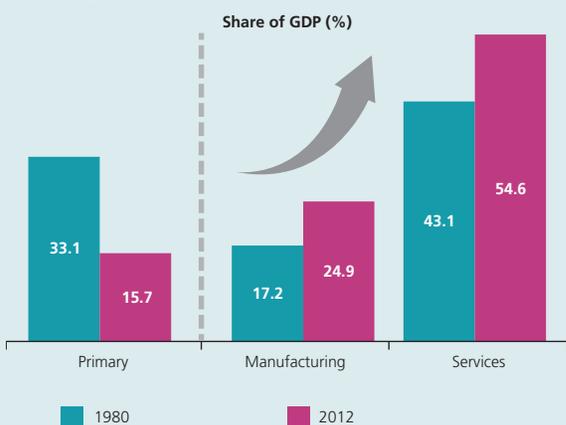


## Further Diversification of Malaysia's Resource-based Industries

The heavy reliance on primary commodities in the earlier years posed considerable challenges to the Malaysian economy, particularly in terms of its vulnerability to swings in commodity prices. In 1980, primary commodities accounted for 33% of GDP and 77% of exports. Beginning in the early 1980s, Malaysia embarked on an economic diversification strategy with the objective of advancing into higher value-added activities, as well as reducing the over-concentration in upstream commodities, namely tin ore and rubber. With the inception of the National Industrial Policy and Industrial Master Plan in the mid-1980s, the Government implemented a series of policy measures to aggressively promote the manufacturing sector, and subsequently the services sector in the 1990s. This resulted in a rapid pace of horizontal diversification of the economy, with robust growth in the manufacturing and services sectors, and a significant reduction in the reliance on the primary sector (Chart 1). Of equal importance, the Malaysian economy also diversified vertically by moving up the commodities value chain from upstream to downstream activities (Chart 2).

### Chart 1

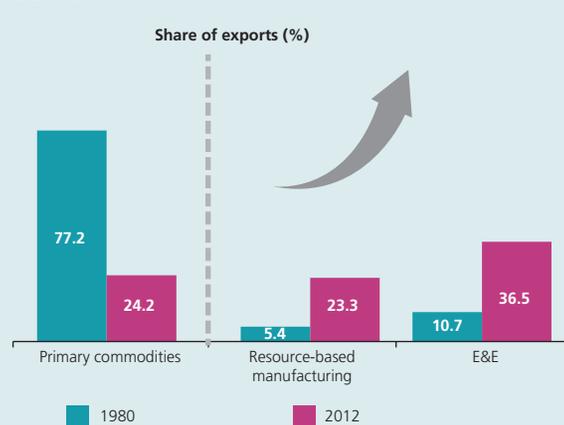
#### Horizontal Diversification Towards Other Sources of Growth



