The Evolution of Capital Stock in Malaysia

Introduction

The capital stock of a country is the total quantity of capital assets available for the production of goods and services. The size and growth of this capital stock have an important bearing on the production capabilities of an economy. Drawing on the newly-published capital stock statistics by the Department of Statistics, Malaysia (DOSM)[1], this article uses Net Capital Stock (NKS)[2] to analyse the trend in the capital stock in Malaysia as well as the changes in the intensity and productivity of its usage in the recent decades.

Trends in Capital Stock

In this recent four decades, the NKS increased significantly from RM38 billion in 1970 to RM1,008 billion in 2010 based on constant 2000 prices. This trend reflects the large magnitude of capital investment over these four decades. Table 1 provides a snapshot of the NKS in the Malaysian economy by types of economic activity and asset class as at 2010.

Table 1

NKS by Types of Economic Activity and Asset Class in 2010 at Constant 2000 Prices

NKS (RM billion)	Agriculture	Mining	Manufacturing	Construction	Services	**Total**
Structures	7.1	14.3	65.2	4.2	566.8	**657.5**
Transport equipment	0.5	0.0	8.1	1.4	40.7	**50.6**
Machinery and equipment	1.0	27.8	115.9	1.8	49.4	**195.9**
Other assets	8.6	94.3	0.0	0.0	0.9	**103.7**
Total	**17.2**	**136.4**	**189.1**	**7.4**	**657.7**	**1,007.8**

Note: "Other assets" includes livestock, capital planting and mineral exploration activity
Numbers may not necessarily add up due to rounding

Source: Department of Statistics, Malaysia

By type of economic activity (Chart 1), the manufacturing and services sectors together accounted for 84% of total NKS in 2010. The NKS of the manufacturing sector expanded the most since 1970 with an average annual growth of 12.7%. In part, this reflects the significant expansion of the manufacturing sector over this period, particularly between 1980 and 1990. Over the period from the 1970s to the 2000s, policies such as the Export-Oriented Industrialisation (EOI) and the First Industrial Master Plan (1986-1995), and provision of incentives through legislations such as the Promotion of Investment Act (1986), served to intensify the promotion of investment in the manufacturing sector. The rapid development of the country's manufacturing sector further supported the expansion of capital assets in the form of machinery and equipment (Chart 2). Investment in this type of capital asset was deemed essential to enhance technology adoption and improve the productive capacity of businesses in the manufacturing sector.

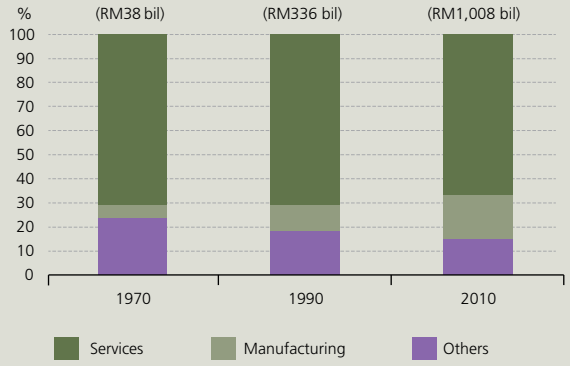
Investment in the services sector also expanded over the years, as reflected in the sector's share of total NKS that was consistently above 60% (Chart 1). This was supported by the strengthening of domestic expenditure, particularly in domestic-oriented services sub-sectors such as the wholesale and retail trade, accommodation and restaurant; and finance, insurance, real estate and business services. Furthermore, the industrialisation of the manufacturing sector naturally spurred the growth of investment in manufacturing-related services such as ICT-network-virtual manufacturing, R&D, quality and standards certification, packaging, transportation and export services.

[1] Technical details of the estimation of Malaysia's capital stock are available in the *National Accounts: Capital Stock Statistics* (1955-2006 and 2000-2010) publication by DOSM.

[2] NKS refers to the current market value of an economy's capital assets that are still in operation, taking into account the depreciation in their value.

