saka* (Java/Bali calendar) 1172 = 1250CE, but by R. Goris as *Saka* 1182 = 1260CE (Goris 1954: I, 41-42, II, 345-346; Robson 1978). If the former were correct, it would mean a period of 38 silent years following a Rinjani eruption in 1257; if the latter, then there is a problem in explaining Bulian B being written without mentioning a terrible disaster overcoming the land only two years earlier.

SURVIVAL OF DIVERSITY

Even though chroniclers of the time may have been unaware of the connection, therefore, the most numerous fatalities and disruptions to civilization in earlier mega-eruptions would have arisen not from the dramatic immediate victims of gasses and lava, but from the failure of crops as a result of the ash deposits, acid rain and lack of sunlight over a period of several years. In attempting to understand the longer-term effects of this extremely dangerous environment, a first step is to recognize that densely-settled wet-rice (*sawah*) farmers were the

---

4 In a personal communication (24 April 2013), the French geographer leading this team, Franck Lavigne, specified that the evidence was strong for Rinjani as the source of a 1257 eruption, although the paper had not at that stage been published,.

most vulnerable because of their reliance on a single crop delicately adjusted to climate and environment. Their vulnerability to disasters helps explain Southeast Asia's remarkable human and biological diversity, particularly evident in the most exposed arc of tectonic subduction around the region's southern and eastern rim.

The most remarkable human survival in the region is the diminutive 'hobbit', *Homo floresiensis,* discovered in 2003 to have survived as recently as 12,000 years ago, and thus long co-existing with *Homo sapiens*. The find was in Flores, easterly neighbour of Sumbawa and itself one long volcanic spine including eight active volcanoes still causing significant damage in the twentieth century. The dominant Flores population today itself has more visible genetic links with older Australo-Melanesian inhabitants (pre-Austronesian and closer to Australian and New Guinea populations) than elsewhere, and has vivid memories of different 'wild men' surviving up to a few generations ago (Forth 2006). Since the sea crossing to Flores from other islands is not difficult, the likelihood is that Austronesian agriculturalists repeatedly colonized the island, but were checked from taking over as fully as elsewhere by the effects of major eruptions (and tsunamis on the coast).

The Philippine islands were also occupied by a small, though presumably very long-standing, Austronesian agricultural population at the Spanish arrival in the sixteenth century, as well as by darker Australo-Melanesian hunter-gatherers, estimated to be still 10 per cent of the population in 1600. The Spanish called these people *negros* or *negritos*, and therefore applied the name Negros to the large island in the Visayas where they still dominated (Rahman & Maceda 1955).[5] Loarca reported in 1582 that Negros had a population of only 6,000-7,000 Indios, but this excluded the Negritos whose numbers 'could not be ascertained because of their hostility' (cited by Newson 2009: 74). Negros is also home to the Central Philippines' most active volcano, Kanlaon (26 eruptions of VEI 1 or 2 since 1919). Nothing is yet known about the history of this volcano before Negros was taken over by sugar cultivation in the nineteenth century, but the minimal place of agriculture on its rich soils in earlier times suggests an eruption strong enough to have destroyed or

5 The sugar industry quickly transformed the formerly forested Negros after 1860. In 1889 Blumentritt cited a Spanish source that the Negritos were still numerous in the forests around the mountain, but 'weak and sickly, and decreasing in number'. Diaz Arenas had estimated their population at 3,475 in 1850, before the sugar invasion, but this number declined quickly thereafter to be only a handful, having lost their languages, by the 1950s. Deforestation in the twentieth century removed their remaining habitat..

deterred earlier agriculturalists. After sugar in Negros destroyed their habitat, the strongest Negrito survivals were the Aetas, on slopes exposed to Mount Pinatubo's mega-eruptions, the last of which before 1991 were around 1450CE and 1000 BCE (Smithsonian GVP).The Aetas demonstrated their exemplary flexibility and mobility in locating food sources at the time of the 1991 eruption. After typhoons also, it had been noted, poor agriculturalists sought to marry into Aeta families for survival (Seitz 1998). It seems likely, therefore, that just as rapid expansion of agriculture and population has threatened the survival of hunter-gatherers in the last two hundred years, similar expansions threatened them in the past only to be checked by natural disaster.

FUTURE RESEARCH

More extensive cross-disciplinary research into the volcanic record is needed to help us appreciate not only likely future dangers to population, but also the very uneven and interrupted character of Indonesian population expansion in the past.

CONCLUSION

Books

Abdurrachman, Etti R.S., and Ekajati, Edi S. 1991. *Carita Parahiyangan, Karya Pangeran Wangsakerta: Ringkasan, Konteks Sejarah, Isi Naskah dan Peta.* Jakarta: Yayasan Pembangunan Jawa Barat.

Bemmelen, R.W. van. 1949. *The Geology of Indonesia. Vol. 1A, General Geology.* The

Hague: Government Printing Office.

Boomgaard, Peter. 1989.*Children of the Colonial State: Population Growth and*

Economic Development in Java, 1795-1880. Amsterdam: Free University Press. Boomgaard, Peter and Gooszen, A.J. 1991. *Changing Economy in Indonesia. Vol. 11.*

Population Trends 1795-1942. Amsterdam: Royal Tropical Institute.

Bronto, Sutikno. 1989. *Volcanic Geology of Galunggung, West Java, Indonesia*. PhD dissertation, University of Canterbury, New Zealand.

Goris, R. 1954. *Prasasti Bali.* Bandung: Masa Baru, for Lembaga Bahasa dan Budaja, Universitet Indonesia.

Hämmerle, Johannes. 1999. *Asal Usul Masyarakat Nias: Suatu Interpretasi*. Gunungsitoli: Penerbit Yayasan Pusaka Nias.

IJzerman, J.W. 1891. *Beschrijving der Oudheden nabij de grens van de Residenties Soerakarta en Djogdjakarta*. The Hague.

Keys, David. 2000. *Catastrophe: An Investigation into the Origins of the Modern World.* London: Arrow Books.

Loeb, Edwin. 1935. *Sumatra: Its History and People*. Vienna: Institut für Völkerkunde der Universität Wien.

Newson, Linda. 2009.*Conquest and Pestilence in the Early Spanish Philippines.* Honolulu: University of Hawai'i Press.

Phalgunadi, I Gusti Putu. 1996. *The Pararaton: A Study of the Southeast Asian Chronicle.* New Delhi: Sundeep Prakashan.

Pigeaud, Theorode. 1968. *Literature of Java.* Leiden: Bibliotheca Universitatis Leidensis.

Pinker, Steven. 2011. *The Better Angels of our Nature: The Decline of Violence in History and its Causes.* London: Allen Lane.

Raffles, Thomas Stamford. 1829. *History of Java* [Second edition]. London: John Murray.

Ricklefs, M.C. 1974. *Jogjakarta under Sultan Mangkubumi 1749-1792: A History of the Division of Java.* London: SOAS.

Schefold, Reimar. 1988. *Lia:Das große Ritual auf den Mentawai-Inseln (Indonesien)*. Frankfurt: Dietrich Reimer.

Schröder, E.E.W.G. 1917. *Nias*. Leiden: Brill.

Articles

Baten, Jörg, Stegl, Mojgan and Eng, Pierre van der. 2013. "The Biological Standard of Living and Body Height in Colonial and Post-colonial Indonesia, 1770–2000". *Journal of Bioeconomics* 2013.

Briffa, K.R., Jones, P.D., Schweingruber, F.H. and Osborn, T.J. 1998."Influence of Volcanic Eruptions on Northern Hemisphere Summer Temperatures over the Past 600 Years". *Nature,* No. 393 (4 June), pp. 450-455.

Chandra, Siddarth. 2013. "Mortality from the Influenza Pandemic of 1918-19 in Indonesia". *Population Studies*.

Creese, Helen. 1997. "New Kingdoms, Old Concerns: Balinese Identities in the Eighteenth and Nineteenth Centuries". In: Anthony Reid (editor),*The Last Stand of Asian Autonomies: Responses to Modernity in the Diverse States of Southeast Asia and Korea, 1750-1900.* Basingstoke: Macmillan.

Donahue, Mark. 2007. "The Papuan Language of Tambora". *Ocean Linguistics*, Vol. 46, No. 2 (December).

Emile-Geay, Julien *et al.* 2008. "Volcanoes and ENSO over the Past Millennium". *Journal of Climate,* Vol. 21, pp. 3134-3148.

Eng, Pierre van der.2000. "Food for Growth: Trends in Indonesia's Food Supply, 1880-1995". *Journal of Interdisciplinary History*, Vol. 30, No. 4 (Spring). Forth, Gregory. 2006. "Flores after Floresiensis: Implications of Local Reaction to Recent Palaeoanthropological Discoveries on an eastern Indonesian Island". *Bijdragen tot de Taal-, Land- en Volkenkunde*, Vol. 162, pp. 336-349.

Kraan, Alfons van der. 1993. "Trade, Rajas and Bandars in South Bali". In: John Butcher and Howard Dick (editors), *The Rise and Fall of Revenue Farming: Business Elites and the Emergence of the Modern State in Southeast Asia.* Basingstoke: Macmillan.

Kumar, Ann. 1979. "Javanese Historiography in and of the 'Colonial Period': A Case Study". In: Anthony Reid and David Marr (editors), *Perceptions of the Past in Southeast Asia.* Singapore: Heinemann.

Mass, Clifford and Portman, David. 1989. "Major Volcanic Eruptions and Climate: A Critical Evaluation". *Journal of Climate,* Vol. 2, pp. 566-593.

Newhall, C.G.*et al.* 2000. "10,000 Years of Explosive Eruptions of Merapi Volcano, Central Java: Archaeological and Modern Implications". *Journal of Volcanology and Geothermal Research,* Vol. 100, pp. 9–50.

Oppenheimer, Clive. 2003. "Climatic, Environmental and Human Consequences of the Largest Known Historic Eruption: Tambora Volcano (Indonesia) 1815". *Progress in Physical Geography,* Vol. 27, No. 2, pp. 230–259.

Rahman, Rudolf and Maceda, Marcellino. 1955. "Notes on the Negritos of Northern Negros". *Anthropos,* Vol. 50, pp. 810-836.

Reid, Anthony. 1987. "Low Population Growth and its Causes in Pre-Colonial Southeast Asia". In: Norman Owen (editor), *Death and Disease in Southeast Asia: Explorations in Social, Medical, and Demographic History.* Singapore: Oxford University Press, pp. 33-47.

--------. Forthcoming. "History and Seismology in the Ring of Fire: Punctuating the Indonesian Past". In: David Henley and Henk Schulte Nordholt (editors), *The Longue Durée in Southeast Asian History*. Leiden: Brill/KITLV.

Robson, Stuart. 1978. "The Ancient Capital of Bali". *Archipel*, Vol. 16, pp. 75-89.

Ryck, Adriaan van. 1814. "Berigt wegens de zeden en gewoonten der Opgezetenen van den berg Brama en bijgelegen volken op het eiland Java, getrokken uit een' brief van den Heer Adriaan van Ryck, Commandant van Passourouang aan wylen den Heer Hooyman, geschreven den 26 Mei 1785", *Bataviaasch Genootschap der Kunsten en Wetenschappen*, Vol. 7.

Seitz, S. 1998. “Coping Strategies in an Ethnic Minority Group: the Aeta of Mount Pinatubo”. *Disasters,* Vol. 22, pp. 76–90.

Stothers, Richard. 2000. “Climatic and Demographic Consequences of the Massive Volcanic Eruption of 1258”. *Climatic Change,* Vol. 45, pp. 361-374.

Wisseman Christie, Jan. Forthcoming. “Under the Volcano: Stabilizing the Early Javanese State in an Unstable Environment”. In: David Henley and Henk Schulte Nordholt (editors), *The Longue Durée in Southeast Asian History*. Leiden: Brill/KITLV.

Witze, Alexandra. 2012. “Thirteenth Century Volcano Mystery May be Solved”. *Science News,* No. 182 (14 July).

Websites

Gruber, Petra. No date.“Adaptation and Earthquake Resistance of Traditional Nias Architecture”. www.nirn.org/pdf/01_070614_gruber.pdf, [Accessed 21 July 2012].

Hilts, Carly. 2012. “London’s Volcanic Winter”. *Current Archeology* (6 August). www.archaeology.co.uk/articles/features/londons-volcanic-winter.htm

“Kelud Volcano”. www.ulb.ac.be/sciences/cvl/DKIPART2.pdf [Accessed 30 June 2013].

Mercado, Remigio, Lacsamana, Jay Bertram T. and Pineda, Greg L.1993. *Socioeconomic Impacts of the Mount Pinatubo Eruption.* pubs.usgs.gov/pinatubo/mercado/.

Pappas, Stephanie. 2011. “Pinatubo: Why the Biggest Volcanic Eruption wasn’t the deadliest”. *Live Science* (15 June). www.livescience.com

NOAA National Geophysical Data Center. Significant Volcanic Eruption Database. www.ngdc.noaa.gov/nndc/servlet/ShowDatasets?dataset, [Accessed 9 November 2012].

Perkins, Sid. 2008. “Reef Record Suggests Impending Sumatra Quakes” *ScienceNews*, 11 December. www.sciencenews.org.

Smithsonian GVP [Global Vulcanism Program]. “Galunggang Summary”, “Large Holocene Eruptions”, “Pinatubo”. www.volcano.si.edu/.

THE CONSEQUENCES OF URBAN AIR POLLUTION FOR CHILD HEALTH: WHAT DOES SELF-REPORTING DATA IN THE JAKARTA METROPOLITAN AREA REVEAL?

Mia Amalia, Budy P. Resosudarmo and Jeff Bennett

National Development Planning Agency (BAPPENAS)
Australian National University

ABSTRACT

Since the early 1990s, the air pollution level in the Jakarta Metropolitan Area has arguably been one of the highest in developing countries. This article utilizes self-reporting data on illnesses available in the 2004 National Socio-Economic Household Survey to test the hypothesis that air pollution impacts human health, particularly among children. Test results confirm that air pollution, represented by the PM10 level in a sub-district, significantly correlates with the level of human health problems, represented by the number of restricted activity days (RAD) in the previous month. Results show that the younger the person, the higher the number of RAD in the previous month; that is the impact of a given level of PM10 concentration is more hazardous for children.

Keywords: Air pollution, Environmental economics, Health economics, Exposure response model

INTRODUCTION

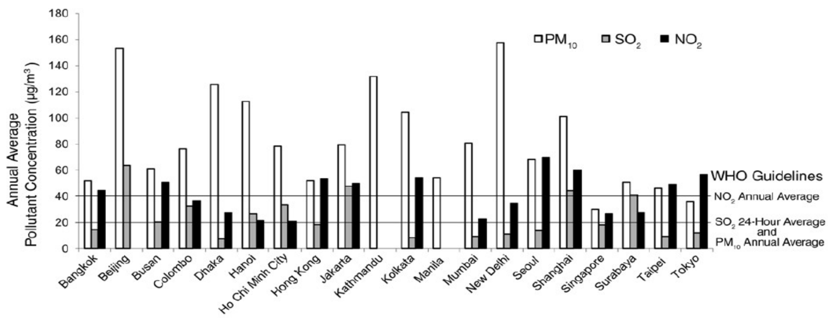
For more than four decades Anne Booth has studied various aspects of the Indonesian economy, including issues related to land use, agriculture, labour, poverty, income inequality, regional development and fiscal policy. Fellow researchers acknowledge that her work has enriched and strengthened the scientific literature on the Indonesian economy. However, as far as the authors are aware, there is one Indonesian topic — an environmental issue — that Anne has never tackled. This article concerns the problems caused by air pollution in Jakarta, an issue that will have been easily noticeable to her whenever visiting the city. In choosing this topic, the authors hope to encourage Anne to add her contribution to Indonesian environmental research.

Since the early 1990s, the level of air pollution in the Jakarta Metropolitan Area (JMA, embracing Jakarta, Bogor, Depok, Tangerang and Bekasi) has arguably been one of the highest in developing countries. Both the annual average of total suspended particles (TSP) and nitrogen oxides (NO) in JMA are above the international standards set by the World Health Organization (WHO) (Health Effect Institute 2004; Resosudarmo & Napitupulu 2004). In addition, particulate matter with an aerodynamic diameter of less than 10 micrometer (PM10) concentration in JMA has been among the highest in the world (World Bank 2006) and in Asia (Figure 1). It has also been argued that these air pollutants impact negatively on society in the form of illnesses, such as respiratory problems, eye irritation and cardiovascular disease. Resosudarmo and Napitupulu (2004) estimated that the total health cost associated with pollutants in Jakarta in 1998 amounted to approximately $

180 million or about 1 percent of Jakarta's GDP, as much as total revenue of the Jakarta government for that year. Applying a hedonic pricing model to housing rental prices, Yusuf and Resosudarmo (2009) predicted that the value of air pollution per household in Jakarta ranges from $28 to $85 per $\mu g/m^3$.

