

AN OVERVIEW OF PRIMARY SECTOR IN MALAYSIA

Mohamad Idham Md Razak 

Faculty of Business Management, University of Technology MARA, Melaka, Malaysia
iedham@melaka.uitm.edu.my

Norazira Mohd Abas

Faculty of Business Management, University of Technology MARA, Melaka, Malaysia

Noor Junaini Arwin Yaacob

Faculty of Business Management, University of Technology MARA, Melaka, Malaysia

Siti Nurul Aini Mohd Rodzi

Faculty of Business Management, University of Technology MARA, Melaka, Malaysia

Nurhikma Mohd Yusof

Faculty of Arts and Design, University of Technology MARA, Melaka, Malaysia

Ridzuan Adli Azidin

Faculty of Arts and Design, University of Technology MARA, Melaka, Malaysia

Abstract

Generally, an increased in productivity is a key to a healthy and flourishing the economy. Consequently, the trend in productivity, economy wide, is one of the most closely watched of our common economic performance indicators. Hence agriculture, in particular, has been a very successful sector of the Malaysian economy in terms of productivity growth. Agricultural productivity growth has been an important source of Malaysian economic growth throughout the years, but the year after independent has seen an even faster growth in agricultural productivity. It generated approximately 39.3 percent to the economic growth. However, due to several factors in example productivity, marketing, technical, institutional and social problems, the contribution keep decline. This study describes the contribution of the agricultural production to the economic growth spanning the year 1977 – 2006. The study also discussed factors that have affected productivity trends experienced by the agricultural sector in Malaysia. This study helps to enhance the current research about the agricultural production and economic growth in Malaysia. However, globalization, However, globalization, integrated value chains, rapid technological and institutional innovations, and environmental constraints have rapidly changed the context for agriculture's role. We argue that a new paradigm is needed that recognizes agriculture's multiple functions for development in that emerging context: triggering economic growth, reducing poverty, narrowing income disparities, providing food security, and delivering environmental services.

Keywords: Agricultural Sector, , Rubber, Palm Oil, Economic Growth, Economic Performance

INTRODUCTION

Agriculture's global performance has been remarkable since 1970, global food production has outpaced population growth and food prices have declined progressively in real terms. But the global picture masks stark regional differences in productivity gains. In South East Asia, rapid agricultural productivity gains lifted millions out of poverty and provided the platform for diversified economic growth.

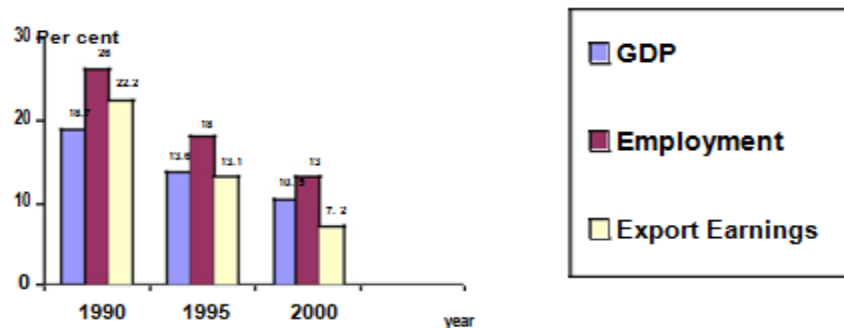
The current Malaysian economy is deeply rooted in three prime sectors, namely manufacturing, services and agriculture. However, the present situations are the results of evolutions and revolutions that occurred in the economy. In the 1970s or perhaps earlier, the Malaysian economy was totally dependent on agriculture. Malaysia was well known for her exports of rubber, tin, and palm oil, and to certain extent, cocoa. In fact, agriculture was the largest single contributor to GDP, with 29.1 percent. The economic transformation, which took place through the years, diminished the contribution of agricultural output to GDP to only 9.64

percent during the 1995 to 1998 periods. To date, agriculture is the third most important economic sector.