Source: Economic Planning Unit and Department of Statistics, Malaysia

### Chart 2

#### Vertical Diversification Towards Higher Value-added Products



Source: Department of Statistics, Malaysia

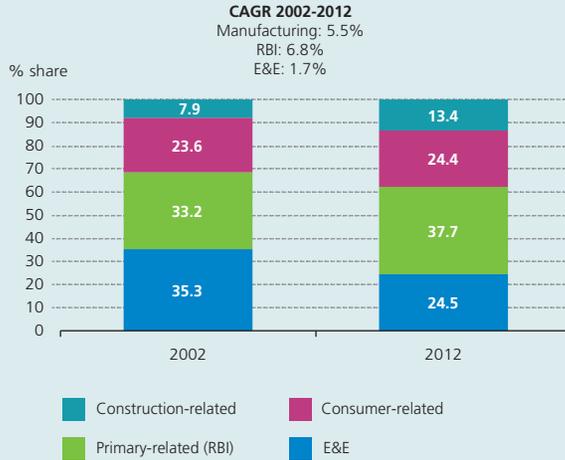
Resource-based industries have been the biggest growth driver of manufacturing sector over the past decade (2002-2012), encompassing mainly the manufacture of petrochemicals, oleochemicals, refined petroleum, palm oil, rubber gloves, tyres and prophylactics products. Rising commodity prices during this period subsequently led to higher prices of most products in the resource-based industries, providing further impetus to the growth of the sector. During this period, value-added of the resource-based industries increased by 6.8% on compounded annual growth rate (CAGR) basis, outpacing the growth of the electronics and electrical (E&E) subsector of 1.7%, thus becoming the largest manufacturing subsector from 2005 onwards (Chart 3). Resource-based industries contributed substantially to Malaysia's exports, growing by 12.4% on CAGR basis during the same period, resulting in the exports of resource-based products accounting for 32% of total manufactured exports in 2012 as compared with 17% in 2002<sup>1</sup> (Chart 4). Diversification into resource-based industries ensured that the share of manufactured exports to total exports remained high at 70-75%, even as primary exports rose in value during the period.

The First Industrial Master Plan launched in 1986 was particularly instrumental in driving the 'multi-sector agglomeration' development strategy for the manufacturing sector. It accelerated the diversification of

<sup>1</sup> The substantially high growth in the exports of resource-based industries during this period was also attributable to the higher commodity prices post 2002.

Chart 3

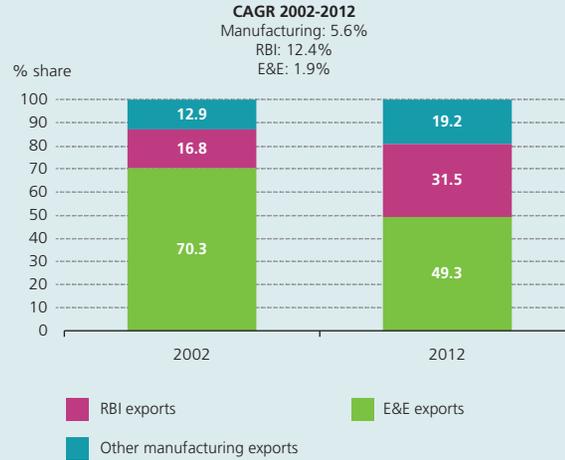
Manufacturing GDP Growth and Share of Key Components



Source: Department of Statistics, Malaysia

Chart 4

Manufactured Exports and Share of Key Components



Source: Department of Statistics, Malaysia

the domestic economy via the creation of wider range of manufacturing activities in the country, thereby reducing the over-concentration on primary commodities. The benefits of economic diversification can be seen from the increasing degree of intensity of economic activity across various interconnected industries over the years. Based on the Input-Output Tables<sup>2</sup> of the Malaysian economy, in 1960, the intensity level of economic activity was very low and mainly concentrated in few major industries. The intensity level increased through time and, by 2005, had risen significantly and became more diverse across most industries in the economy, underlining the extent of diversification.

The positive impact of vertical diversification in the resource-based industries has been very evident. First, it has facilitated the deepening of the forward and backward linkages in the economy, ensuring close interdependence and interconnectedness between upstream and downstream production<sup>3</sup>. Of significance, as the downstream production activities had intensified, higher value-added output was generated within the domestic economy. Second, the increased diversification has led to higher profits for firms, sustained increases in wages, and higher tax revenue for the Government. Third, the growth of the resource-based industries has led to an increase in productivity from the diversion of the underemployed or surplus labour force in the upstream agriculture sector to the manufacturing sector. This is seen in the share of employment in the agriculture sector, which fell from 31% in the 1980-1990 period to 15% in the 2000-2010 period. This was accompanied by the rising share of employment in the manufacturing sector from 16% to 20%. Finally, the diversification has been crucial in moderating the influence of commodity price volatility on the economy. Empirically, firm-level evidence indicates that commodity-based companies that have a larger share of downstream production generally have more positive and stable profits as compared to companies with a larger share of upstream activities.