Major pollutants in the JMA are carbon monoxide (CO), nitrogen oxides (NO_x), sulphur oxides (SO_x), volatile organic compounds (VOC) or hydrocarbons (HC) and PM10 as a fraction of TSP (IMAP, 2002). In the primary stage of emission, CO, NO_x, SO_x and VOC are gaseous substances. In the secondary stage, NO_x and SO_x can form secondary PM10. PM10 presents in the form of liquid and solid substances: liquid substances such as nitric acid (HNO_3) and sulphuric acid (H_2SO_4) in the presence of water, and solid substances, such as ammonium nitrate (NH_4NO_3) and ammonium sulphate (NH_4HSO_4) in the presence of ammonia. Considering the wide variation in chemical content of PM10 as well as its possible impacts on health, in this article, both primary and secondary PM10 were selected as the main indicators of air pollution in JMA. Besides variation in the chemical content, the physical characteristics of PM10 make it more dangerous compared to the other aforementioned pollutants. According to Gamble and Lewis (1996), 80 per cent of PM10 stays in the respiratory system if inhaled. PM10 is known to cause respiratory diseases, especially in children with asthma (Sirikijpanichkul *et al*. 2006).

Figure 1
Five-year (2000-2004) averages of PM10, SO2 and NO2 concentration in selected Asian cities



:xecutive Summary Figure 2. Five-year (2000–2004) average PM_{10}, SO_2, and NO_2 concentrations in selected Asian cities. Standards are from WHO Air Quality Guide-ines, 2005 Global Update (WHO 2006a): PM_{10} annual average 20 µg/m³; SO_2 24-hr average 20 µg/m³; NO_2 annual average 40 µg/m³. PM_{10} is particulate matter 10 µg/m³ r smaller in aerodynamic diameter; SO_2 is sulfur dioxide; NO_2 is nitrogen dioxide. [Reprinted with permission from Clean Air Initiative for Asian Cities [CAI-Asia] :enter (*www.cleanairnet.org/caiasia*; accessed January 2008).]

Source: Health Effect Institute 2010.

This article focuses on the quantification of PM10 impacts on child health, using the number of restricted activity days (RAD) as the unit of analysis. Children are the focus of this article since, particularly in developing countries, they are the group most vulnerable to health related air quality problems due to their relatively high exposure to the low quality of air and their underdeveloped immune system (World Research Institute 1999; Haryanto, 2007). The types of illnesses considered are lower and upper respiratory illnesses. In this research, the causal relationship between PM10 and respiratory illnesses was estimated using dose-response functions or exposure response models (ERM) (Resosudarmo & Napitupulu 2004).

Hospital and health center data on health impacts caused by air pollutants in most developing countries are not an accurate representation of the actual number of people affected, since many prefer to visit private doctors or to buy pharmacy medicines (Frankenberg *et al*. 2005). Other reasons to avoid using such data are that collecting patient data from all hospitals and health centres in big cities in developing countries is time consuming and would not comply with the scientific research ethical directive regarding data released from hospital and other public facilities to the researcher as the third party. As a result, this paper utilizes the self-reporting data on illnesses available in the 2004 National Socio-Economic Household Survey (*Survei Sosial Ekonomi Nasional*, SUSENAS) to develop an ERM estimating the impact of air pollution on human health, particularly among children, in the JMA. The indicator used to represent air pollution is PM10, while its impact on human health is represented by the number of restricted activity days (RAD) in the past month caused by lower and upper respiratory tract infections. SUSENAS is a large-scale, nationally representative, repeated cross-section survey conducted since the 1960s. In this article, the current literature on the public health impacts and risk assessment of air pollution is reviewed in Sections 2 and 3, respectively. Section 4 provides modelling results and Section 5 concludes the paper.

AIR POLLUTION IMPACTS ON HUMAN HEALTH

The literature on the impacts of air pollution on human health, in general, believes that the most damaging pollutant to human health is PM10 (Gamble & Lewis 1996). PM in the form of TSP, PM10, PM2.5, NO_x and SO_x is related to upper respiratory tract symptoms, such as cough, bronchitis and chest infection especially in young children. These pollutants are also closely linked to lower respiratory tract system conditions, such as asthma. With higher PM concentrations in urban areas, asthma becomes more common, especially in children (Koren & Utell 1997).

Hospital admissions for asthma attack show a positive relationship with PM from two days to a week's lag time. Asthma causes the loss of approximately three million working days and 90 million RAD annually in big cities in the USA (Pope et al. 1995). Asthma attacks are also considered to cause death, although a study by Koren and Utell (1997), using the total number of deaths and the average PM10 concentration per year, could not establish the relationship between these factors. For instance, in the United States, asthma deaths increased from 1979 to 1989, while PM10 and SOx average concentrations decreased (Koren & Utell 1997).

Deposition of PM in lungs can cause lung inflammation and cytokine release affecting heart activity and can further cause cardiac arrest. Due to its ability to deposit in the lungs, PM10 is also a threat to the elderly and children. It has been associated with hospital admission and emergency room visits for chronic obstructive pulmonary disease (COPD), pneumonia and cardiovascular disease, such as ischemic heart disease (IHD) (Brumback et al.,2000; Samet et al. 2000; Schwartz 1995). A study conducted in the United States concluded that the effect of TSP — including PM10 and PM2.5 — on adult mortality is large and positive (Chay et al. 2003). Researchers agree that the smaller the particles, the more dangerous they are (Dockery et al. 1995; Marrack 1995; Pope et al. 1996) since the chance of them being deeply inhaled is greater. McCubbin and Delucchi (1996) argue that PM contributes the most to health costs. Therefore, they conclude that stronger regulation of particulates will reduce mortality and morbidity.

On modelling the relationship between air pollutants and human health or ERM, the literature concludes that pollutant concentration can be used in single pollutant models. However, an aggregation of several single air pollutant models can overestimate the overall health outcomes and cause double counting in economic analysis (Kneese 1984; Kunzli et al. 2000). All the same, the use of a single indicator alone may underestimate the value of health impacts, it may disregard effects of other pollutants which are independent of the selected pollutant (Kunzli et al. 2000). To estimate the correct value of ambient air improvement, researchers have developed a different pollutant combination to value the total impacts of air pollutants on human health. Some use a surrogate pollutant to estimate some or all of the effects of all the other pollutants (BTRE 2005). For instance, Kunzli et al. (2000) use PM10 only because they argue that PM10 is a reliable indicator of several sources of outdoor air pollution. Other researchers agree with this approach, for several reasons:

1. PM10 is used as the surrogate pollutant for SO2, CO and NO2 since PM10 is correlated significantly with SO2, CO and NO2 and not with O3 and because acid pollutants such as SO2 and NO2 contribute to the formation of PM10.

2. PM10 is used as a surrogate because PM10 is a respirable air pollutant and an important contributing factor to respiratory disease with a strong relationship to mortality.

3. PM10 is a complex pollutant since it is a ‘heterogeneous mix of solid or liquid compounds’ such as organic aerosols, primary and secondary

pollutants, and metal. This property implies that PM10 is a surrogate measure for one of its components or for other pollutants.

The literature agrees that PM10 or PM2.5 is the best estimator for calculating the health effects of air pollution (Peters & Dockery 2006). The first reason for this is its close relationship with mortality and morbidity. The second reason is that secondary PM10 also consists of transition compounds of SOx and NOx in the form of ammonium sulphate and ammonium nitrate. This paper, hence, will use PM10 as the measure of air pollution to estimate the human health impacts of air pollution in the JMA.

METHOD: RISK ASSESSMENT FOR PUBLIC HEALTH

ERM estimation is one of the processes used in Risk Assessment for Public Health. The complete process of this risk assessment includes first, determining the average annual concentration of each pollutant over a period of time; second, calculating the health impact and estimating the relationship between the pollutants and the health impact. This is carried out through the following sub-steps:

(1) identification of health hazards by calculating the number of deaths, hospital admissions, or other health outcomes during a certain period of time (Samet *et al*. 1994);

(2) estimation of the ERM;

(3) estimation of the population's profile of exposure to the health hazard.

The last step of this risk assessment is aggregating health risk in the form of a monetary unit (Samet *et al*. 1994).

As this article intends to develop an ERM, it only applies the second step with its sub-steps, using cross sectional data analysis of the aforementioned risk assessment process. Cross sectional analysis uses pollutant level data from different areas and relates them to the morbidity levels within the corresponding area. The general model of an ERM is a multivariate model as follows (Frankenberg *et al*. 2005);

$$h_i = \alpha_o + \alpha_1.p_i + \boldsymbol{\alpha}_2.\boldsymbol{Z}_i + \boldsymbol{\alpha}_3.\boldsymbol{X}_i + e_i$$

$$h_i = \alpha_o + \alpha_1.p_i + \boldsymbol{\alpha}_2.\boldsymbol{Z}_i + \boldsymbol{\alpha}_3.\boldsymbol{X}_i + e_i$$

where: h_i is whether or not an individual was impacted by the air quality. Appropriate models for Equation 1 are probit or multinomial models. p_i is an index measuring the level of air pollution exposure. $\boldsymbol{X}_i$ is a matrix of various individual and village socio-economic characteristics (Frankenberg et al. 2005). $\boldsymbol{Z}_i$ is a matrix containing levels or proxies of indoor air pollution or other pollutants. $\boldsymbol{Z}_i$ is meant to resolve the issue of omitting variable bias that commonly occurs in ERM models. Meanwhile e_i is white random errors. The main hypothesis is that α_1 is equal to zero.

In addition, a population profile analysis was added to determine the most affected and sensitive groups in a population. Sensitive groups such as infants and elderly people might react differently from other groups to the same exposure. To gain a complete estimation an ERM must consider the total dose received by certain groups in the entire population. The population profile is based on: individual physical and health conditions; individual habits and activities; socio-demographic and socio-economic characteristics as well as housing including sources of indoor air pollution and community or neighbourhood conditions.

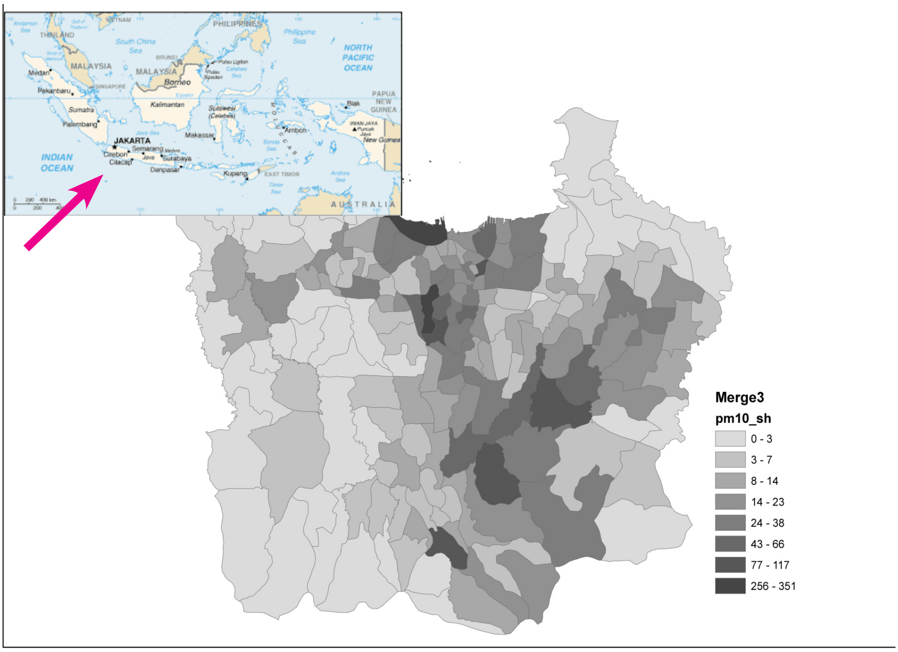
DATA CONSTRUCTION

PM10 is identified as the surrogate pollutant to represent all main pollutants in JMA. Average annual concentration of PM10 is estimated using a PM10 Dispersion Model (PMDM). This model is developed by combining two available dispersion models: the Simplified Mobile Emission Model (SIMEM) and the Simple Interactive Model for Better Air Quality (SIM-AIR). Figure 2 shows the ambient level of PM10 in 2004 resulting from the PMDM utilized in this article.

All possible health hazards caused by PM10 are identified and listed. According to Sirikijpanichkul *et al.* (2006), human responses to PM10 pollution are: mortality, morbidity, chronic and acute bronchitis, hospital admissions, lower and upper respiratory illnesses, chest pain, respiratory symptoms, minor and major RAD, and asthma affecting children and elderly people especially with respiratory and/or cardiovascular diseases. These possible responses are matched with the list of illnesses in the 2004

SUSENAS. Here, respondents were asked to state the types of illnesses they had suffered in the month before the survey was conducted. They were then asked to state their number of absences from work, school or from not carrying out their daily social activities because of their illnesses. Illnesses listed in the 2004 SUSENAS were: fever, cough, cold, asthma, diarrhoea, headache and toothache. Cough, cold and asthma were selected to represent lower and upper respiratory illnesses possibly caused by PM10 pollution (Haryanto, 2007; Sirikijpanichkul *et al*. 2006).

Figure 2
Concentration of PM10 in every subdistrict in the Jakarta Metropolitan Area



It is important to note that this information is self-reported, and so should be interpreted with caution, since survey respondents might have different perceptions of their state of illness. They might have reported different levels of illness using a uniform unit: number of days of absence or restricted activity days (RAD).

The 2004 SUSENAS also contains data on the population profile. Proxies for the population profile are grouped into: individual physical and health condition; individual activities and habits; socio-demographic and socioeconomic characteristics; indoor pollution; as well as house and community conditions. Proxies for each group are as follows:

1 individual physical and health status: parents' and siblings' health status a month before the survey was conducted;

2 individual activities and habits: smoking habit, number of cigarettes smoked per day, number of years of routine smoking, members of the family who smoke indoors, family smoking habit;

3 socio-demographic and socioeconomic characteristics: expenditure, expenditure per capita, head of household's education, occupation and income and average working hours per week; and

4 house condition, indoor pollution and community conditions which include:

   a. proxies for house condition: ceiling, age, wall, floor, density, function, land/house area ratio;

   b. proxies for indoor pollutants: sprays, disinfectants, bleach, batteries, paint, insecticides; and

   c. proxies for community conditions: location, disaster area, access to street, street width, street cover materials, community average expenditure, average distance to community facilities such as primary schools, community health centres and sub-district offices.

The list of final variables extracted from the 2004 SUSENAS dataset are presented in Table 1 and the list of variables used in the model with their descriptive statistics are presented in Table 2.