In general, the agriculture sector has been the backbone of the economy for a very long time. During independence, it contributed 39.3 per cent to the Gross Domestic Product (GDP), generated 58.3 per cent of the total employment and about 50.0 per cent to export earnings. After independence, when the economy underwent diversification, the contribution of the sector declined. However, in 1980 it still contributed 22.9 per cent of total GDP, 39.7 per cent to employment and less than 25 per cent to export earnings.

In the year 1990, the sector contributed 18.7 per cent to total GDP, 26.0 per cent to total employment and 22.2 per cent to export earnings. The figures declined further for 1995 and 2000. However, in the year 2000, despite the decline the sector still contributed 10.5 per cent to GDP, 13.0 per cent to employment and 7.2 percent to export earnings. The agricultural contribution towards GDP, Employment, and Export Earnings by the years is shown in Figure 1 below.

Figure 1: Agricultural Contribution to GDP, Employment and Export Earnings 1990-2000



Source: Adapted from Habibah Lehar (2007)

In the recent years, agriculture is considered a vital sector to the economy of Malaysia through its role in diversifying and shielding the economy from external shock. The increase in earnings of major commodities, particularly palm oil and pepper as well as food commodities enabled the sector to retain its workforce and withstand the economic downturn of 1997-1998. Moreover by promoting the agricultural sector, we are bringing development to rural area and able to reduce the imbalance in urban-rural development especially in the less developed states such as Kelantan and Terengganu. In 1970, the country had a deficit of RM407.8 million and the food import bill has been growing steadily. In addition, the agricultural sector contributed not only as a supplier of raw materials to the resource-based industries, but also in terms of food production and Malaysia aim to be centre or hub for 'halal' food production.

Between the years 1995 to 2005, the overall production in the agriculture sector increased for both industrial and food commodities. For palm oil, pepper and cut flowers, production increased due to generally favorable world prices and expanding markets. The Improvement in yield and expansion in hectare were additional factors contributing to increased production of palm oil. Pepper production increased partly due to yield improvement as a result of better farm management.

However, the rubber production declined between 1995-2000 due to the decrease in tapped areas and yields, labor shortages, low rubber prices and high cost of production. Cocoa production is also decrease due to the same reasons and to adverse weather condition. In 2005, it is forecasted that the production of rubber will decrease further. However, cocoa production will increase, and the production of rubber decrease because of the policy to increase local food production. Below, Table 1 showed the agricultural production between the years 1995 to the year 2005.

Table 1: Agricultural Production, 1995-2005 ('000 tonnes)

Agricultural Industrial Commodities	1995	2000	2005
Rubber	1,089	616	560
Crude Palm Oil	7,811	10,840	12,416
Palm kernel oil	2,396	3,220	3,774
Sawn logs ('000 cubic meters)	31,842	23,898	18,864
Cocoa	131	70	115
Pepper	13.0	24	30
Pineapples	140	184	264
Tobacco	10.0	11.0	15.0
Flowers ('000 stalks)	365,070	501,697	686,010
Food Commodities			
Paddy	2,127	2,235	2,813
Fruits	1,020	1,376	1,982
Vegetable	718	1,019	1,390
Coconut	1,389	550	824
Fisheries	1,241	1,511	1,860
Marine	1,108	1,256	1,360
Aquaculture	133	255	500
Livestock			
Beef	17.0	28.0	40.0
Mutton	0.8	1.0	1.5
Pork	283	150	183
Poultry	687	1,050	1,329
Eggs	6,242	8,221	9,974
Milk (mill, litres)	37.0	50.0	65.0

Sources: Habibah Lehar (2007)

Furthermore, between the years 1995 to 2000, total agriculture value added grew by about 1.2 per cent per annum. However, palm oil grew at 7.9 per cent and remained as the most significant contributor to the growth in value added. Below, Table 2 showed the agricultural value added between the year 1995 – 2005.