Chart 1

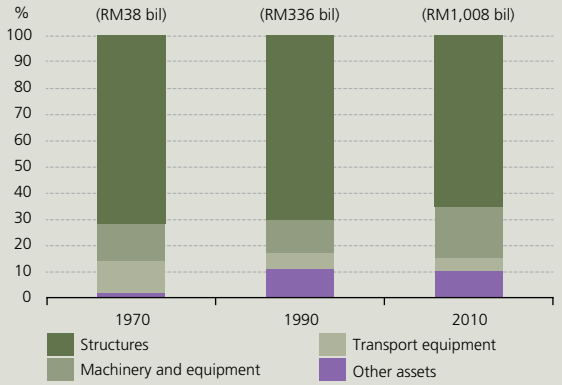
Share of NKS by Type of Economic Activity (2000=100)



Note: "Others" comprises of the agriculture, mining and construction sectors
Source: Department of Statistics, Malaysia

Chart 2

Share of NKS by Type of Asset Class (2000=100)



Note: "Other assets" includes livestock, capital planting and mineral exploration activity
Source: Department of Statistics, Malaysia

Capital assets in structures (Chart 2), on the other hand, comprised 69% of total NKS on average and have remained as the largest capital asset class, particularly in sectors related to transport, storage, and communications; finance, real estate and businesses; and government services. The increase in structure-related capital stock reflects capital spending on residential and commercial office buildings, industrial plants and factories, and physical infrastructure. The fast pace of urbanisation and the development of new growth centres during the period stretching from the 1970s to the 2000s further augmented investments in this type of capital asset.

Preliminary Analysis on Capital Intensity and Productivity

Between the 1980s and the 2000s, the economy became more capital-intensive across most economic sectors, as reflected by the rising proportion of capital assets to the number of workers employed[3] (Table 2).

The mining and quarrying sector has been the most capital-intensive, followed by the services and the manufacturing sectors. The accumulation of capital assets in the mining sector was mainly for mineral exploration activity, in line with the development of the oil and gas industry in the country. Capital intensity in the services sector almost doubled, as the liberalisation and modernisation policies that were undertaken to promote services as a new area of growth in the 2000s played a supporting role in attracting higher investment activity. Capital intensity in the manufacturing sector also improved considerably, aligned to the process of industrialisation and the initiatives taken to move the economy to higher value-added manufacturing activities.

During the same period, overall productivity of capital, as measured by the incremental capital-output ratio (ICOR)[4], has also improved. Further research, however, is needed to analyse the trends of capital productivity from a more holistic perspective by examining the efficiencies of both the human capital and the physical capital (i.e. total factor productivity).

[3] Capital intensity is estimated as the ratio of the net capital stock to total employment (total number of employed persons) in the country.

[4] ICOR is estimated as a ratio of the annual change in net capital stock to the annual change in Gross Domestic Product (GDP) during the same period.

Table 2

Capital Intensity and Productivity

Period	1981-1990	2001-2010
Capital Intensity (RM/employed person)	RM42,788	RM86,899
Agriculture	*RM8,028*	*RM12,573*
Mining	*RM754,983*	*RM2,273,546*
Manufacturing	*RM25,205*	*RM78,317*
Construction	*RM16,914*	*RM8,900*
Services	*RM64,402*	*RM105,893*
Capital Productivity (ICOR)*	2.6	1.2

* A lower ICOR indicates better productivity as less capital is needed to produce similar amount of output
Source: Department of Statistics, Malaysia and Bank Negara Malaysia

Conclusion

The net capital stock of the Malaysian economy has grown significantly in this recent four decades. In terms of sectors, most of the capital assets were accounted for by the manufacturing and services sectors. Building structures and machinery and equipment were the most common type of capital stock. Preliminary analyses on the capital stock data suggest that the economy has also become more capital-intensive and, more importantly, overall capital productivity has improved over the years.

Going forward, as the economy undergoes a transformation towards a high value-added, high income economy, improving the quality of the capital stock and the efficiency of its utilisation would be critical success factors. Indeed, enhancement in capital efficiency and productivity is a critical element in ensuring the new investment projects driven by the Economic Transformation Programme (ETP) boost economic growth and achieve Malaysia's aspiration to become a high value-added, high income economy.