Table 1
Variables Extracted from SUSENAS 2004 Data Sets

Variable		Type	Notes on variables' value
Illnesses			
	Number of RAD in the past month	count	number of RAD
Physical and health			
Health	Tbc	binary	Tbc = 1
	Siblings' health	binary	Ill sibling = 1
	Parents' health	binary	Ill parents = 1
Activity and habit			
Smoking	Habit	binary	Smoking = 1
	No cigarettes	continuous	Number of cigarettes per day
	Years	continuous	Number of years of routine smoking
	Indoor	binary	Indoor = 1
	Family habits	count	At least 1 family member smokes = 1, more than 1 family member smokes= 2
Demographic	Gender	binary	Male = 1
	Age	continuous	Respondents' age
	Married	binary	Married = 1
	No family	continuous	Number of family members
	No children	continuous	Number of children
Socioeconomic	Expenditure	continuous	Family expenditure
	Ex capita	continuous	Expenditure per capita
	Education	continuous	Head of household education
	Income	continuous	Head of household income
Work	Occupation	continuous	Head of household education
	Days	continuous	Head of household working days/week
	Hours	continuous	Head of household working hours/day
	Hours/week	continuous	Head of household working hours/week
House and community condition			
House	Condition	binary	Poor = 1
	Ceiling	binary	Asbestos = 1
	Age	binary	Old = 1
	Wall	binary	Bamboo = 1
	Floor	binary	Dirt = 1
	Density	continuous	Number of family member per m2
	Function	binary	Mixed use = 1
	Parcel ratio	continuous	Building per parcel ratio
Indoor pollution	Spray	binary	Spray = 1
	Disinfectant	binary	Disinfectant = 1
	Bleach	binary	Bleach = 1
	Battery	binary	Battery = 1
	Paint	binary	Paint = 1
	Insecticide	binary	Insecticide = 1
Community	Location	binary	Old housing area = 1

	Disaster	binary	Disaster area = 1
	Street	binary	Close to street = 1
	Street width	continuous	Street width
	Street cover	binary	Dirt = 1
	Average exp.	continuous	Average sub-district expenditure
	Distance	continuous	Distance to sub-district facilities

Table 2
Descriptive Statistics for Variables Used in Poisson Regression Model (PRM) and Zero Truncated Poisson Model (ZTP)

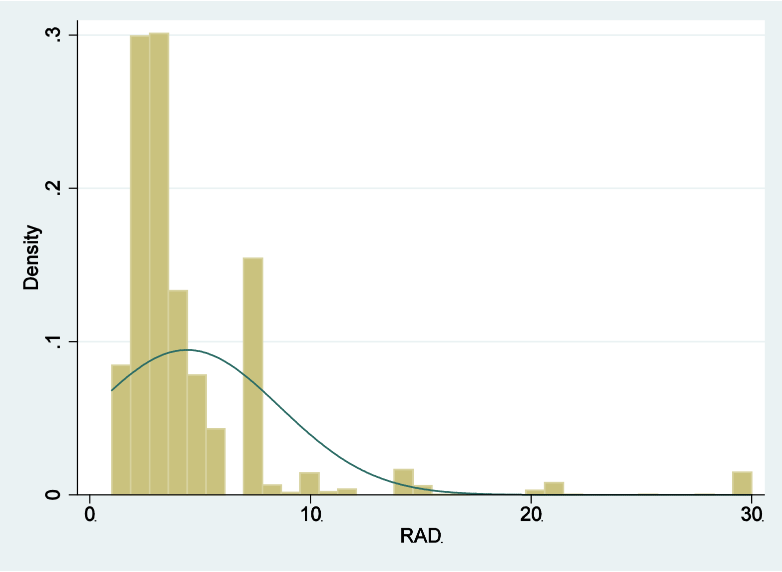
Variable	Mean	Std. Dev.	Min	Max
Number RAD in past month	4.41	4.22	1.00	30.00
Number of years of routine smoking	1.14	5.28	0.00	66.00
Indoor smoking	0.54	0.50	0.00	1.00
Smoking habit in household	0.78	0.61	0.00	2.00
Gender, 1=male	0.50	0.50	0.00	1.00
Age	27.07	17.40	0.00	99.00
Age squared	1035.55	1165.73	0.00	9801.00
Expenditure per capita (log)	12.65	0.63	10.37	16.59
Head of household education	3.40	1.71	0.00	9.00
Wall type, 1=bamboo	0.08	0.27	0.00	1.00
Floor type, 1=dirt	0.06	0.23	0.00	1.00
Building per parcel ratio	0.78	0.27	0.01	5.33
Bleach	0.64	0.48	0.00	1.00
Insecticide	0.55	0.50	0.00	1.00
Street width	2.50	1.52	0.00	9.00
Average community distance to central JM	2.18	3.02	0.00	38.75
Average PM10 concentration in a sub-district	30.98	50.97	0.01	408.54

ESTIMATION STRATEGY

To determine the appropriate functional form for the ERM, the distribution of the dependent variable — number of RAD in the past month — in the 2004 SUSENAS is investigated. This variable has a non-normal distribution (Figure 3). Attempts are made to identify possible transformation so as to normalize the distribution. However, none of the transformation results shows a normal distribution (Figure 4), so that implementing an Ordinary Least Square (OLS) technique would cause serious bias. Other models such as a model for count data need to be identified and applied.

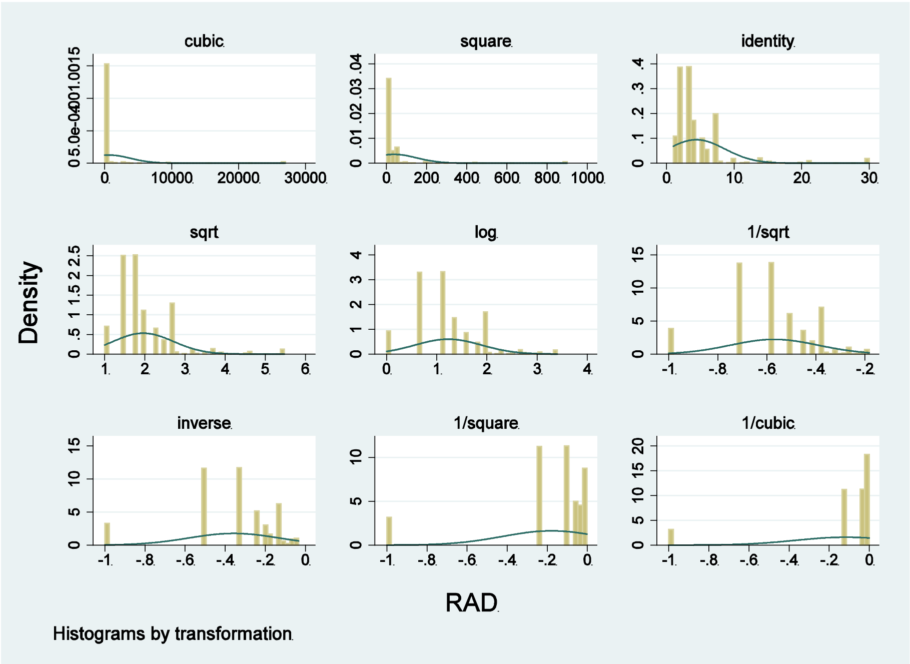
Observation of Figure 3 shows that the dependent variable has a similar pattern to the Poisson distribution. This paper then seeks the appropriateness of implementing a Poisson Regression Model (PRM) for the ERM model in this paper. The analysis begins by comparing the observed distribution with a Poisson distribution that has the same mean. It is suggested to analyse the data using PRM without independent variables, then comparing the model prediction with the observed data proportion using post estimation command. It is important to consider that the generalised additive PRM provides the possibility of including non-linear dependence of the dependent variable.

Figure 3
Density function of number of restricted activity days



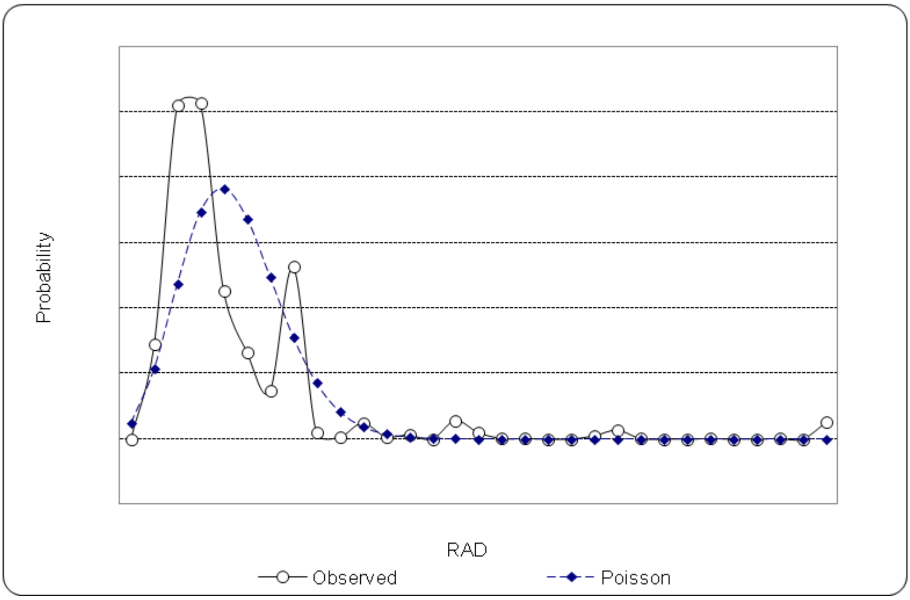
In many studies, count variables are treated the same as continuous variables by applying a linear regression model. The use of the linear regression model can cause a biased, inefficient and inconsistent estimate. In a case where the amount of zero observation exceeds the allowable number, a zero inflated model for PRM is applied. On the other hand, when there are no zeros, a truncated version needs to be applied.

Figure 4
Transformations of the dependent variable: Number of restricted activity days



The results from data analysis using PRM without independent variables (solid line in Figure 5) indicate that the observed proportion shows that respondents tended to choose ‘convenient numbers’ for RAD such as one week, two weeks, three weeks and one month represented by seven, fourteen, twenty one and thirty days, respectively. Three days has the highest probability: a possible explanation for this condition is that doctors usually recommend staying home for a maximum of three days in a letter addressed to the employer or school administrator.

Figure 5
Comparison between real data and Poisson prediction



The prediction results using PRM (dash line in Figure 5), show a smoother graph reducing extreme probability at three, seven, fourteen, twenty one and thirty days of RAD. It can be seen that PRM is relatively appropriate to be utilized with the data set available for this article.

The minimum number of RAD is one day and the maximum is thirty days, therefore an estimation using Zero Truncated Poisson Regression Model (ZTP) is also utilized.

In estimating the ERM, this article will, first, utilize the overall sample in the 2004 SUSENAS to observe the health impact of air pollutants on the overall population of JMA. After that a focus on the impact of air pollutants on child health is conducted. Children are defined as family members aged of fourteen or under. A comparison with the impact on non-head of household adults and the elderly group is conducted. Adults are those aged between fourteen and sixty. Elderly is defined as sixty and older. The main reason for removing the household head from the adult group is that they typically spend most of their day at a work place and/or travelling outside their sub-districts; meaning they are most likely exposed to a different level of air pollutant to their children. On the other hand, non-head of household adults and the elderly are most likely exposed to the same air pollutants as their children.

RESULTS OF ALL SAMPLES

Table 3 presents the results of estimating ERM in JMA for the overall population using PRM and ZTP models. This table shows that the estimation results using ZTP are better than those using the usual PRM, since ZTP produces lower Bayesian Information Criterion (BIC) and higher Pseudo-R^2. Further analysis is done using a Zero Truncated Negative Binomial (ZTNB) Model to observe over dispersion. The likelihood ratio test shows that Alpha is not significantly different from zero (p-value > 0.05). The result indicates that the estimation results using ZTP is appropriate since when the over dispersion parameter is zero then the estimation result using ZTNB is equivalent to ZTP.

From Table 3, it can be seen that the average PM10 concentration in a sub-district is a significant determinant for the number of RAD. It hence can be said that the number of RAD in the general population is caused by the level of air pollution. The positive sign indicated that respondents living in sub-districts with higher average PM10 concentration tend to have a higher number of RAD.

Among demographic and socioeconomic variables, age, age squared, gender, expenditure per capita and head of household education were significant. It is important to note that the age variable is negative and the age squared variable is positive but very small, indicating the function is relatively linear and downwards sloping. The interpretation of this relation between age and the number of RAD is that young people or children tend to have a higher RAD than adults do.

Table 3
Estimation Results for the Number of RAD in Past Month Caused by Fever, Cold, Cough and Asthma Using Poisson Regression Model (PRM) and Zero Truncated Poisson Regression Model (ZTP).

Variable		ZTP		PRM	
Air Pollution					
	Average PM10 concentration	0.001	**	0.000	*
		(2.015)		(1.917)	
Demographics and socioeconomics					
	Age	-0.003	*	-0.003	**
		(-1.795)		(-1.992)	
	Age squared	0.000	***	0.000	***
		(6.905)		(6.997)	
	Gender, 1=male	-0.059	***	-0.055	***
		(-2.897)		(-2.813)	
	Number of family member	-0.012	**	-0.011	**
		(-2.006)		(-1.975)	
	Head of household income (million Rp)	0.000		0.000	
		(0.018)		(0.007)	
	Head of household education	-0.032	***	-0.030	***
		(-4.591)		(-4.458)	
Smoking habit					
	Number of years of routine smoking	0.004	***	0.004	***
		(2.827)		(2.844)	
	Indoor smoking	0.069	***	0.065	***
		(2.728)		(2.637)	
	Smoking habit in household	0.003		0.002	
		(0.129)		(0.121)	
House and community					
	Wall type, 1=bamboo	0.171	***	0.164	***
		(5.463)		(5.343)	
	Floor type, 1=dirt	0.085	**	0.083	**
		(2.216)		(2.214)	
	Building per parcel ratio	-0.117	***	-0.110	***
		(-3.113)		(-3.021)	
	Bleach	-0.033		-0.032	
		(-1.489)		(-1.477)	
	Insecticide	-0.125	***	-0.117	***
		(-5.862)		(-5.678)	

	Street width	-0.035	***	-0.033	***
		(-4.634)		(-4.450)	
	Average distance from home to community centre	0.010	**	0.009	**
		(2.232)		(2.162)	
	Constant	1.716	***	1.718	***
		(31.857)		(32.851)	
	N Log likelihood	2434 -6716.608		2434 -6759.639	
	chi2	624.519	***	594.828	***
	Pseudo R2	0.044		0.042	
	Aic Bic	13469.216 13573.567		13555.279 13659.630	
	Ln Alpha for ZTNB	-0.754			

Notes: ***, **, * significant at 1%, 5% and 10% respectively. Numbers in the brackets are z-statistics. Expenditure per capita was transformed into its log form.

Among smoking habit variables, the number of years of routine smoking and indoor smoking are both significant with positive signs, indicating that the number of years of routine smoking and indoor smoking contribute to the number of RAD. The number of family members who smoke turns out to be insignificant.

The third group of variables is the house and community condition. Significant variables are wall and floor types, size of building per parcel ratio, insecticide usage, street width in front of the house and average distance to community centres. Significant and positive wall and floor types indicate that respondents living in houses with bamboo walls and dirt floors tend to have more RAD. A significant and negative size of building per parcel ratio indicates that respondents living in houses with smaller front or back yards have a higher number of RAD. A probable explanation for this condition is that a small front or back yard prevents good circulation of air, trapping impurities inside the house. The use of bleach and insecticide is assumed to add to the indoor pollution problem. However, the results show both variables to have negative signs. Bleach and insecticide usage reduce the number of RAD. The reason for this might be because reasonable bleach usage can reduce microorganisms as the main cause of infection, and insecticide reduces the number of parasites, making respondents' houses cleaner and healthier to live in.

Respondents living in wider streets tend to have a lower number of RAD since wider streets usually have better street cover than narrower ones and are complemented with good sewers and drainage systems, making the environment cleaner. The location of houses relative to community centres (average distance to community centres) is also significant and positive, indicating that respondents living further from community centres have a higher number of RAD. This condition indicates that the longer it takes for the respondents to reach their daily destination, the higher the number of RAD.

RESULTS FOR GROUPS

Modelling results for the number of RAD among children, adults (non-head of household) and the elderly are set out in Table 4. Observing the relationships between PM10 concentration in a sub-district and the number of RAD in the previous month among the three age groups, it can be seen that they all have a positive relationship with almost the same coefficient size. The difference is that this relationship is highly significant (with a 1 per cent significance level) among children, weakly significant among adults (with only a 10 per cent significance level), and not significant among the elderly; i.e. the impact of PM10 concentration in a sub-district on children's health in that sub-district is much more consistent compared to that for other age groups.

For children, other significant variables are age, gender, head of household income, head of household education, and average distance from home to community centres. Again, among children, with the same level of exposure to pollution, the younger the child, the higher the number of previous month RAD.

For adult family members, other significant variables are individual smoking habits, head of household income, head of household education, wall type, street width in front of the house, and average distance from home to community centres. For elderly family members, other significant variables are individual smoking habits, gender, age, head of household education, wall type, and average distance to the community centre and types of work. For this group of respondents, older males who smoke and who come from a family where the head of the household has lower education tended to have more RAD compared to other members of the group.

Table 4
Estimation Results for Number of RAD in Past Month Caused by Fe- ver, Cold, Cough and Asthma Using Zero Truncated Poisson Regression Model (ZTP).

Variable		Adult		Elder		Children	
Air Pollution							
	Average PM10 concentration	0.001	*	0.001		0.001	***
		(1.672)		(0.478)		(2.835)	
Demographics and socioeconomics							
	Age	0.009		0.010	**	-0.013	***
		(4.966)		(2.021)		(-3.219)	
	Gender, 1=male	-0.041		0.230	***	-0.055	*
		(-0.762)		(3.029)		(-1.728)	
	Head of household income	0.219	***	0.069		-0.098	*
		(3.393)		(0.366)		(-1.684)	
	Head of household education	-0.052	***	-0.069	**	-0.076	***
		(-4.032)		(-2.774)		(-6.776)	
Health condition and habit							
	Individual smoking habit	0.087	*	0.306	***		
		(2.129)		(4.106)			
House and community							
	Wall type, 1=bamboo	0.276	***	0.402	***		
		(5.050)		(4.340)			
	Street width	-0.039	***				
		(-2.805)					
	Average distance from home to community centre	0.044	***	0.027	**	0.017	**
		(5.130)		(2.116)		(2.586)	
Occupation							
	Worker	-0.174		-0.231	**		
		(-3.749)		(-2.340)			
	Student	0.018					
		(0.221)					
	Constant	1.297	***	0.978	**	1.655	***
		(13.900)		(2.504)		(32.742)	
	N	674		118		1076	
	Log likelihood	-1885.881		-475.915			
	chi2	180.706		87.126		76.183	
	Pseudo R2	0.046		0.084		0.015	
	aic	3797.761		977.831		5162.287	
	bic	3856.433		1013.850		5197.154	

Notes: *,** **, * significant at 1%, 5% and 10% respectively. Numbers in the brackets are z-statistics. Expenditure per capita was transformed into its log form.