Table 2: Agricultural Value Added, 1995-2005 (RM million at 1987 prices)

Commodity	1995	%	2000	%	2005	%
Rubber	2,129	12.5	1,178	6.5	1,025	4.9
Palm oil	4,235	24.8	6,199	34.1	7,364	35.0
Forestry & logging	4,139	24.2	3,395	18.7	3,038	14.5
Cocoa	1,225	7.2	1,159	6.4	1,192	5.7
Paddy	516	3.0	532	2.9	673	3.2
Livestock	953	5.6	1,109	6.1	1,454	6.9
Fisheries	1,964	11.5	2,375	13.1	2,998	14.3
Miscellaneous	1,924	11.3	2,207	12.2	3,274	15.6
Total	17,085	100.0	18,154	100.0	21,018	100.0

Note: Includes coffee-tea, coconut, tobacco, pepper, vegetables, fruits, flowers and others.

Source: Habibah Lehar (2007)

Unfortunately, the contribution of industrial commodities to total agricultural value added declined to a reduction in the value added of rubber and forestry products. However, the contribution of food to total value added increased. The food items include livestock, fisheries, fruits and vegetables. In the year 2005, they are expected to be in similar trends. Canned fruits juice, puree and jam are examples of fruits with high value added.

Besides that, between the years 1995 to the year 2005, employment in the agriculture sector has decreased from about 1.5 million in 1995 to 1.4 million in 2000 and expected to be only 1.3 million in 2005. However, productivity improve in several sub sectors particularly paddy, tobacco, vegetables and also poultry. The increase in productivity is due to the application of various labors saving techniques and better farming practices in large-scale commercial production. Below, Table 3 showed the employment and productivity in agriculture from the year 1995 to the year 2005.

Table 3: Employment and Productivity in Agriculture, 1995-2005

	1995	2000	2005
Employment in Agriculture ('000)	1,493	1,408	1,307
Percentage to Total Employment	18.7	15.2	12.0

Source: Habibah Lehar (2007).

Under a more market-driven economic policy framework and guided by the NAP3, agriculture is capable of facilitating trade expansion and GDP growth, while also helping to generate incomes and jobs for the poorest part of the population, facilitate more appropriate land and natural resources practices, and provide broader social benefits within an increasingly decentralized political framework. Various mini-estates and group farming projects have been established by the relevant agencies within the Ministry of Agriculture. The purpose of such group farming projects and the mini-estate concept is to consolidate the entire group farming activities within every locality in order to achieve the synergy effect.

AGRICULTURAL PRODUCTION AND ECONOMIC GROWTH IN MALAYSIA

The First National Agricultural Policy (1984-1991) was drafted in response to the inability of previous policies to eradicate poverty and lethargic performance of the agriculture sector as the country's engine of economic growth. The NAP provided for a comprehensive and coordinated long-term policy for an effective development of the agricultural sector (Habibah Lehar 2007). Additionally, the NAP called for agricultural-industrial linkages through the expanded development of agro-based industries, mainly in processing, storage and handling of agricultural commodities to increase their value-added before export (Zulkifly Hj. Mustapha 1988). To eradicate poverty, emphasis was also given to in-situ development programs to overcome the problems of land fragmentation and low productivity especially among smallholders.

Consequently, The Second National Agricultural Policy (1992-2010) and The Third National Agricultural Policy (1998-2010) updated the policy to reflect current economic challenges and realities. In example, The Second National Agricultural Policy puts greater emphasis was given to address productivity, efficiency and competitiveness issues in the context of sustainable development and linkages with other sectors of the economy. The Third National Agricultural Policy, introduces the product-based approach which emphasizes in satisfying the specific needs of niche markets and consumers world-wide (Habibah Lehar 2007). This policy served as the means for the rapid development of the agricultural manufacturing sub-sector. In the year 1987 however proved to be the turning point year when the manufacturing sector's contribution the country's GDP exceeded the agricultural sector's contribution for the first time. The fast expanding manufacturing sector put a big strain on the agricultural sector where demand for certain Factors of Productions (FOP) which is labor, land, capital and other inputs was in direct competition with the manufacturing sector.