The degree of vertical diversification, however, varies across the subsectors of resource-based industries. In the oil and gas industry, the strong institutional support provided by PETRONAS in championing investment in the downstream activities was a major enabling factor in the diversification process. Profit

<sup>2</sup> The Input-Output Tables provide a comprehensive aggregation of all production in the economy, tracking everything from sources of inputs to intermediate and final uses of products. The Malaysian Input-Output Tables are published by the Department of Statistics, Malaysia on a five-year basis, with the latest data available at base year 2005.

<sup>3</sup> This is in line with the 'path dependency' theory where it is almost impossible for a country to shift entirely from a traditional sector into the high-technology manufacturing and services sectors without a gradual transformation period (Felipe et al., 2013).

margins and fiscal factors were also crucial in encouraging PETRONAS to diversify. The low crude oil and natural gas prices in the 1980s and 1990s, coupled with the higher petroleum income tax rate of 38% imposed on upstream oil and gas production, enabled higher post-tax profits from various downstream manufacturing activities. The types of oil products produced in Malaysia have evolved from basic upstream output such as petrol, diesel and basic petrochemicals into lubricants, specialty jet fuel and advanced petrochemicals. At present, almost half of PETRONAS's revenue is derived from downstream activities.

The downstream diversification in the rubber industry is also noteworthy. Driven initially by small and medium enterprises (SMEs), the companies have evolved into public-listed entities valued at billions of ringgit, while becoming world leaders in the production of rubber gloves and prophylactics. Lower input costs from declining prices of natural rubber and the availability of low cost foreign labour spurred the development of the industry in the 1980s and 1990s. In contrast, there remains ample scope for greater downstream diversification in the palm oil industry. Among the factors that contributed to this are the higher margins at the upstream level, even when palm oil prices were at low levels. In addition, until March 2013, duty-free exemptions for exports of crude palm oil provided little incentive to move into higher value-added activities. In comparison, many of Malaysia's competitors in the industry have started venturing into various downstream activities, particularly in the production of oleochemicals and palm-based biodiesel.

The diversification strategy seen in the resource-based industries is now being pursued by the resource-based services (RBS) industry. Resource-based services are activities that provide support services to the commodities sector, such as enhancements to the oil and gas-related exploration and production activities, as well as the transshipment and warehousing of commodities. Resource-based services will enable Malaysia to complete the value chain in the commodities sector by moving further into higher value-added activities in the services sector. In relation to the oil and gas-related activities, Malaysia has experienced substantial growth of its homegrown oil service firms, most of which were developed under the Vendor Development Programme initiated by PETRONAS. For transshipment and warehousing activities, Malaysia's inherent advantages in terms of proximity to the Asia Pacific countries, high degree of competitiveness and compelling logistic solutions were key factors attracting

Chart 5

### Malaysia is Becoming a Transshipment Hub for Commodities



Source: Various companies

many firms to set up their operations in Malaysia (Chart 5). Replicating the success of resource-based industries, the Government has taken the lead in promoting resource-based services. As an example, the Global Incentive for Trading (GIFT) programme was recently introduced to accelerate commodities trading in the country. The programme is targeted at attracting international trading companies to locate their regional operations, with the aim of establishing Malaysia as the key offshore trading hub in the region.

Going forward, resource-based industries and resource-based services are important sectors that can advance Malaysia's goal of becoming a high income nation by 2020. Even now, there is substantial evidence that Malaysia is already progressing in the right direction. Several manufacturers in the resource-based industries have already moved into producing higher value-added products, such as nitrile-based gloves for the healthcare industry. In terms of resource-based services, the rise in transshipment activities has been reflected in the sharp 44% year-on-year rise in re-exports in 2012 and a further 40% in 2013. This development will contribute towards further improving the country's fundamentals by creating higher value-added activities and by diversifying the sources of growth in the economy.

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