A rather puzzling result is the impact of household income on the number of RAD. Among children, a higher family income means a lower number of RAD; that is something that is expected. Among adult family members, however, a higher family income means a higher number of RAD. And, among the elderly, family income is not a significant determinant of the number of RAD. Further study in this subject depends on good explanations for this result.

CONCLUSION

Impacts of PM10 pollution in JMA on health are investigated in this article. The main contribution of this paper is that it uses individual self-reporting data on health problems in the population of interest. There are problems associated with self-reporting information. Survey respondents might have different perceptions of their state of illness. They might report different levels of illness using a uniform unit. Nevertheless, the article proposes that, for developing regions such as Jakarta, information derived from self-reporting is more useful in dealing with health problems than estimations derived from using ERM programs designed for developed countries.

The ERM in this paper is estimated using a PRM and ZTP since the distribution of the dependent variable, that is number of RAD during last month, was similar to the Poisson distribution. The results from the analyses show that once a person falls ill, PM10 concentration becomes one of the causal variables in increasing or reducing the number of RAD. The relationship between PM10 in a sub-district and the number of previous month RAD, in general, is positive and significant. The results also show that the younger the person, the higher the number of previous month RAD; that is the impact of a given level of PM10 concentration is more fatal for younger persons.

To better identify the vulnerable groups, the data set is split into three groups: adult family members, children and elderly family members. The results show that children are the group most vulnerable to PM10 pollution. PM10 concentration is a highly significant causal variable in children falling ill as a result of fever, cold, cough and asthma.

BIBLIOGRAPHY

Books

Botkin, D.& Keller, E. 2005. *Environmental Science.* Hoboken, NJ: Wiley.

Dockery, D.W., Schwartz, J.& Pope III, C. 1995. *Comments from Original Investigators, Particulate Air Pollution and Daily Mortality: Replication and Validation of Selected Studies.* Cambridge, MA: Health Effects Institute.

Kneese, A. 1984. *Measuring the Benefits of Clean Air and Water.* Washington, DC, Resource for the Future.

Articles

Brumback, B., Ryan, L., Schwartz, J., Neas, L., Stark, P. & Burge, H. 2000. "Transitional Regression Models with Application to Environmental Time Series,". *Journal of American Statistical Association.* Vol. 95, no. 449: 16-27.

Chay, K., Dobkin, C. & Greenstone, M. 2003."The Clean Air Act of 1970 and Adult Mortality". *Journal of Risk and Uncertainty.* Vol. 23, no. 3: 279-300.

Frankenberg, E., McKee, D. & Thomas, D. 2005."Health Consequences of Forest Fires in Indonesia". *Demography.* Vol. 42, no.1: 109-129.

Gamble, J.F.& Lewis, R.J. 1996. "Health and Respirable Particulate (PM10) Air Pollution: a Causal or Statistical Association?" *Environmental Health Perspectives.* Vol.104, no. 8: 838-850.

Haryanto, B. 2007. "Blood-lead Monitoring Exposure to Unleaded-gasoline Among School Children in Jakarta – Indonesia 2005". *Jurnal Kesehatan Masyarakat.* No. 5.

Koren, H.S. & Utell, M.J. 1997."Asthma and the Environment". *Environmental Health Perspectives.* Vol.105, no. 5: 534-537.

Kunzli, N., Kaiser, R., Medina, S., Studnicka, M., Chanel, O., Filliger, P., Herry, M., Horak Jr, F., Puybonnieux-Texier, Quenel, P., Schneider, J., Seethaler, R., Vergnaud, J.-C.& Sommer, H. 2000. "Public-health Impact of Outdoor and Traffic-related Air Pollution: a European Assessment', *The Lancet.* Vol. 356, no. 9232: 795-801.

McCubbin, D.R.& Delucchi, M.A. 1996. "The Health Costs of Motor-vehicle-related Air Pollution". *Journal of Transport Economics and Policy.* Vol. 33, no. 3: 253-286.

Peters, A.& Dockery, D.W. 2006. "Air Pollution and Health Effects: Evidence from Epidemiologic Studies". In W. Foster & D. Costa (editors), *Air Pollutants and the Respiratory Tract*. Boca Raton, LA; Taylor and Francis.

Pope III, C., Bates, D.V.& Raizenne, M.E. 1995. "Health Effects of Particulate Air Pollution: Time for Reassessment?". *Environmental Health Perspectives.* Vol. 103, no. 5: 472-480.

Pope III, C., Thun, M., Namboodiri, M., Dockery, D.W., Evans, C.D., Speizer, F.E.& Heath, C. 1996. "Particulate Air Pollution as a Predictor of Mortality in the Perspective Study of US Adults". *American Journal of Respiratory and Critical Care Medicine.* Vol. 151: 669-674.

Resosudarmo, B.P. & Napitupulu, L. 2004. "Health and Economic Impact of Air Pollution in Jakarta". *Economic Record.* Vol. 80 [Special issue]: S65-S75.

Schwartz, J. 1995."Air Pollution and Hospital Admissions to the Elderly in Birmingham, Alabama". *American Journal of Epidemiology.* Vol.139: 589-598.

Yusuf, A.A. and Resosudarmo, B.P. 2009, "Does clean air matter in developing countries' megacities? A hedonic price analysis of the Jakarta housing market, Indonesia.', *Ecological Economics*, Vol. 68, pp. 1398-1407.

Reports and Presentations

Bureau of Transportation and Regional Economics (BTRE). 2005. Working paper 63: Health Impacts of Transport Emissions in Australia: Economic Costs. Canberra: Department of transport and regional services.

Health Effect Institute. 2004. *Health Effects of Outdoor Air Pollution in Developing Countries of Asia: a Literature Review.* [Special Report 15]. Boston: Health Effect Institute.

--------. 2010. *Outdoor Air Pollution and Health in the Developing Countries of Asia: a Comprehensive Review.* [Special Report 18]. Boston: Health Effect Institute.

Indonesian Multi-sectoral Action Plan (IMAP) Group on Vehicle Emissions Reduction (IMAP). 2002. *Action Plan: Integrated Vehicle Emission Reduction Strategy for Greater Jakarta.* Jakarta: Asian Development Bank.

Marrack, D. 1995."All PM10 are not Biological Equal". International Conference on Particulate Matter, Health and Regulatory Issues, Pittsburgh.

Samet, J., Zeger, S., Dominici, F., Curriero, F., Coursac, I., Dockery, D.W., Schwartz, J.& Zanobetti, A. 2000. *National Morbidity, Mortality, and Air Pollution Study II: Morbidity, Mortality and Air Pollution in the United States.* North Andover, MA: Health Effect Institute.

Sirikijpanichkul, A., Iyengar, M.& Ferreira, L. 2006.*Valuing Air Quality Impacts of Transportation: a Review of Literature.* Brisbane: School of Urban Development, Queensland University of Technology.

Surbakti, P. 1995. *Indonesia's National Socio-economic Survey: a Continual Data Source for Analysis on Welfare Development.* Jakarta: Central Bureau of Statistics.

Websites

World Bank. 2006. World Development Indicators [viewed 3 November 2008]. http://devdata.worldbank.org

World Resource Institute. 1999. "Urban Air Pollution Risks to Children: A Global Environmental Health Indicator". [viewed 2 April 2012].http://www.wri.org

THE INSTITUTIONALISATION OF MACRO-ECONOMIC MEASUREMENT IN INDONESIA BEFORE THE 1980s

Pierre van der Eng

Arndt-Corden Department of Economics
College of Asia and the Pacific
Australian National University

ABSTRACT

Macro-economic measurement goes back to the seventeenth century and became common practice in Western countries since the late-nineteenth century. Since then, the composition of some of the largest economies in Asia, particularly India and Japan, was also probed. And since the 1940s government agencies in many Asian countries had responsibility for the development and implementation of consistent national accounting practices to assist the planning of economic development. While this was in principle also the case in Indonesia, it took into the 1970s before consistent processes of macro- economic measurement were put in place that facilitated the analysis of long-term economic growth. The paper asks why this was the case. It finds that institutional discontinuities and limited resources prevented the establishment of consistent and well-defined national accounting practices until well into the 1970s.

Keywords: National accounts, Economic growth, Macro-economic measurement

INTRODUCTION

National accounts are now well-established as important tools to analyse the performance, changes and growth potentials of national economies, and to assist in the planning of policies for future economic development. They also have become part of the tool sets that economic historians use to enhance our understanding of past economic development.

The first initiatives for the measurement of national income date back to the mid-seventeenth century and were inspired by the urge to understand comparative economic development of leading nations in Europe better (Maddison 2007: 249-288). Building on this experience, economists in various countries in North America, Western Europe and Australasia made estimates of national income in a growing number of countries, particularly during the nineteenth and early twentieth centuries (Studenski 1958: 101-141). By the 1920s, this cumulative experience with national accounting techniques led official statistical agencies in many countries to assume responsibility for macro-economic measurement, sometimes working retrospectively to produce consistent estimates since the late-nineteenth century. Colin Clark (1940) was one of the first to analyse international comparisons of national income. Such work drew attention to the difficulties of comparing national accounts data across countries due to differences in methodologies. It led a 1945 subcommittee of statisticians of national income of the League of Nations to adopt guidelines for national accounting. These were published by the Statistical Office of the Economic and Social Council of the United Nations (UN) in 1947.

Until then, social scientists had systematically pioneered national accounting in the late-nineteenth century in just two countries in Asia: India since 1857 and Japan since 1900 (Tiwari 1994; Tsuru & Ohkawa 1953). Building on this experience, economists in both countries produced consistent time series of national income until the establishment of official national accounting practices in both countries. The 1947 UN guidelines coincided with a flurry of activity in relation to the estimation of national income in a growing range of Asian countries beyond India and Japan: Sri Lanka (1946), The Philippines (1949), Pakistan (1950), Thailand (1950), Burma (1951) and Malaya (1951) (Studenski 1958: 156-157). This work was supported by the UN and its regional organisation the Economic Commission for Asia and The Far East (ECAFE). Often these studies contained the first estimates that became the basis for further work by government agencies. The methodologies and approaches used in these studies were all different. They often made innovative use of the limited available statistical information, supplemented with informed, but still heroic assumptions.

The UN Statistical Office issued the 1953 System of National Accounts (SNA), which formalised guidelines for the standardisation of accounting practices.[1]

1 SNA was later revised in 1968, 1993 and 2008.

And the UN Technical Assistance program supported the secondment of national accounts advisors to statistical agencies in less-developed countries.

Soon national statistical agencies in Asian countries took responsibility for the estimation of national accounts on an annual basis. The introduction of the 1953 SNA into the national accounting practices in a growing number of countries facilitated international comparisons of national accounts data. Nevertheless, data unavailability continued to require creative use of statistical information, and application of the 1953 SNA remained partial. National accounts data became increasingly used for public policy purposes, particularly in efforts to systematically plan economic development. Consequently, one after the other, these statistical agencies started to produce consistent national accounts data on an annual basis during the 1950s.

Indonesia's Central Bureau of Statistics (*Biro Pusat Statistik*, BPS) did not publish consistent national accounts data until the late 1960s. It did not generate national accounts data that came close to the 1953 SNA, and even the implementation of SNA 1968 since the late-1970s has only been partial. This paper addresses the reasons why it took Indonesia so much longer than other Asian countries to do so. For that purpose it discusses the development of national accounting initiatives in relation to Indonesia, as well as the relevant development of institutional responsibility for national accounting in the country, rather than the details of macro-economic measurement used in relation to Indonesia in the past.

EARLY ESTIMATES OF NATIONAL INCOME

Interest in the principles of macro-economic measurement may have reached colonial Indonesia in 1803, when Willem Mattheus Keuchenius migrated to Batavia. He had just published his estimates of national income of The Netherlands, which made him one of the pioneers of national accounting in eighteenth century Europe (Keuchenius 1803: 6, 46-48 and 92).[2] Keuchenius researched and published on the deplorable state of the economy of the Dutch colony until his death in 1812 (Keuchenius 1875). Nevertheless, neither his earlier work, nor that of the other pioneers in Europe since the mid-seventeenth

2 He estimated income from the assets of the former Dutch East Indonesia Company that went bankrupt in 1799 to be *ƒ* 11 million, or 5% of the national income of the Netherlands.

century seems to have inspired early efforts to estimate national income in Indonesia.

The first approximation of total income in Java was made by Governor-General Pieter Merkus who put the value of total production in agriculture and 'industries' at *f*200 million in order to estimate the required circulation of currency in the colony (Steyn Parvé 1852: 199).[3] Progress in the gathering of administrative data in Java during the 19th century allowed hydraulic engineer Jan Homan van der Heide to make a more involved estimate of total income in Java in 1898 (Homan van der Heide 1901: 148-154).[4] He was concerned about population growth in Java and sought to substantiate his passionate plea for public investment in irrigation structures for the purpose of increasing agricultural production. Using a combination of incomplete income and production data, his estimate of total income allowed him to assess the burden of taxation on the total incomes of the Indonesian and European populations in Java.

Further improvements in the quality and reach of administrative data, as well as the establishment of a Statistical Office (*Statistisch Kantoor*) in 1920 to supervise the collection of these data (van der Eng 1996), allowed more sophisticated estimates, albeit for Java only. Based on the production and expenditure approaches and using more detailed information, colonial public servants Jan Willem Meijer Ranneft and Willem Huender created still incomplete estimates of the total income of the Indonesian population in Java for 1913, 1920, 1922 and 1924 (Meijer Ranneft & Huender 1926: 160-166).[5] Their purpose was also to assess the tax burden on the Indonesian population. Despite the fact that

3 Further details of estimates during the colonial period can be found in CEI (1979: 16-18).

4 Jan Homan van der Heide (1865-1945) studied engineering in Delft and worked at the Department of Public Works in colonial Indonesia during 1892-1902 and 1910-15, becoming Director during 1911-14. He was seconded to Thailand during 1902-09 to design irrigation structures in the central delta (Ten Brummelhuis 2005). He returned to The Netherlands to establish and engineering practice, but continued to contribute to public discussion about aspects of economic development in Indonesia.

5 Jan Willem Meijer Ranneft (1878-1968) was born in Indonesia, where he established a career in the colonial public service. He was Adjunct Inspector for Agrarian Affairs in colonial Indonesia when he wrote this study into the tax burden, which contributed to some tax reforms in 1927. Dissatisfied with the lack of political autonomy for colonial Indonesia, he returned to The Netherlands in 1936, where he continued to express strong opposition to Dutch policies in Indonesia until independence in 1949 (Otten 2012). Willem Huender (1900-1963) obtained his PhD in 1921 with a study analysing the 1905 'declining welfare' survey in Java. He contributed to this study as a junior public servant. He remained in the public service and rose to become Governor General of Surinam 1948-49.

these estimates made the most of the available data, they remained incomplete and restricted to the incomes of Indonesians in Java only (Baga 1954: 31; CEI 1979: 16-17).

These three publications did not draw on the budding international literature on national income accounting in relation to countries like the UK, USA, France, Australia and also India, which could have offered several applied and theoretical insights as to how to advance national income estimation in Indonesia. Even the first systematic estimates of national income in The Netherlands for 1908-1920 by W.A. Bonger, published in 1923, were not consulted for that purpose (Den Bakker 1994: 67-68).