Moreover, total agriculture sector contributed RM42 billions amounting to 9.5 percent of Malaysia's GDP in 2004. During the period 2000 to 2004 the growth of the manufacturing sector continued to outpace growth in the agriculture sector. At the end of 2004, the manufacturing

sector contributed 31.4 percent to the GDP. Despite the fact that the manufacturing sector is now without doubt the country's engine of growth, the agricultural sector remains to be a significant and important component of the Malaysian economy. The two (2) mainstays of the agriculture sector, oil palm and rubber continued to enjoy the benefits of improved productivity and strong export demand which contributed to higher export earnings in 2004. This in part lifted the incomes of smallholders involved in the cultivation of these two (2) crops. In addition, at the end of 2004, a total of 6.4m ha were used for agriculture of which 60.6 percent was for oil palm and 20 percent was for rubber. For the period 1990 to 2004, total acreage for rubber has shown annual contraction of -2.54 percent while oil palm expanded at an average rate of 4.7 percent per annum. Moreover, a survey of the period 2000 to 2004 shows that rubber productivity has improved to 919 tonnes per ha thereby expanding rubber production to 1.1 millions tonnes in 2004 despite the stated decline in acreage. Prices for rubber in 2004 held steady at an average of 470 sen per kg contributing to an export value of RM5.1 billions.

However, Since the 1990s, rapid export-led industrialization has prompted further social and economic change, so Malaysia is now well on the way to achieving developed-country status. Parallel with these developments, by 2003 less than 20 percent of the total labor force was active in the agricultural sector compared with over 60 percent in the early 1960s (Habibah Lehar 2007), and agriculture accounted for less than 10 percent of total GDP down from 33 percent (Habibah Lehar 2007).

AGRICULTURAL PRODUCTION AND ECONOMIC GROWTH

In general, England was the first country to industrialize its economic progress, and agriculture had a well-documented role in the process. While economic historians debate the scope of "an agricultural revolution" and its precise dates starting as early as 1650 for some, there is consensus that the revolution unfolded over the span of a century or more, and its core was "an increase in cereal yields per acre that is the amount of grain that could be produced from a given area of land sown with a particular crop," who explained by Overton (1998). Agriculture's contribution to GDP, estimated at around 43 percent in the year 1700, it was declined to 10% by the 1880s. Roughly by 75 percent of the English population was dependent on agriculture in the year 1700. However by the late 19th century, the urban population predominated. The industrial revolution, characterized by the increasing application of power-driven machinery instead of human labor to manufacturing, started in the mid-18th century and continued into the 19th century.

Until 1830, over 90 percent of the U.S. population resided on farms, and neither the data available nor historical narratives indicate substantial productivity growth in agriculture. A

common view among historians describes "eighteenth and early nineteenth century farmers in New England as trapped by poor husbandry in chronically low-yield, subsistence agriculture" (Rothenberg 1995). Agriculture is improbable as an engine of economic transformation until later in the 19th century. Nevertheless, Mundlak (2005) mobilizes quantitative evidence on 19th century growth in agriculture. He estimates that the inputs of land, labor, and capital all grew at an annually rate of about 2 percent over the whole period 1800-1900, but relatively faster at almost 3 percent annually for all three input categories during 1800-1840. However, total factor productivity (TFP) growth was much slower: 0.2 percent annually in 1800-1840, 0.56 percent in 1840-1880, and 0.15 percent in 1880 to 1900. The increases in inputs helped in the growth of aggregate output, but productivity growth at the rates cited indicates only a modest contribution to output per capita since the increases in output did not do much more than pay for the additional inputs. These estimates provide the basis for a quantitative assessment of agriculture's place in the overall picture. As Mundlak's analysis indicates, agriculture's role is positive but modest. The contribution is far from sufficient to explain the nation's economic transformation.