The first substantive effort to estimate total income of the whole population throughout Indonesia was undertaken for 1926-32 by Louis Götzen, then Head of the Government Tax Accounting Service of the Dutch East Indies (Götzen 1933).[6] He estimated total income of the Indonesian, European (including Japanese and Americans) and 'Foreign Oriental' (Chinese and Indian) population groups. To overcome the problem of limited data for the Outer Islands, he largely based his estimates on income tax data, augmented with information about possible incomes below the tax threshold. The purpose of his work was to establish that the tax burden on European and 'Foreign Oriental' incomes was higher than that on Indonesian incomes, and that this burden had increased since the crisis of 1929. The estimates sufficed for that purpose, even though estimated total Indonesian income was incomplete, as it was merely based on the gross value of registered farm production, the wage and land rent payments of foreign-owned and government enterprises, to which Götzen added an arbitrary estimate of profits and wages paid in indigenous trade and industry.[7] An update of Götzen's work for 1932-34 was made in 1935, but never published, while De Vries found that Götzen's estimates for the regions outside Java may have been too low.[8]

6 Lubbertus (Louis) Götzen (1894-1979) joined the Taxation Office, first in The Netherlands 1919-21, later in the Dutch East Indies 1921-35. He was Treasurer at the Department of Finance 1935-38, and Director of the Department 1938-42 and 1945-46 in the Dutch East Indies. Politically active in the Indies, he was particularly concerned about the impact of the crisis after 1929 on public revenue in the early 1930s, which motivated his 1933 article. After returning to The Netherlands, he became Minister for Colonial Affairs 1947-52 and later President of the Dutch Audit Office 1956-65 (Stevens 1993).

7 Members of parliament (*Volksraad*) of different persuasions used these data during discussions in 1934, as all could find something to suit their purposes (Drooglever 1980: 134). For a critique of Götzen's study, see Rotgans (1934).

8 National Archief (The Hague), 2.21.121 Archive J.W. Meijer Ranneft, no.57, 'Beschouwing over het Volksinkomen en de Ekonomie van Nederlandsch-Indië in de Jaren 1932-1934'

Götzen's work provided the basis for a more comprehensive national accounting exercise during 1942-43 by Jacques J. Polak, a young Dutch economist at Princeton University.[9] The Dutch East Indies government in exile (specifically, the Netherlands and Netherlands Indies Council of the Institute of Pacific Relations) commissioned him to estimate Indonesia's national income (Polak 1943). Polak completed this study in his spare time on the basis of sources available in Princeton University library. Although he had been asked to estimate national income for just 1939, it appeared that he had to make so many extrapolations from earlier years that it was easier for him to use the available data to estimate national income for 1921-39.[10] Facilitating that task was the fact that by then the Central Office of Statistics (*Centraal Kantoor voor de Statistiek*) in Batavia had considerably expanded its activities in collecting, processing and publishing economic data since 1924. In essence, Polak used income tax data to estimate total income for the European and 'Foreign Asiatic' groups, and output and wage data by industrial sector to approximate total income of indigenous Indonesians.

Polak completed his research in 1943, but the Netherlands and Netherlands Indies Council that had commissioned the work did not publish it. Polak later wrote that his work showed that average income in the group of Europeans was 50 times higher than average income among indigenous Indonesians, which 'did not satisfy the publicity aspirations of those who had commissioned [the report]'.[11]

The Council therefore limited the first edition of this work to just 20 mimeographed copies (Polak 1994: xv). Still, Polak's work was policy-relevant for the Dutch East Indies. For example, it became the basis in November 1943 for calculating country contributions to the United Nations Relief and Rehabilitation Agency, as well as quota calculations for the International

(1935); De Vries (1936).

9 Jacques Jacobus Polak (1914-2010) completed a PhD in economics at the University of Amsterdam 1932-37, before joining the League of Nations 1937-43, where he assisted Jan Tinbergen in a study of business cycles. The League's economists, including Polak, relocated to the Institute of Advanced Studies at Princeton University, where Polak stayed during 1940-43. His work on national income in Indonesia started in 1942. After completed it in 1943, Polak became an economist at the Netherlands embassy in Washington DC. He joined the International Monetary Fund in 1947, where he became Director of Research in 1958 until his retirement in 1979.

10 Hoover Institution Archives, Stanford (USA), Guy Pauker Collection no. 82096, Box 137, Folder 21: D.S. Paauw, 'Report on trip to Washington DC, January 13-14, 1953'.

11 Letter from J.J. Polak to P. van der Eng (13 May 1996).

Monetary Fund at the Bretton Woods conference in July 1944, which Polak attended (Rowe 2008: 4-5).

Unbeknown to Polak and economists in Indonesia, Taizo Takahashi, an economist at the Tokyo College of Industry (now Hitotsubashi University), made estimates of national income in 1945. In a thin booklet he published estimates for both Java and Indonesia as a whole for 1930, using both the income and the monetary (Y= MV) approaches. His estimates were based on very heroic assumptions about average daily wages in economic sectors, and the number of days worked, as well as the velocity of money in circulation (Yamamoto 2011: 250-251).

The existence of Polak's study was known in Indonesia in May 1946, but the details of the study were at that stage not yet available in Jakarta.[12] An abstract of this work was published by the Central Bureau of Statistics (CBS) in The Netherlands in 1947 (Polak 1947), while the Faculty of Economics of the University of Indonesia obtained a copy and published it in mimeographed form in the early 1950s. Even though it took until 1979 for Polak's study to be formally published, the results of Polak's innovative use of the available statistical data for the purpose of estimating national income became more widely known.

Since the 1930s, CBS had developed strong capabilities in national accounting in The Netherlands. Even though this was not part of its mandate, it took an interest in Indonesian economy in 1947 by expanding on Polak's work to create a rudimentary input-output table for 1938. This deepened understanding of the Indonesian economy with a detailed estimation of economic transactions between the main sectors of the economy (CBS 1948). CBS used an extensive flow chart to model the Indonesian economy for 1938 and confirmed Polak's estimate of national income for that year. The effort was possibly meant to be a tool for policy analysis and/or for the estimation of national income in Indonesia for later years.

This CBS publication inspired agricultural economist Douwe Groenveld, head of the section planning at the Department of Economic Affairs in Jakarta during 1948-51, to argue that national accounts for Indonesia would be an important 'compass' the gauge the impact of government policy, given that 'the government will for many years to come provide a certain degree of leadership to the economy' (Groenveld 1948a). He summarised the CBS study and was

12 Bank Indonesia, archive De Javasche Bank, no.2993: 'Notulen informeele bespreking van de Commissie ter bepaling van de Oorlogsschade van Nederlandsch-Indië' (10 May 1946).

hopeful that this would soon be the basis for the construction of Indonesia's national accounts 'that can be used to construct the necessary development plans' (Groenveld 1948b). He later used quantity indices to extrapolate Polak's estimates from 1938, to find that national income in 1948 was still 16% below 1938 (*Keng Po* 2 January 1952), and also for 1948/49-1952/53 that remained unpublished (Baga 1954: 31).

Groenveld's papers reflected the interest in national accounting and the opportunities it offered for economic planning. Other estimates followed, such as a rough estimate of national income of *f* 10.6 billion was made for 1948, but no details of the estimation or its source are available (Oudt 1952: 52). In October 1951, the Far East Program Division of the Economic Cooperation Agency, the US organisation in charge of the Marshall Plan, made a subsequent estimate of Indonesia GNP for 1950 (Oudt 1952: 52; Metcalf 1952: 7; *Berita Antara* 8 January 1952). Details of the estimation are not available, but comparison with estimates for later years suggest that the estimate of US$3.11 billion (or Rp 35.5 billion at the official exchange rate) was low, possibly too low.[13] Also for 1950, the board of the Socialist Party of Indonesia (*Partai Sosialis Indonesia*) estimated GNP to be Rp 19.9 billion and national income Rp 18 billion (*Keng Po* 2 January 1952). The estimate was clearly too low, mainly because many services sectors were missing or underestimated.

In 1952, following instructions from its head Johannes B.D. Derksen, the Section for National Income Statistics and Research at the UN Statistical Office estimated Indonesia's national income for 1951. When Derksen was requested in 1953 to make the details of these estimates available, he mentioned that they could not be shared without permission of the government of Indonesia although he commented that the 'overall final figure, which, converted to dollars, was 5 billion dollars and was based on a very rigorous exclusion of the non-market parts of the economy.'[14] He mentioned that this UN estimate was comparable to the MSA estimate for 1950. That year, Sumitro published a rough estimate of GNP in 1952 of Rp 45 to 50 billion, which was based on several assumptions, for example

13 Metcalf (1952: 7) noted that the study did not deduct depreciation and taxes, and that it estimated 75% of total income to be from agriculture, 6% from fisheries, 6% from mining, and in total 89.3% from primary production, leaving only 6.4% from manufacturing and just 4.3% for services. These shares confirm that the estimate of total income must have been too low.

14 Hoover Institution Archives, Stanford (USA), Guy Pauker Collection no. 82096, Box 137, Folder 21: W.C. Hollinger, 'Report on trip to New York City, February 23 and 24, 1953'.

that 25% of GNP was produced in the non-marketed sector (Djojohadikusumo 1953: 15).

NATIONAL ACCOUNTING FOR PLANNING PURPOSES

Clearly, the momentum for the creation of consistent national income estimates and a national accounting system for Indonesia accumulated in the late 1940s and early 1950s. Much of the credit for accelerating this momentum after 1949 towards a systematic approach to national accounting has to be given to Sumitro Djojohadikusumo, Indonesia's young and energetic Minister of Trade and Industry (September 1950–April 1951), Minister of Finance (April 1952–July 1953 and August 1955–March 1956) and Professor of Economics at the University of Indonesia (1952-1958).[15] Sumitro was of Keynesian persuasion keenly and interested in political economy and the budding field of development economics, and understood the relevance of macroeconomic measurement. During 1948-49 he had been a member of the representation of the Republic of Indonesia to the United Nations in New York, where he had established a network of contacts among economists in North America interested in development economics.

In January 1950, Sumitro succeeded Groenveld as head of the section planning of the new Federal Department of Welfare under Minister Djuanda Kartawidjaja. But before assuming this position, Sumitro spent January-April 1950 in the United States to set up Indonesia's trade offices and its embassy, in which capacity he was able to develop ideas for an institutionalised approach to economic planning in Indonesia through his various contacts in economics in North America. Upon the abolition of the Department of Welfare and the dismantling of the Federal Republic of Indonesia, Sumitro became Minister of Trade and Industry in September 1950. In that position he took the initiative to

15 Sumitro Djojohadikusumo (1917-2001) was a PhD graduate of the *Nederlandse Economische Hogeschool* (now Erasmus University) in Rotterdam, where Professor G.L. Gonggrijp was his supervisor. Although Sumitro's doctoral thesis was on the financial sector in Indonesia during the crisis of the 1930s, his stay in Rotterdam acquainted him with later Nobel Prize winner Jan Tinbergen who may have honed his interest in Keynesian macroeconomics. Soon after his appointment as Professor of Economics at the University of Indonesia in 1952, Sumitro developed a keen interest in the nascent discipline of development economics, compiling lecture notes and writing a textbook that made use of then available national accounts data (Djojohadikusumo 1955).

institutionalise economic planning in Indonesia, of which systematic national accounting was to be part and parcel.

It is very likely that Sumitro was introduced to the various economic planning initiatives developed by colonial officials in the early and late 1940s, particularly at the Department of Economic Affairs, during his brief periods as head of the planning section and then as Minister during 1950-51 (Groenveld 1950). Sumitro oversaw the amalgamation of these plans with planning initiatives that had been developed by the government of the Republic of Indonesia into the Economic Urgency Plan (*Rencana Urgensi Perekonomian*, 1951-55), in anticipation of the first integrated five-year development plan for 1956-1960.

Indonesia applied for financial support from the UN Technical Assistance Administration in March 1950, but it took more than a year for two concrete projects in Indonesia to be developed. One of these projects was Sumitro's initiative in 1951 to establish a planning board that would guide Indonesia's economic development with the support of a planning bureau. Against the background of increasing numbers of skilled Dutch nationals leaving the public service in Indonesia for The Netherlands, Sumitro convinced UNTAA to finance the recruitment of foreign experts who would support the establishment of the National Planning Bureau (*Biro Perancang Negara*, BPN) (Webster 2011: 260-270). BPN was to be the advisory body to the National Planning Board (*Dewan Perancang Negara*, DPN), a sub-committee of the Indonesian government, that was established in January 1952.[16]

Having resigned from the Ministry of Trade and Industry in August 1951, Sumitro was no longer directly involved in the establishment and growth of BPN and DPN. Nevertheless, BPN was established shortly after. It was temporarily headed by interim-Director Tan Tek Heng and initially located in the Ministry of Finance. In July 1952, UNTAA-sponsored Monetary and Fiscal Advisor Benjamin Howard Higgins arrived in Indonesia for a two-year stay to provide advice on fiscal policy to DPN and to start preparations for the establishment of BPN and the first Five-Year Development Plan (*Nieuwsblad voor Sumatra* 27 August 1952; 22 January 1953; Higgins 1992: 49-50). It took Tan and Higgins

[16] *Peraturan Pemerintah No. 2 Tahun 1952 tentang Dewan Perantjang Negara*; *De Nieuwsgier* (13 January 1951); *Nieuwsblad voor Sumatra* (13 November 1951); *Algemeen Indisch Dagblad* (18 January 1952); Hoover Institution Archives, Stanford (USA), Guy Pauker Collection no. 82096, Box 20, Folder 3: 'The Indonesian National Planning Bureau'.

almost a year to find suitable staff and a suitable location for BPN. Higgins' advisory work started immediately, but recruitment delays and clarification of responsibilities of foreign and local staff postponed the start of planning work at BPN (Higgins 1957: 40-43; Webster 2011: 264). In the absence of collaborators, Higgins worked closely with engineering firm J.G. White Engineering, which had been engaged in early 1951 by Sumitro on a two-year contract to take stock of opportunities and provide advice on economic development policy in Indonesia independent of Dutch specialist public servants.[17]

Gradually eight UNTAA-sponsored foreign advisors started to arrive and take up their positions at the Ministry of Finance, awaiting the establishment of BPN. The development national accounts and a national accounting methodology was part and parcel of the planning effort. Canadian demographer and statistician Nathan Keyfitz initially directed preparatory work on estimating national income, until the arrival of national accounting expert Daniel Neumark in May 1953.[18]

Neumark was not a specialist in national accounting, as he was not a statistician like most of the people involved in the UN initiative to standardise national accounting practices that led to SNA 1953. At the time of his recruitment by UNTAA, Neumark was an FAO-based agricultural economist and economic historian, who had made provisional estimates of prewar national income for South Africa (Frankel & Neumark 1940). Nevertheless he was specifically favoured by Sumitro (Djojohadikusumo 1986: 33). During his one-year stay in Jakarta, Neumark was expected to establish the foundations of modern national accounting in the country.

For the first few months of work as national income advisor at BPN, Neumark was only supported by students from the University of Indonesia. From November 1953 he received research assistance from W.T. Nefkens from the Central Statistical Office *Kantor Pusat Statistik*, KPS) in the Department of Welfare and its successors. Neumark collected data from a variety of sources on which he based his estimates of Net Domestic Product (NDP) for 1951-52, using the output (or value added) approach, augmented with some income estimates (Neumark 1954). He mainly used administrative data, and organised a few small

17 The J.G. White Engineering Corporation of New York was contracted by the Ministry of Economic Affairs in 1951 to provide advice to the ministry on a range of economic issues during 1951 and 1952. The firm seems to have concluded its work early in 1953, when BPN assumed similar activities.

18 Hoover Institution Archives, Stanford (USA), Guy Pauker Collection no. 82096, Box 20, Folder 3: B.H. Higgins to M.F. Millikan (16 April 1953).

surveys to obtain additional information, for example on use of inputs. Neumark was forced to make bold assumptions to overcome the shortcomings, gaps and inaccuracies in the available basic data. Not surprisingly, aspects of his estimates were commented on after they were published in June 1954 (Baga 1954: 33-35; Bakker 1954; Hollinger & Tan 1956, 1957) and Neumark's observation that per capita income had decreased by 15% relative to 1938 was widely reported in the Indonesian media (*E.g. Nieuwsblad voor Sumatra* 16 June 1954).

In the meantime, Djuanda had become BPN's first Director General in September 1953, with Ali Budiardjo as his Deputy and Secretary of BPN. BPN also had found office accommodation along Jalan Merdeka Selatan in Jakarta (*De Nieuwsgier* 23 September 1953). Work on economic planning was underway, and national accounts data were expected to be part of it. Following Neumark's departure in mid-1954, Sumitro, then Dean of the Faculty of Economics at the University of Indonesia, recommended Mulyatno Sindhudarmoko, a young economics graduate, for an appointment at BPN to continue Neumark's work.[19]

During his studies, Mulyatno had developed an interest and the use of national accounts data. Except for occasional assistance from Tjiong Joe Lian (who assisted the industrialisation experts at BPN) and Leon Baranski (who succeeded Higgins as UNTAA-sponsored adviser to BPN during 1954-57), Mulyatno worked largely single-handedly during the next few years on the revision and extrapolation of Neumark's estimates, using similar but improved methods (Muljatno 1957).

Interest in national accounting for Indonesia also evolved in the context of the interdisciplinary Indonesia Project at the Massachusetts Institute of Technology (MIT). This project was established and led in 1953 by economist Max F. Millikan, Director of MIT's Center for International Studies. It received financial support during 1953 and 1954 from the Ford Foundation. Millikan sought to study the issues Indonesia was facing in order to inform public discussion in the

19 Mulyatno Sindhudarmoko (1928-2006) studied economics at the University of Indonesia before joining BPN in 1955. After BPN was abolished in 1959, Mulyatno became Head of the Bureau of Economy and Finance at the State Secretariat and personal assistant to First Minister Djuanda, before taking up a position at the Department of Finance. In 1966 he became Professor of Economics and Dean of the Faculty of Economics at Trisakti University in Jakarta (1966-78), as well as Secretary of the Financial Audit Board (*Badan Pemeriksa Keuangan,* 1966-70), and Head of the *Badan Pendidikan dan Latihan Keuangan* (now BPPK) in the Department of Finance. He subsequently was Director of the *Akademi Pariwisata Trisakti* (1979-89) and *Rektor* of Trisakti University (1990-94).

USA. For that purpose he contacted Higgins in Jakarta, took interest in the work of BPN, and visited Indonesia in December 1953 to develop ideas for the research work that the MIT Indonesia Project would undertake. Sketching the situation at BPN, he noted: 'Discussion on planning primarily between foreigners in NP Bureau – Five Year Plan will be brainchild of foreigners'.[20]

Amongst others, Millikan recruited two young economists to the MIT Indonesia Project; Douglas S. Paauw and William C. Hollinger. Paauw was to focus his research on Indonesia's public finance, Hollinger on the country's foreign trade and balance of payments, while Higgins joined the MIT project as Director in mid-1954 after completing his UNTAA consultancy in Indonesia.[21] During 1953, Paauw and Hollinger conducted desk studies while waiting for their visas to study in Indonesia in 1954. Paauw collected references to economic literature and economic data in relation to Indonesia that were available in the USA. He also visited Egbert de Vries, a former high-ranking official at the Ministry of Economic Affairs in Batavia, at the International Bank for Reconstruction and Development (World Bank) and Jacques Polak at the IMF to discuss Indonesia's national accounts data, and develop ideas for further studies.

Hollinger produced eight quantitative studies that were intended to be contributions towards estimating national income, including papers on data for export agriculture, food production, a discussion of Polak's estimates, and animal husbandry (Hollinger 1953). Some of these papers were later published (Hollinger 1954-55 and 1956). Although Hollinger noted that he intended to estimate make estimates of Indonesia's pre- and post-war national income, possibly by revising Polak's estimates, and even though Hollinger was associated with the University of Indonesia in 1954 where he continued his work on Indonesia's national accounts data for 1950-52, the details of these estimates have not been published, except for a rough estimate of total GNP for 1952 of Rp 60 billion.[22]

---

20 Hoover Institution Archives, Stanford (USA), Guy Pauker Collection no. 82096, Box 3, Folder 5: 'Notes from Max F. Milligan's trip to Indonesia' (31 December 1953).

21 Hoover Institution Archives, Stanford (USA), Guy Pauker Collection no. 82096, Box 20, Folder 4: 'Centre for International Studies Annual Report 1953-1954' p.5.

22 Hoover Institution Archives, Stanford (USA), Guy Pauker Collection no. 82096, Box 138, Folder 24: D.S. Paauw, 'Tax structure, the tax burden and economic development' (17 November 1953). Baga (1954: 32) notes that Hollinger made national income estimates for 1950-52.

Despite their shortcomings, the national accounts data produced by Neumark and Muljatno were one of the sources that BPN used to prepare and advise the Indonesian government on economic policy. BPN also used it in the compilation of the first five-year development plan (1956-60). This plan was in part based on the notion that Indonesia needed to mobilise more savings for investment in order to achieve a critical level of incremental capital-output ratios (*e.g.* BPN 1957: 496-506). The plan was ready in September 1955 (*Nieuwsblad voor Sumatra* 9 September 1955), but it was not presented to parliament until May 1956.

Djuanda became the new Minister for National Planning in March 1956. Hitherto, BPN had reported to DPN, which first comprised only Ministers, but later just senior public servants from key ministries with responsibilities associated with economic development. Following the ministerial restructuring in 1956, BPN reported only to Djuanda. This may appear to have been an elevation of economic planning, but it was in fact a marginalisation of the effort, as other ministries no longer had a stake in how economic planning took shape and how it was to be implemented. Moreover, parliament's approval of the five-year plan was delayed until November 1958, by which time it had become largely obsolete.

Djuanda became Prime Minister in April 1957, as part of Indonesia's embrace of 'guided democracy' under which President Sukarno declared martial law and put executive power in the hands of a National Advisory Council (*Dewan Pertimbangan Agung*) of ministers, which he headed. The Council called for a National Development Conference (*Musyawarah Pembangunan Nasional*) with representatives of major political, military and civil groups. It met in November 1957 and articulated that Indonesia required a more integrated process of development planning. At the conference, Neumark's estimates were presented and discussed in detail during one of the sessions to offer participants a quantified impression of low level of economic development of Indonesia (*Nieuwsblad voor Sumatra* 29 November 1957).

Djuanda continued to occupy prominent government positions until his death in 1963, but other issues than economic planning called for his attention. Following the November 1957 conference, parliament approved a plan to transfer responsibility for development planning to the new National Planning Board (*Dewan Perancang Nasional*, Depernas) in October 1958.[23] President Sukarno

[23] *Undang-Undang No.80 Tahun 1958 tentang Dewan Perantjang Nasional*; *Keputusan Presiden Republik Indonesia No. 147 Tahun 1958 tentang Pembentukan Panitya Persiapan Dewan Perantjang Pembangunan Nasional*.

disbanded parliament and assumed executive responsibilities in July 1959. A month later BPN was discontinued.[24] Remaining BPN staff was absorbed into the Bureau of Economy and Finance (*Biro Ekonomi dan Keuangan*, BEK), an advisory body to then First Minister Djuanda, and was later located in the State Secretariat (*Sekretariat Negara*).[25] BPN finalised its planning work in 1959 with a sobering report on the lack of progress during the first three years of the execution of the five-year plan (BPN 1959).

That year, President Sukarno assigned responsibility for economic planning to the new 80-member Depernas. Chaired by historian Muhammad Yamin, it set out to prepare the Eight-Year Development Plan (1961-68). The planning process was highly politicised and in effect resulted in a long wish-list of projects, rather the intended effort at integrated development planning based on clear strategies and realistic goals. Depernas developed its own organisation for administrative support, which in 1963 became Bappenas (*Badan Perancanan dan Pembangunan Nasional*). The work of this agency had no direct relationship to that of the former BPN. Consequently, national accounts data had no role in the planning activities that occupied Bappenas and Depernas.

In the meantime, Mulyatno continued his work on Indonesia's national accounts at both BPN and later BEK. He made upward revisions of Neumark's estimates of national income for 1951-52, amongst others to take account of non-market transactions that Neumark had underestimated. He also had made new estimates for 1953-55, and he extrapolated these estimates for 1956-59. Mulyanto benefited from advice offered by consultants at BPN with national accounting experience. For instance, Joseph S. Gould succeeded Baranski as key UNTAA-sponsored economic advisor at BPN during 1957-59 (Webster 2011: 268). During 1950-51 Gould had established the foundations of national accounting in Thailand and was able to advise Mulyatno on that basis (Nugroho 1965: 366; Wirosardjono 1989: 496; Pillai 1965: 10).

Muljatno (1960) summarised some of this work and offered a detailed explanation of the procedures he had used to estimate NDP for 1951-55. The national accounts data Mulyatno generated for 1951-59 during his appointments

24 This coincided with the end of the 4-year agreement with UNTAA of 1952, which had been renewed for 3 years in April 1956. UNTAA itself was would up that year as well (Webster 2011).

25 BEK became part of the Prime Minister's department, which became the *Bagian Administrasi Pemerintah dan Hukum* (1961-62) and was then absorbed in the *Sekretariat Negara* (1962-66).

at BPN and BEK were published in aggregated form in several places. Data for 1953-58 were used in BPN's final report (BPN 1959: 112). The data were also submitted to the World Bank, ECAFE and the UN Statistical Office, which published them in respectively *Economic Survey for Asia and the Far East* and the *Yearbook of National Accounts Statistics*. BEK also supplied the national accounts data on request to individual researchers, such as PhD students Ali Wardhana and Daoed Joesoef, who analysed the 1951-59 data in their theses (Wardhana 1962: 126; Joesoef 1973: 32). An estimate for 1960 was later added by Depernas, most likely for reporting purposes to UN and ECAFE, which suggests that Depernas had access to Mulyatno's work in the early 1960s. Detailed analysis at ECAFE of the available aggregated data for 1951-60, showed that they contained inconsistencies (see e.g. ECAFE 1964 and Fukuchi 1968).

RE-START OF NATIONAL ACCOUNTING AT THE CENTRAL BUREAU OF STATISTICS

The demise of BPN after November 1957 also spelled the end of the direct involvement of Indonesia's planning agencies in the compilation and further development of the country's national accounts. Gradually responsibility shifted to the Central Bureau of Statistics (*Biro Pusat Statistik*, BPS), the agency that had succeeded KPS in June 1957 and that was directly responsible to the Prime Minister. Plans were set in train for BPS to assume responsibility for national accounting when an interdepartmental Working Group of the National Income Committee in October 1958 met to start groundwork to prepare the compilation of a new set of national accounts for the years 1957 and 1958.

The committee's most senior member was Abdul Madjid, then Deputy Director of BPS. The group prepared a preliminary estimate of income in the agricultural sector only, which was released in 1960 (Working Group 1960). Much of the work for this report seems to have been done at BPS. Responsibility for the compilation of national accounts was formally transferred to BPS in 1960, when the duties and responsibilities of BPS became regulated by law and BPS became an agency directly responsible to the President. However, except for Mulyatno at BEK, experience in Indonesia with national accounting was very limited. Like Neumark and Mulyatno, it is very likely that the Working Group soon realised that many more data were required for national accounting purposes than were readily available from government departments. Both factors may have been a reason why the Working Group seems to have produced only one report.

In 1962, BPS established the Statistical Research and Development Centre (*Pusat Penelitian serta Perkembangan Statistik*, PPPS) (Van der Eng 1996). The United Nations Special Fund (UNSF) supported PPPS for the purpose of encouraging the development of Indonesia's statistical system. Among the centre's tasks was the improvement of Indonesia's national accounting system, which involved the establishment of a National Income Division at PPPS. Improvements were expected from special surveys aimed at exploring output in the sections of the economy which were poorly covered by official statistics, such as small-scale industry and services. Further surveys were scheduled to monitor input use and pricing more accurately. Indian statistician K.N.C. Pillai was the UNSF-sponsored national income adviser at the National Income Division.[26] His task was to make some 'rough and quick estimates' of national income and the attempt progressive improvement and extension of these estimates, while training counterpart staff able to continue the work at a later stage (Pillai 1965: 1).

Pillai arrived in August 1963. As Neumark and Mulyatno had done at BPN and BEK for the 1950s, he used the output approach, administrative data, as well as some fresh data from a few small surveys into production costs to establish a new accounting system for Indonesia at BPS. Partly for national accounting purposes, Pillai also contributed to the design of the first National Sample Survey (later better known as Susenas) that was intended to be conducted annually. The first survey was conducted in November-December 1963 in Java and was expected to also yield data on private consumption, expenditure, capital formation, savings etc. that could be used for national accounting purposes. For the same purpose, Pillai also contributed to preparations of the 1963 agricultural census and the 1964 industrial census.

Pillai reported to the Director of PPPS, Nugroho, and his work was scrutinised by an *ad-hoc* committee consisting of representatives from BPS, Depernas, Bank Indonesia, and various ministries. Pillai also taught national accounting principles at the Academy of Statistics (*Akademi Ilmu Statistik*). Several graduates of the Academy were later absorbed in the National Income Division of PPPS. Some of Pillai's Indonesian counterparts, particularly Tjahjani Sudirman, Hartini and Suwondo, later studied national accounting in the Unites States and in Australia for a year. A few national income consultants passed through and offered short courses and advice. For example, William Abraham, previously UN national

[26] K.N.C. Pillai was ECAFE/ESCAP Regional Advisor on National Accounts until the mid-1980s.

income advisor in The Philippines in 1952, provided relevant consultancy services to BPS and Bappenas in 1962 (Nugroho 1965: 366).

After Indonesia withdrew from the UN in January 1965, UNSF support for PPPS stopped and Pillai and other UNSF-sponsored staff had to leave Indonesia a month later. Until then, the National Income Division at PPPS produced 12 reports that estimated value added during 1958-63 in several sectors of the economy (Hicks and McNicholl 1967: 69-70). It also produced a report containing summary GDP data for 1958-62. The estimates for trade, transport (other than rail and air) and dwellings were still very preliminary, while other estimates were still incomplete (particularly fruits and vegetables, manufacturing industry, finance and public sector).

Pillai left instructions for his Indonesian counterparts at PPPS, who developed new estimates of NDP on the basis of fresh data as well as new calculations for 1958-62 to the best of their abilities. They finalised this work in late-1965, although it was not published until November 1966 (BPS 1966).[27] Bappenas used these estimates to make rough extrapolations of NNP for 1963-65 (Anonymous 1966: 13; BI 1968: 2). New data became available during 1965 and 1966 in the form of 1 per cent samples of the 1963 Agricultural Census and the 1964 Industrial Census, as well as other sources. PPPS used these to develop new NNP estimates for 1963-64, which were published in May 1967 (BPS 1967). For reasons of financial difficulties and possibly the absence of expert advice, only rough extrapolations of the main series were made subsequently to eventually yield constant price series for 1958-67 (Nugroho 1967: 538-539).

TOWARDS CONSISTENT NATIONAL ACCOUNTING

Following political turmoil during 1965-67, the new Government of Indonesia invited a mission of the World Bank to Indonesia in 1967 to assess the country's economic situation. A year later, the mission's final report included an evaluation 100-145) tried to reconcile these inconsistencies in a crude way to compile his own estimates of NDP for 11 sectors in an effort to model the Indonesian economy for 1951-62. of Indonesia's statistical system and the national accounts estimates. It bluntly stated: '… the basic statistical series relating to the various sectors of the economy are seriously deficient and little if any information is

[27] Where the data published by Muljatno, BPN, UN and BPS overlap in 1951-62, they reveal very significant discrepancies caused by differences in the estimation procedures. Suhartono (1967:

available for recent years. The office national income accounts likewise cannot be regarded, in their present state, as a serious tool for analysis or planning. Indeed, no integrated system of national accounts can now be said to exist. Estimates are compiled and published for net domestic product at factor cost only; and these themselves are of limited reliability …' (World Bank 1968, Vol.VI: 2). The report also noted that there was no close cooperation between BPS and other government departments and agencies, which were generally the prime source of administrative data and information.

UN technical assistance to Indonesia resumed at the end of 1967. The United Nations Development Programme (UNDP) sponsored a national accounts adviser to the National Income Division at PPPS. Swedish economist Constantin Ross assumed this position in May 1968 for two years. Until then, national accounting in Indonesia had not been based on the UN's 1953 SNA. The limitations in the available statistical data simply made it impossible to follow these guidelines to the letter. With Ross' arrival, a new effort was made to follow the concepts, definitions and methods recommended in the new 1968 SNA as closely as possible. Rather than aim to estimate national income (or Net National Product), work was focused on the estimation of GDP at market prices, using the output approach. New data were accumulated for the industrial sectors whose coverage had hitherto been incomplete.

Supervised by its Director Azwar Rasjid, the National Income Division at PPPS applied new methods of estimation and revised the Indonesian national accounts data for 1960-68, which were circulated in January 1970 and published in November 1970 (BPS 1970). For the first time, both GDP by industrial origin and expenditure were estimated, albeit that private consumption was simply taken to be the residual after all other expenditure items had been accounted for. These estimates were later extended to 1973.

Despite the fact that new data had become available that conformed to the 1968 SNA, their reliability still left much to be desired (Arndt & Ross 1970: 48-54). Arbitrary decisions, such as mark-ups for uncovered sections and trade margins, called for revisions and further improvements. A 1970 World Bank report on Indonesia's statistical system did not mince words when it concluded: 'The national accounts estimates of Indonesia at both current and constant prices are extremely deficient and unreliable, whether in terms of level or trend through time.'(World Bank 1971: 2).

The 1961-68 Eight-Year Development Plan had made no reference to national accounts data. In contrast, the new Five-Year Development Plans (*Rencana Pembangunan Lima Tahun*) prepared at Bappenas and starting in 1969, did make reference to such data. While national accounts data may have informed the contours economic planning at Bappenas, they were still too rudimentary to inform economic planning in any analytical detail beyond description of trends.