Moreover, when historians consider the fundamental causes of the changes in investment and technological change, agriculture's role is again marginal. Mechanical innovations such as the cotton gin, the steel mould board plow, the reaper, and barbed wire are recognized as innovations that made a real difference in agricultural productivity, but railroads, industrial and chemical innovations and communications technology like the telegraph get more attention. And still more fundamental to innovations in all sectors are the ideas of Americans as risk-taking, money-loving, and entrepreneurial in spirit, and the laws of the United States and the lack of state regulation as being conducive to innovation and investment. However, these features are not particular to agriculture. Indeed, although agriculture grew in the 19th century and was home to some notable innovations where it can be argued that the successful transformation of American agriculture in terms of sustained productivity growth which did not occur until the earlier part of the 20th century. Nevertheless, agriculture did contribute to America's overall economic transformation, in example, through total factor productivity growth and in terms of export earnings and increased urban food supply.

Furthermore, after years of occupation and war, Korea was one of the world's poorest countries in the late 1940s. Agriculture accounted for 46 percent of GDP with the farm population constituting 61 percent of total. By the year 2005, agriculture's contribution to GDP had shrunk to 4 percent, and the urban population had risen to 85 percent of the total. Despite the substantial U.S. aid, Korea's economy stagnated until the 1960s. However, the situation changed dramatically under the export orientation strategy of General Park Chung Hee (1961 to

1979). The export-oriented industrialization strategy was continued into the 1990s. From 1962 to 1994, GDP growth of around 10 percent annually was fueled by an annual export growth that averaged 20 percent, while investment exceeded 30 percent of GDP. Korea's development strategy emphasized macroeconomic stability, high savings and investment rates, export orientation, heavy investment in human capital, and a private business-friendly environment. Korea borrowed heavily from abroad. Agriculture was not a major source of funds for investment. Scholars differ in their assessment of agriculture's role in Korea's economic transformation. Ban, Moon, and Perkins (1980) argued that although there was accelerated growth of agriculture in the 1930s (1-2 percent), "total productivity remained almost constant over the 1918-41 periods." On the other hand, Kang and Ramachandran (1999) did not challenge the argument about low productivity, but argued "An agricultural revolution did take place in colonial Korea, and it was the direct result of the Japanese colonial policy to modernize Korean agriculture," which included substantial investments in agriculture which land intensification, investments in irrigation and rural infrastructure, and increased use of chemical fertilizers and high-yielding seed varieties.

Last but not least, for China scholars, the widespread adoption of the Household Responsibility System (HRS) was a watershed event in China's economic growth performance. Under the HRS, households became responsible for production and profits, not the collective. This reform was enormously successful. It promoted dynamic growth not only in agriculture but also in combination with other market-oriented reforms in the overall economy as well. China has been one of the fastest-growing economies since then. The agriculture/GDP ratio shrunk from 68 to 13 percent in 1949 and 2004, respectively. Agricultural and overall economic performance pre-1979 stands in marked contrast to post 1979 performance. During pre 1979, China wanted to leap forward to become an industrial power. Instead, it hobbled at an average annual growth of 3.0 percent (1950 to 1978). Agriculture's annual growth averaged 2.99 percent (1952 to 1978). The annual growth rate of total factor productivity in China during 1952 to 1981 was only 0.5 percent, was well below the levels of 19 other developing countries. Under this strategy, China built a substantial industrial base but at a high cost, in terms of increasing inefficiency and substantial foregone consumption (Dernberger 1999). It was a largely closed economy as the autarchy of its import substituting industrialization first strategy was reinforced by geo political tensions. To generate the surplus to invest in industry, China had virtually no other option but to impose a tax on agriculture, which it did using a variety of socialist tools. Moreover, prices were slanted in favor of industry and of urban dwellers subsidizing their food, housing, and other needs. In contrast, very little was re-invested back in agriculture in return. The main capital investments in rural areas were primarily in the form of labor intensive

mobilization drives for constructing irrigation works. Strong urban bias in supporting both investment and consumption persisted into the late 1980s (Johnson 1992).

In contrast, TFP in agriculture increased sharply during the later period (1977 to 1987). China's sustained growth performance of 8 to 10 percent per year post 1979 has been driven by market and export orientation, including high levels of foreign direct investment (FDI). The question is what was the role of agriculture in China's transformation? The overall economic performance of the earlier period in pre 1979 undermines the polar view that agricultural development can always be bypassed; that of the later period by the post 1979 supports the claim that it can make a substantial contribution to overall economic transformation, without acting as the primary engine of overall growth.

AN ANALYSIS OF AGRICULTURAL PRODUCT'S TREND TOWARDS ECONOMIC GROWTH IN MALAYSIA

Figure 2: Trend of GDP from 1977 - 2006

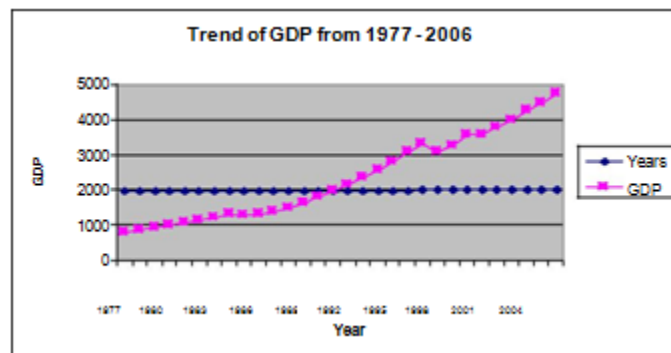


Figure 2 showed the trend of Gross Domestic Product (GDP) from the year 1977 to the year 2006 in RM million. It indicated that the trend of GDP in Malaysia is increase tremendously. Gross domestic product (GDP) of Malaysia grew at an average of 7.8% per annum in the 1970s but slowed down to below 6 percent per annum in 1980s. Until the 1997-1998 crisis, the average growth rate in the 1990s exceeded eight and a half percent. However, the growth rate plunged by 7.4% in 1998 but recovered speedily to attain a growth rate of 6.1% in 1999 and 8.3% in 2000. The dampening of the US economy, the continuing recession in the Japanese economy plus of 11 September 2001 impacted negatively on Malaysia such that the economy registered only 0.4% growth for 2001, but recovered somewhat to 4.2% in 2002. The high growth rate of the whole economy is associated with the intensive growth of the manufacturing

sector. The latter accelerated at double-digit growth rate between 1970 and 1995, with the exception of the 1981-1985 periods when it slowed down considerably.

CONCLUSION

The success of the National Agricultural Policy in Malaysia in raising rural incomes and reducing rural poverty by increasing agricultural productivity is widely acknowledged. In addition, the agricultural sector has contributed significantly to the growth and development of the Malaysian economy even though the Malaysian economy has undergone significant structural changes over the last four decades. For the first three decades since independence, agriculture was the main contributor to the national economy. This sector laid the foundation and has been the driving force behind the economic growth of the country. Agriculture was used to finance the development of the country, which progressively led to the transformation of the economy towards industrialization. The rapid industrialization during the last decade led to a decline in the sector's relative contribution to national income, export earnings, employment and investments.

However, even as Malaysia moves towards becoming a highly industrialized economy, the changing economic scenario and structure has necessitated the re-evaluation of the role and contribution of the agricultural sector vis-a-vis the economic development of the country. With the focus given to industry and manufacturing as the contribution of economic growth, we see that the agricultural sector's importance to the economy was reduced relative to the position it held before.

Malaysia was well known for her exports of rubber, tin, and palm oil, and to a certain extent, cocoa. In fact, agriculture was the largest single contributor to GDP, with 29.1 percent. The economic transformation, which took place through the years, diminished the contribution of agricultural output to GDP to only 9.64 percent during the 1995 to 1998 period. To date, agriculture is the third most important economic sector. In the period of 1990 to 1998, the agriculture sector experienced very minimal growth

By given these constraints it is no surprise that increased attention has been given in recent years in development-oriented entities such as the World Bank to the potential for expansion of the non-farm sector in rural areas as a source of income growth and poverty reduction. But this focus raises an obvious question that has long been of concern to development economists such as D. Gale Johnson, where he stated that whether expansion of the non-farm sector in rural areas is predicated on the prior expansion of agricultural productivity in those areas. In addition, absence of data on sectoral time allocations and income generation that has sufficient geographical and temporal scope has made it difficult to bring empirical insight to bear on this issue and thus the question has remained largely unresolved.