In 1970, the National Income Division at PPPS became the new National Income Section (*Bagian Pendapatan Nasional*) at BPS, headed by Mrs Tjahjani Sudirman.[28] It assumed responsibility for the compilation of Indonesia's national accounts. On the basis of the methodology established at PPPS, the division created new estimates for 1968-73. L.N. Pereira succeeded Ross in May 1970 for two years as national accounts advisor to BPS. Since 1972, the national accounts section as BPS had a series of short-term foreign advisors, who advised on particular aspects of the development of Indonesia's national accounts system.

In the meantime, an important basis for incremental improvements in national accounting had been established in Indonesia. In effect, this took the form of Indonesia's Input-Output (I-O) Tables, which later became the 'anchors' for revisions and improvements of Indonesia's national accounts system. The first I-O Table for 1969 was compiled as part of a 1972-73 project that involved different institutions, in particular, the National Institute of Economic and Social Research (*Lembaga Ekonomi dan Kemasyarakatan Nasional*, LEKNAS) of the Indonesian Institute of Sciences (LIPI). The team was led and coordinated by Yukio Kaneko (Center for Southeast Asian Studies, CSEAS, Kyoto University) and Julian Luthan (LEKNAS). This project expanded an earlier regional economic study of South Sumatra by both organisations in 1970-71, which involved (for the first time) the estimation of regional national accounts. The 1969 I-O Table was published in preliminary reports in 1972 and final reports in 1973 (LEKNAS 1973ab). They suggested that the national accounts data were underestimated.[29]

Based on this experience, CSEAS, LEKNAS, BPS, Bank Indonesia, and the Institute of Developing Economies (IDE) in Tokyo cooperated to produce a much

28 Tjahjani Sudirman started work at BPS in 1958 and studied at the *Akademi Ilmu Statistik* She worked at the National Income Division at PPPS during 1962-70 and headed the National Income Section at BPS during 1972-80. She remained at the Section until her retirement in 1989 and continued to teach at the Academy.

29 Something that Arndt and Ross (1970: 49-52) already suspected.

more elaborate I-O Table as the result of the much bigger 'Input-Output Joint Research Project, Indonesia 1971' during 1973-77 (IDE 1977). This project was based on much more detailed surveys into input use, pricing of inputs and output in particular sectors and covered 175 output sectors. The work on the 1971 I-O Table became the model for later I-O Tables, compiled by five-yearly by BPS since 1975.

Each of the I-O Tables was based on increasingly more intricate I-O accounting procedures, which informed the four rounds of revisions of Indonesia's national accounting system. Each of the revisions coincided with changes in the base year: 1971 (first published in 1978), 1983 (first published in September 1985), 1993 (first published in February 1996) and 2000 (first published in April 2004). Each round yielded significantly higher estimates of GDP in the overlapping years. The differences were not just caused by changes in the base year, as BPS suggested in its publications, but more by a range of changes in the accounting procedures, which affected levels of output, input use and pricing, as well as the extension of national accounting to sectors that had hitherto not or only partially been covered (Van der Eng 1999, 2005).

While most of the national accounts data for the 1950s and 1960s had been published with detailed supporting tables and explanations of the underlying accounting procedures and assumptions, such information became noticeably sparse in later publications of Indonesia's national accounts. Consequently, it is difficult to specify in brief what may have caused the different results in overlapping years. What is clear, however, is that the results of the several rounds of various national economic surveys (agriculture, industry, mining and household expenditure) were incorporated in the estimation procedures.

In all, the work at BPS on Indonesia's national accounts expanded quickly, despite continued limitations to the available resources. During 1970-80, Tjahjani Sudirman supervised a growing team. Her successor was the indefatigable Kusmadi Saleh, under whose supervision the team expanded further with new members and new initiatives, such as the regional accounts by province and regency, quarterly accounts that were estimated retrospectively to 1968, social accounting matrices based on I-O the Tables and work to integrate environmental accounting into the national accounts.[30] Nevertheless, limitations

[30] Kusmadi Saleh joined BPS in 1960 and studied at the *Akademi Ilmu Statistik* during 1960-64, specialising in national accounting. He worked at the National Income Division at PPPS and the National Income Section at BPS. After completing a Master's degree in Economic

in the availability of data and resources long required BPS to compile its national accounts with an adapted version of the 1968 SNA. The same issue has so far prevented a full introduction of the 1993 SNA.

In 1984 the national accounts section changed its name to Bureau of National Accounts (*Biro Neraca Nasional*) to reflect the fact that it was also responsible for other work related to the national income estimates, such as the I-O Tables and the concomitant Social Accounting Matrices. In 1993 the Bureau was spit into the Bureau of Production Accounts (*Biro Neraca Produksi*) and the Bureau of Consumption and Accumulation Accounts (*Biro Neraca Konsumsi dan Akumulasi*) (BPS 1995). This reflects the fact that from 1993 estimated national income on the basis of both the production and the expenditure approaches, where it previously estimated consumer expenditure merely as a residual. When BPS became an autonomous government agency in 2007, the two Bureaus became Directorates (*Direktorat Neraca Produksi* and the *Direktorat Neraca Konsumsi dan Akumulasi*), each with their own Sub-Directorates.

CONCLUSION

This article has explained why it took until the late 1970s before Indonesia produced consistent national accounts data that broadly met the 1968 SNA guidelines. While initiatives for macro-economic measurement had been taken in relation to Indonesia since the 1930s, and a significant momentum for the introduction of systematic national accounting practices had existed in the early 1950s, the limited availability of basic data as well as institutional discontinuity prevented this. Particularly the marginalisation of BPN and the politicising of the development planning process from 1957, as well as the disruptions in UN assistance for the development of national accounting practices in the 1960s prevented progress in macro-economic measurement in Indonesia until the establishment of the National Income Section at BPS in 1970.

Development at Vanderbilt University in 1978, he headed the Section during 1980-92. He was Deputy Director of BPS from 1992 until his retirement in 2004.

While other Asian countries such as India had advanced their capabilities in macroeconomic measurement already during the 1950s and 1960s, further limitations in terms of available resources and data availability meant that it took this section several years to improve data collection and accounting practices. The experiences with the 1971 and 1975 I-O Tables assisted BPS in establishing the foundations for the delivery and further improvement of its national accounts by 1978. These discontinuities in Indonesia's available national income time series since the 1920s underline that considerable caution has to be exercised in using these data for the analysis of long-term economic growth.[31]

BIBLIOGRAPHY

Books

CEI. 1979. *Changing Economy in Indonesia. Vol. 5: National Income.* The Hague: Nijhoff. Clark, Colin. 1940. *The Conditions of Economic Progress.* London: Macmillan.

De Vries, Egbert. 1936. *Het Vraagstuk der Buitengewesten: Volksinkomen en Belastingdruk op Java en in de Buitengewesten.* [The issue of the Outer Islands: National income and tax pressure in Java and the Outer Islands] Batavia: Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen.

Djojohadikusumo, Sumitro. 1955. *Ekonomi Pembangunan* [Development economics]. Jakarta: PT Pembangunan.

Drooglever, Pieter J. 1980. *De Vaderlandsche Club 1929-1942: Totoks en de Indische Politiek.* [The *Vaderlandsche Club* 1929-42: Indonesia-born Dutch and politics in the Dutch East Indies.] Franeker: T. Wever.

Higgins, Benjamin. 1957. *Indonesia's Economic Stabilization and Development.* New York: Institute of Pacific Relations.

Higgins, Benjamin. 1992. *All the Difference: A Development Economist's Quest.* Montreal: McGill-Queen's University Press.

Homan van der Heide, Jan. 1901. *Economische Studiën en Critieken met Betrekking tot Java.* [Economic studies and critiques in relation to Java] Batavia/The Hague: Kolff/Van Stockum.

IDE. 1977. *Input-Output Table Indonesia, 1971.* Tokyo: Institute of Developing Economies (2 volumes).

[31] Van der Eng 2010.

Keuchenius, Willem Mattheus. 1803. *De Inkomsten en Uitgaven der Bataafsche Republiek, Voorgesteld in Eene Nationaale Balans.* [Income and expenditure of the Batavian Republic] Amsterdam: W. Holtrop.

Leknas-Kyodai. 1973a. *Input-Output Table of Indonesia, 1969: Inter-industrial Transaction Studies.* Jakarta: Lembaga Ekonomi dan Kemasyarakatan Nasional, April 1973.

Leknas-Kyodai. 1973b. *The Structure of the Indonesian Economy in 1969: Interindustrial Transaction Studies.* Jakarta: Lembaga Ekonomi dan Kemasyarakatan Nasional, November 1973.

Maddison, Angus. 2007. *Contours of the World Economy, 1-2030AD: Essays in Macro-Economic History.* Oxford: Oxford University Press.

Meijer Ranneft, Jan Willem and Huender, Willem. 1926. *Onderzoek naar den Belastingdruk op de Inlandsche Bevolking* [Investigation into the tax pressure on the native population]. Weltevreden: Landsdrukkerij.

Metcalf, John E. 1952. *The Agricultural Economy of Indonesia.* Washington DC: US Department of Agriculture.

Nugroho. 1967. *Indonesia: Facts and Figures.* Jakarta: Terbitan Pertjobaan BPS. Otten, F.J.M. 2012. 'Meijer, Jan Willem (1887-1968)', in *Biografisch Woordenboek van Nederland.* http://www.historici.nl/Onderzoek/Projecten/BWN/lemmata/bwn1/meijerjw

Polak, Jacques J. 1943. *The National Income of the Netherlands Indies, 1921-1939.* New York: Netherlands and Netherlands-Indies Council of the Institute of Pacific Relations. (Reprinted in CEI 1979: 25-102)

Polak, Jacques J. 1994. *Economic Theory and Financial Policy: The Selected Essays of Jacques J. Polak Volume I.* Cheltenham: Edward Elgar.

Steyn Parvé, Daniel Couperus. 1852. *Geschiedenis van het Munt- en Bankwezen van Nederlandsch Indië, sedert de Herstelling van het Nederlandsch Gezag in 1816.* [History of the monetary and financial system of the Netherlands Indies since the re-establishment of Dutch authority in 1816] Zaltbommel: Johan Noman & Zoon

Studenski, Paul. 1958. *The Income of Nations. Theory, Measurement, and Analysis: Past and Present.* New York: New York University Press.

Ten Brummelhuis, Han. 2005. *King of the Waters: Homan van der Heide and the Origin of Modern Irrigation in Siam.* Leiden: KITLV Press.

World Bank. 1968. *Economic Development in Indonesia, Vol. VI: Annex 5, Development Planning, Statistical System and National Accounts Estimates.* Washington, D.C.: The International Bank for Rehabilitation and Recovery, 12 February 1968.

Articles

Anonymous. 1966. 'Beberapa Data yang Actueel' [Some recent data], *Statistik: Madjalah Resmi Ikatan Statistik Indonesia* (July 1966), pp. 13-17.

Arndt, Heinz W. & C. Ross. 1970. 'The New National Income Estimates', *Bulletin of Indonesian Economic Studies*, Vol. 6, No. 3: pp. 33-60.

Baga, Mohammad. 1954. 'Pendapatan Nasional' [National Income], *Buku Peringatan Dies Natalis ke-4, Fakultet Ekonomi, Universitas Indonesia*, Vol. 4, pp.26-35. Bakker, C. 1954 'Some Remarks about Dr. Neumark's Estimation of the National

Income of Indonesia in 1951 and 1952', *Ekonomi dan Keuangan Indonesia*, Vol. 7, pp. 597-602.

BPN. 1957. 'Model Pembangunan Ekonomi dalam Indonesia' [An economic development model in Indonesia], *Ekonomi dan Keuangan Indonesia*, Vo1. 10: pp. 83-526.

Den Bakker, Gert P. 1994. 'Dutch National Accounts: A History' in Kenessey, Zoltan (editor) *The Accounts of Nations.* (Amsterdam: IOS Press) pp. 66-92.

Derksen J.B.D. 1941. 'Berekeningen over het Nationale Inkomen van Nederland voor de Periode 1900-1920' [Calculations of the national income of The Netherlands for the period 1900-1920], *Maandschrift van het Centraal Bureau voor de Statistiek*, Vol. 36: pp. 75-91.

Derksen, J.B.D. 1946a. 'A System of National Book-Keeping, Illustrated by the Experience of the Netherlands economy.' *Occasional Paper of the National Institute of Economic and Social Research No.10.* Cambridge: Cambridge University Press.

Derksen, J.B.D. 1946b. 'De Economische Beteekenis van Nederlandsch-Indië voor Nederland met Cijfers en Statistieken Toegelicht' [The economic importance of the Netherlands Indies for The Netherlands exemplified with numbers and statistics] in W.H. van Helsdingen & H. Hoogenberk (editors) *Hecht Verbonden in Lief en Leed.* (Amsterdam: Elsevier): pp. 360-375.

Derksen, J.B.D. & Tinbergen, Jan. 1945. 'Berekeningen over de Economische Beteekenis van Nederlandsch-Indië voor Nederland' [Calculations of the economic significance of the Netherlands Indies for The Netherlands], *Maandschrift van het Centraal Bureau voor de Statistiek*, Vol. 40: pp. 210-23.

Djojohadikusumo, Sumitro. 1953. 'The Budget and its Implications', *Ekonomi dan. Keuangan Indonesia*, Vol. 6, No. 1: pp. 3-30.

Djojohadikusumo, Sumitro. 1986. 'Recollections of My Career', *Bulletin of Indonesian Economic Studies*, Vol. 22, No. 3: pp. 27-39.

ECAFE. 1964. 'Econometric Analysis and Projection of the Indonesian Economy' in *Review of Long-Term Economic Projections for Selected Countries in the ECAFE Region, Report of the Fourth Group of Experts on Programming*

Techniques. (Bangkok: United Nations Economic Commission for Asia and the Far East) 204-245.

Frankel, S. Herbert and Neumark, S. Daniel. 1940. 'Note on the National Income of the Union of South Africa 1927/28, 1932/33, 1934/35', *South African Journal of Economics*, Vol. 8, No. 1: pp. 78-81.

Fukuchi, Takao. 1968. 'An Econometric Analysis of the Indonesian Economy', *The Developing Economies*, Vol. 6: pp. 324-255.

Götzen, Louis. 1933. 'Volksinkomen en Belasting' [National Income and Taxation], *Koloniale Studiën*, Vol. 17, No. 2: pp. 449-484.

Groenveld, Douwe. 1948a. 'Een Kompas voor de Economische Politiek' [A compass for economic policy], *Econonomisch Weekblad voor Indonesië,* Vol.14, No. 48: pp. 969-970.

Groenveld, Douwe. 1948b. 'Nationale Rekeningen voor Indonesië' [National accounts for Indonesia], *Econonomisch Weekblad voor Indonesië,* Vol. 14 No. 48: pp. 1013-1014.

Groenveld, Douwe. 1950. 'Economische politiek in aanbouw' [Economic policy in the making], *Economisch-Statistische Berichten*, Vol. 35: pp. 574-577.

Hollinger, William C. 1953. 'Quantitative Study of the Indonesian Economy'. Unpublished paper, n.p.

Hollinger, William C. 1954-55. 'National Income Estimates in the Statistical Policy of an Underdeveloped Area: A Comment', *Review of Economic Studies*, Vo1. 22: pp. 220-25.

Hollinger, William C. 1956. 'Social Accounting in Underdeveloped Areas', *Ekonomi dan Keuangan Indonesia*, Vol. 9: pp.588-604.

Hollinger, William C. and Tan, An Djien. 1956, 1957. 'The National Income of Indonesia, 1951-1952: A Critical Commentary on the Neumark Estimates', *Ekonomi dan Keuangan Indonesia*, Vol. 9: pp. 785-798 and Vol. 10: pp. 2-33.

Keuchenius, Willem Mattheus. 1875. 'Beschrijving der Bataviasche Jurisdictie en Onderzoek naar de Oorzaken der Meerdere Ongezondheid van Batavia en Deszelfs Rhee' [Description of the Batavia jurisdiction and investigation into the causes of increasing ill-health in Batavia and its port], *Tijdschrift voor Indische Taal-, Land- en Volkenkunde*, Vol. 22: pp. 390-531.

Muljatno. 1957. 'Persoalan Pendapatan Nasional di Indonesia' [Problems of National Income in Indonesia], *Ekonomi dan Keuangan Indonesia*, Vol. 10, pp.527-542.

Muljatno. 1960. 'Perhitungan Pendapatan Nasional Indonesia untuk Tahun 1953 dan 1954' [The calculation of national income of Indonesia for 1953 and 1954], *Ekonomi dan Keuangan Indonesia*, Vol. 13, pp.162-211.