Malaysian agricultural production is facing increasingly tough competition not only abroad but also at home, as domestic trade barriers gets dismantled through regional and bilateral free trade agreements (FTAs), not to mention the ongoing multilateral negotiations under the auspices of the World Trade Organization (WTO). Import substitution is not an option any more, now that it is already difficult to protect domestic production against international competition in the era of globalization and regional economic integration. Export orientation is not going to be easy either, with more and more countries joining the bandwagon in the pursuit of export-led economic growth. Therefore, the appropriate measures must be take into considerations in order to make the agricultural production can be the competitive one and contributes to the economic growth.

REFERENCES

- Ban, S.H., Moon, P.Y. & Perkins, D.H.. (1980). *Studies in the Modernization of Republic of Korea: 1945-1975 Rural Development*. Massachusetts and London: Cambridge, England: Published by the Council on East Asian Studies, Harvard University; Harvard University Press.
- Bannerjee, A., Deaton, A., Lustig, N., & Rogoff, K.. (2006). "An Evaluation of World Bank Research: 1998-2005." Mimeo, World Bank, Washington DC.
- Burnside, C. & Dollar, D. (1997). Aid, Policies and Growth. *World Bank Policy Research Working Paper # 1777*.
- Carter, S. & Sutch, R., eds. (2006). *Historical Statistics of the United States*. Cambridge, UK: Cambridge University Press.
- Chor Foon Tang. June. (2009). An Examination of the Government Spending and Economic growth Nexus for Malaysia Using the Leveraged Bootstrap Simulation Approach. Malaysia: Economics Programme, School of Social Sciences; Universiti Sains Malaysia.
- Dernberger, R.E (1999). The *People's Republic of China at 50: The Economy*. In R. Edmonds, ed. *The People's Republic after 50 Years*. Oxford: Oxford University Press, pp. 44-53.
- Fane, G., & Warr, P.. (2003). "How Economic Growth Reduces Poverty: A General Equilibrium Analysis for Indonesia." In R. van der Hoeven and A. Shorrocks, eds. *Perspectives on Growth and Poverty*. WIDER: U. N Univ, pp. 217-34.
- Gardner, B. (2005). Causes of Rural Economic Development. *Proceedings of the 25th International Conference of Agricultural Economists* 21-41.
- Habibah Lehar. (2007). *Malaysia Economics Past and Present*. Malaysia: Universiti Teknologi MARA.
- Johnson, D.G. (1992). *Economic vs. Non-economic Factors in Chinese Rural Development*. In P. Calkins, W. Chern, and F. Tuan, eds. *Rural Development in Taiwan and Mainland China*. Boulder, CO: Westview Press, pp. 25-38.
- Kang, K., & Ramachandran, V. (1999). "Economic Transformation in Korea: Rapid Growth without an Agricultural Transformation?" *Economic Development and Cultural Change*, 47:783-801.
- Mundlak, Y. (2005). Economic Growth: Lessons from Two Centuries of American Agriculture. *Journal of Economic Literature* 43:989-1024.
- Noor Zahirah Mohd Sidek and Mohammed Yusoff. (2005). An Empirical Analysis Of Malaysian Ringgit Equilibrium Exchange Rate And Misalignment.

Overton, M. (1998). *Agricultural Revolution in England: The Transformation of the Agrarian Economy 1500-1850*. Cambridge, UK: Cambridge University Press.

Popper, K.R. (1965). *Conjectures and Refutations: The Growth of Scientific Knowledge*. London: Routledge and Kegan Paul.