Neumark, S.D. 1954. 'The National Income of Indonesia, 1951-1952', *Ekonomi dan Keuangan Indonesia*, Vol. 7, pp.348-391.

Oudt, Andries. 1952. 'Nationaal Inkomen en Nationale Rekeningen' [National income and national accounts], *Warta Ekonomi untuk Indonesia*, Vol. 5, pp.49-52.

Polak, Jacques J. 1947. 'Het Nationale Inkomen van Nederlandsch-Indië, 1921-1939' [National Income of the Netherlands Indies], *Statistische en Econometrische Onderzoekingen*, Vol. 3, pp.104-108.

Rowe, James L. 2008. 'A Legacy of Model Elegance', *Finance & Development*, Vol. 45, No. 2: pp. 4-7.

Stevens, R.J.J. 1993. 'Götzen, Een Moderne "Visitateur-Generaal der Indische en Nederlandse Negotiën" 1894-1979' [Götzen: A modern General Inspector of trades in Indonesia and the Netherlands], *Politieke Opstellen*, 13, http://www.ru.nl/cpg/overige_publicaties/politieke_opstellen/#13

Tsuru, Shigeto and Ohkawa, Kazushi. 1953. 'Long-Term Changes in the NationalProduct of Japan since 1878', *Review of Income and Wealth*, Vol. 3, No. 1: pp.19-44.

Tiwari, S.G. 1994. 'Development of National Accounts in India' in Kenessey, Zoltan (ed.) *The Accounts of Nations.* (Amsterdam: IOS Press), pp. 124-143.

van der Eng, Pierre. 1996. 'Historical economic statistics in Indonesia: Continuity and change', *Newsletter of the Asian Historical Statistics Project*, Vol. 3: pp.12-15.

van der Eng, Pierre. 1999. 'Some Obscurities in Indonesia's New National Accounts', *Bulletin of Indonesian Economic Studies*, Vol. 35, No.2: pp. 91-106.

van der Eng, Pierre. 2005. 'Indonesia's New National Accounts', *Bulletin of Indonesian Economic Studies*, Vol. 41, No. 2: pp. 253-262.

van der Eng, Pierre. 2010. 'The Sources of Long-Term Economic Growth in Indonesia, 1880-2008', *Explorations in Economic History*, Vol. 47: pp. 294-309.

van der Eng, Pierre. 2013. 'Government Promotion of Labour-Intensive Industrialization in Indonesia, 1930-1975' in Austin, Gareth and Sugihara, Kaoru (eds.) *Labour-Intensive Industrialization in Global History.* (London: Routledge), pp. 176-200.

Webster, David. 2011. 'Development Advisors in A Time of Cold War and Decolonization: The United Nations Technical Assistance Administration, 1950-59', *Journal of Global History*, Vol. 6: pp. 249-272.

Wirosardjono, Soetjipto. 1989. 'Prof. Sarbini Sumawinata: Peletak Dasar-Dasar Modernisasi Kegiatan Statistik di Indonesia' [Prof. Sarbini Sumawinata: Establisher of the foundations of the modernisation of statistical activities in Indonesia] in Sjahrir (ed.) *Menuju Masyarakat Adil Makmur: 70 Tahun Prof. Sarbini Sumawinata.* (Jakarta: Gramedia), pp. 492-508.

Yamamoto, Yuzo [山本有造]. 2011. 'Takahashi Taizo's Nanpo Keizai ni Okeru Kokumin Shotoku no Suisan ni Kansuru Ichi Shiryō' [高橋泰蔵『南方経済に於ける国

民所得の推算に関する一資料』, Data and estimation of national income in Takahashi Taizo's 'Southern Economy'] in *Daitōa Kyōeiken* [大東亜共栄圏 , Greater East Asia Co-Prosperity Sphere] (Nagoya: Nagoya University Press) pp. 250-251.

Reports

BI. 1968 *Laporan Bank Indonesia Tahun Pembukuan 1960-1965.* [Report of Bank Indonesia for the Book Years 1960-1965] Jakarta: Bank Indonesia.

BPN. 1959. *Laporan Pelaksanaan Rentjana Pembangunan Lima Tahun, 1956-1960, Mengenai Tahun-Tahun 1956, 1957 dan 1958.* [Report on the progress of the Five-Year Development Plan 1956-60, covering the years 1956, 1957 and 1958] Jakarta: Biro Perancang Negara.

BPS. 1966. *Pendapatan Nasional Indonesia menurut Lapangan Usaha (Industri) 1958-1962: Methode Penghitungan dan Sumber Data.* [National income of Indonesia by industrial sector 1958-1962: Calculation method and data overview] Jakarta: Biro Pusat Statistik.

BPS. 1967. *Pendapatan Nasional 1960-1964 menurut Lapangan Usaha.* [National income 1960-1964 by industrial sector] Jakarta: Biro Pusat Statistik.

BPS. 1970. *Pendapatan Nasional Indonesia 1960-1968.* [National income of Indonesia 1960-1968] Jakarta: Biro Pusat Statistik.

BPS. 1995. *Statistik dalam 50 Tahun Indonesia Merdeka: Peranan dan Aktivitas.* [Statistics during 50 years of Free Indonesia: Role and activity] Jakarta: Biro Pusat Statistik.

CBS. 1948. 'De Nationale Rekeningen voor Nederlandsch-Indië, 1938' [National Accounts for the Netherlands Indies, 1938], *Statistische en Econometrische Onderzoekingen*, 4, pp.61-146. (Translated and reprinted in CEI 1979: 103-129)

Perera, L.N. 1977. 'Revised Estimates of Gross Domestic Product & Expenditure: Methods & Data Sources.' Unpublished report, BPS, Jakarta, July 1977.

Pillai, K.N.C. 1965. 'Report by Mr. K.N.C. Pillai on His Assignment in Indonesia as National Income Adviser at the Statistical Research and Development Centre.' Unpublished Report.

Working Group. 1960. 'The Contribution to the National Income of Indonesia, 1957 and 1958, by the Agricultural Sector.' Unpublished report No.A-322-60, Jakarta, February 1960.

Thesis/Dissertation

Joesoef, Daoed. 1973. *Monnaie et Politique Monétaire en Indonésie de 1950 à 1960*. [Money and monetary policy in Indonesia 1950-1960] PhD thesis, University of Paris I (Sorbonne), Sciences Économique.

Suhartono, Robertus B. 1967. *The Indonesian Economy: An Attempt in Econometric Model Analysis*. PhD thesis, Wayne State University, Detroit (Michigan). Wardhana, Ali. 1962. *Monetary Problems of An Underdeveloped Economy; With Special Reference to Indonesia.* PhD thesis, University of California, Berkeley.

BIODATA

AMALIA, MIA

MIA AMALIA is a planner and a policy analyst at the Ministry of National Development Planning/National Development Planning Agency in Indonesia. Her research interests are spatial planning, land management and environmental valuation. She received her PhD degree in the field of Environment from the Crawford School of Economics and Government at the Australian National University.

BENNETT, JEFF

JEFF BENNETT is a Professor of Environmental Management at the Crawford School of Public Policy, Australian National University (ANU). He is also a Fellow of the Academy of Social Sciences in Australia and a Distinguished Fellow of the Australian Agricultural and Resource Economics Society in 2002. From 2007 to 2011, he was Director of the Environmental and Economics Research Hub at the ANU. His current research interests focus on: the development and application of techniques to estimate the value of non-marketed environmental benefits and costs, and, the analysis of alternative institutional structures that give private owners/managers of natural resources the incentive to provide environmental benefits.

DICK, HOWARD

HOWARD DICK is an Honorary Professorial Fellow in the Faculty of Business & Economics at the University of Melbourne, also a Conjoint Professor in the Faculty of Business & Law at the University of Newcastle (NSW). He is an economist and economic historian specialising primarily on Indonesia. One of his major works is *Surabaya – City of Work – A Socioeconomic History, 1900 – 2000* (Singapore 2002).

FRANKEMA, EWOUT

EWOUT FRANKEMA obtained his PhD in Economics from the University of Groningen in 2008, where he wrote a dissertation on the Historical Evolution of Inequality in Latin America, 1870-2000. After graduation he worked for four years as a lecturer, post-doc and assistant professor at the Social and Economic History group of Utrecht University. Since 2012 Frankema holds the chair of Rural and Environmental History at Wageningen University. Frankema's research agenda focuses on a deeper understanding of the long-term economic history of developing regions (Africa, Latin America, Asia). In 2013 Frankema received the Arthur H. Cole Prize for the best article in the Journal of Economic History (jointly co-authored with Marlous van Waijenburg).

GARDINER, PETER

PETER GARDINER is a demographer living in Indonesia. He has a PhD in Demography from the Australian National University as well as a BA in Economics from the University of Rochester. His career includes work at the US Census Bureau, at Statistics Indonesia (the Indonesian national statistics agency) and, up until his recent retirement, employment for more than 20 years as Technical Advisor for Survey Research and Social Science Analysis at PT *Insan Hitawasana Sejahtera* (IHS) a Social Science Research and Consulting firm in Jakarta where he was responsible for technical management of projects undertaken by the company. This included statistical analysis of large-scale social data sets as well as the design of original field surveys undertaken by the company. He has written extensively on social and population policy issues Indonesia as part of his work at IHS.

HARDJONO, JOAN

JOAN HARDJONO has a PhD in Geography from the University of New England, Armidale, Australia. She has lived in Indonesia since the late 1950s and has carried out extensive research in rural areas. She has written on a range of topics that include transmigration, rural development and environmental change in Indonesia. Her major publications include *Transmigration in Indonesia* (Oxford University Press, Singapore, 1977) and *Land, Labour and*

Livelihood in a West Java Village (Gadjah Mada University Press, Yogyakarta, 1987).

HILL, HAL

HAL HILL is the H.W. Arndt Professor of Southeast Asian Economies at the Australian National University. He was Head of the Arndt Corden Department of Economics, 2004-07, and Head of the Indonesia Project, 1986-1998. He is the author or editor of 18 books and has written about 150 academic papers and book chapters. Topics of current and recent papers, several co-authored, include growing out of conflict in Cambodia, comparing Indonesia's response to the economic crises of 1997-98 and 2008-09, regional development in East Asia, Indonesian industrialization, Indonesian trade policy, ASEAN economic cooperation, developing East Asian economies as foreign investors, and the political economy of reform in Southeast Asia. He is a Fellow of the Academy of Social Sciences of Australia. In 2011 he was an official guest of Indonesia as a 'Presidential Friend of Indonesia'.

LINDBLAD, THOMAS

THOMAS LINDBLAD was born in Sweden but has lived in the Netherlands since the 1970s. He studied international relations at Columbia University, New York, and economics at the University of Amsterdam. In 1982 he obtained his PhD at the University of Amsterdam with a dissertation on the history of trade between Sweden and the Netherlands in the eighteenth century. Since 1975, he has been teaching at the University of Leiden, currently as associate professor in economic history and the history of Southeast Asia. His main interests of research concern the modern economic history of Indonesia, in particular with regard to colonial economic development, foreign investment and decolonization. His books include *Between Dayak and Dutch; The Economic History of Southeast Kalimantan 1880-1942;* Indonesian translation 2012), *Foreign Investment in Southeast Asia in the Twentieth Century* (London,1998), *The Emergence of a National Economy; An Economic History of Indonesia, 1800-2000* (Crows Nest, NSW, 2002, co-authored with Howard Dick, Vincent Houben and Thee Kian Wie) and *Bridges to New Business; The Economic Decolonization of Indonesia* (Leiden 2008).

MANNING, CHRIS

CHRIS MANNING is an Adjunct Associate Professor in the Indonesia Project, Arndt-Corden Department of Economics, The Crawford School of Public Policy, Australian National University. He was the former Head of the Indonesia Project at the Australian National University, and is the author of *Indonesian labour in transition – An East Asian success story?* and *Structural Change and International Migration in East Asia*, which was co-authored with Prema- Chandra Athukorala.

MCCAWLEY, PETER

PETER MCCAWLEY is a visiting fellow in the Indonesia Project, Arndt-Corden Department of Economics, College of Asia and the Pacific, Australian National University. He was the former Head of the Indonesia Project at ANU. His latest book, co-authored with Sisira Jayasuriya, in collaboration with Bhanupong Nidhiprabha; Budy Rsosudarmo, and Dushni Weerakoon is *The Asian Tsunami – Aid and Reconstruction after a Disaster*.

OEY-GARDINER, MAYLING

MAYLING OEY-GARDINER is currently Emeritus Professor in the Economics Faculty of the University of Indonesia where she has taught at the undergraduate and graduate levels since 1971. At the same time she is serving as Head of the Liberal Arts Program at Universitas Pembangunan Jaya, a private university in Jakarta. In addition, from 1991 until 2011 she founded and served as Executive Director of Insan Hitawasana Sejahtera, a company specializing in the provision of social science research and consulting services. She has served on numerous university and outside committees and in 2008 she was elected to the Indonesian Academy of Sciences. She has a PhD in Demography from the Australian National University and has published widely in areas of social concern including policy aspects of equity with a focus on poverty, gender, and overall education issues, and on issues related to general access and delivery to social services, including health and water.

PURWANTO, BAMBANG

BAMBANG PURWANTO is a Professor in History at Gadjah Mada University in Yogyakarta, Indonesia, and also Extraordinary Leiden Professor for the History of Indonesia-Dutch Relations. He is currently the head of the doctoral program for humanities at the Faculty of Arts and Humanities, Gadjah Mada University. He graduated from the School of Oriental and African Studies, University of London, United Kingdom, where he also obtained a Ph.D. degree in History. He has published widely on the economic and social history of Indonesia and on Indonesian historiography.

REID, ANTHONY

ANTHONY REID is a Southeast Asian historian, now again at the Australian National University, Canberra, after periods at UCLA and at NUS, Singapore. His books include *The Blood of the People – Revolution and the End of Traditional Rule in Northern Sumatra*; *Southeast Asia in the Age of Commerce* (2 volumes 1988-93), and *Imperial Alchemy: Nationalism and Political Identity in Southeast* Asia (2010).

RESOSUDARMO, BUDY P.

BUDY P. RESOSUDARMO is Associate Professor and Head of the Indonesia Project at the Arndt-Corden Department of Economics, Crawford School of Public Policy, at the Australian National University (ANU). His research interests include determining the economy-wide impact of environmental policies, analysing the impact of fiscal decentralisation on regional economies, and understanding the political economy of natural resource utilisation. Before joining the ANU, he was a lecturer at the Graduate Program in Economics, University of Indonesia, as well as a researcher at the Indonesian Agency for the Assessment and Application of Technology. Resosudarmo received his PhD degree in development economics from Cornell University.

SUTHERLAND, HEATHER

HEATHER SUTHERLAND, an Australian-born historian, and is Professor Emeritus at the Free University of Amsterdam. She has published on Indonesia, Malaysia and historiography, and is currently working on a history of Makassar (1600-2014) and an internet project on trade in East Indonesia (1800-1940).

THEE KIAN WIE

THEE Kian Wie was a Senior Economist at the Economic Research Centre, Indonesian Institute of Sciences (P2E-LIPI), Jakarta, and Member of the Social Sciences Commission, Indonesian Academy of Sciences of Sciences (KIS-AIPI), Jakarta. In 2008 he was appointed as honorary member (*erelid*) of KITLV (The Royal Netherlands Institute for Southeast Asian and Caribbean Studies), Leiden, The Netherlands, and also received the Sarwono Prawirohardjo Award from the Head of the Indonesian Institute of Sciences (LIPI)for his long service to LIPI. In 2008 he was one of the first five recipients of the Dedicated Intellectuals Award from KOMPAS daily.

TJONDRONEGORO, SEDIONO M.P.

SEDIONO M.P. TJONDRONEGORO is an emeritus Professor of Sociology at the Institut Pertanian Bogor. He received his Doctorandus degree at the University of Amsterdam, and his Doctor's degree in sociology from the University of Indonesia. He has conducted various agricultural research projects in Indonesia. In 2010 he was one of the recipients of the Dedicated Intellectuals Award from KOMPAS daily.

VAN DER ENG, PIERRE

PIERRE VAN DER ENG is Associate Professor and Reader in International Business at the Australian National University (ANU). He worked at the University of Groningen in The Netherlands and the National Institute for Economic and Social Research in London before joining the ANU in 1991. He conducted research projects in Indonesia, Thailand, Vietnam and Japan, and consultancies for AusAID and the ASEAN Regional Economic Policy Support Facility. Most of his published research relates to the economic history of Indonesia as well as economic growth and economic development in Indonesia and Southeast Asia in general. He also pursues research interests in Australia's business history, company organisation and strategy, particularly of Japanese firms and their subsidiaries, as well as Australia's business relations with the European Union.