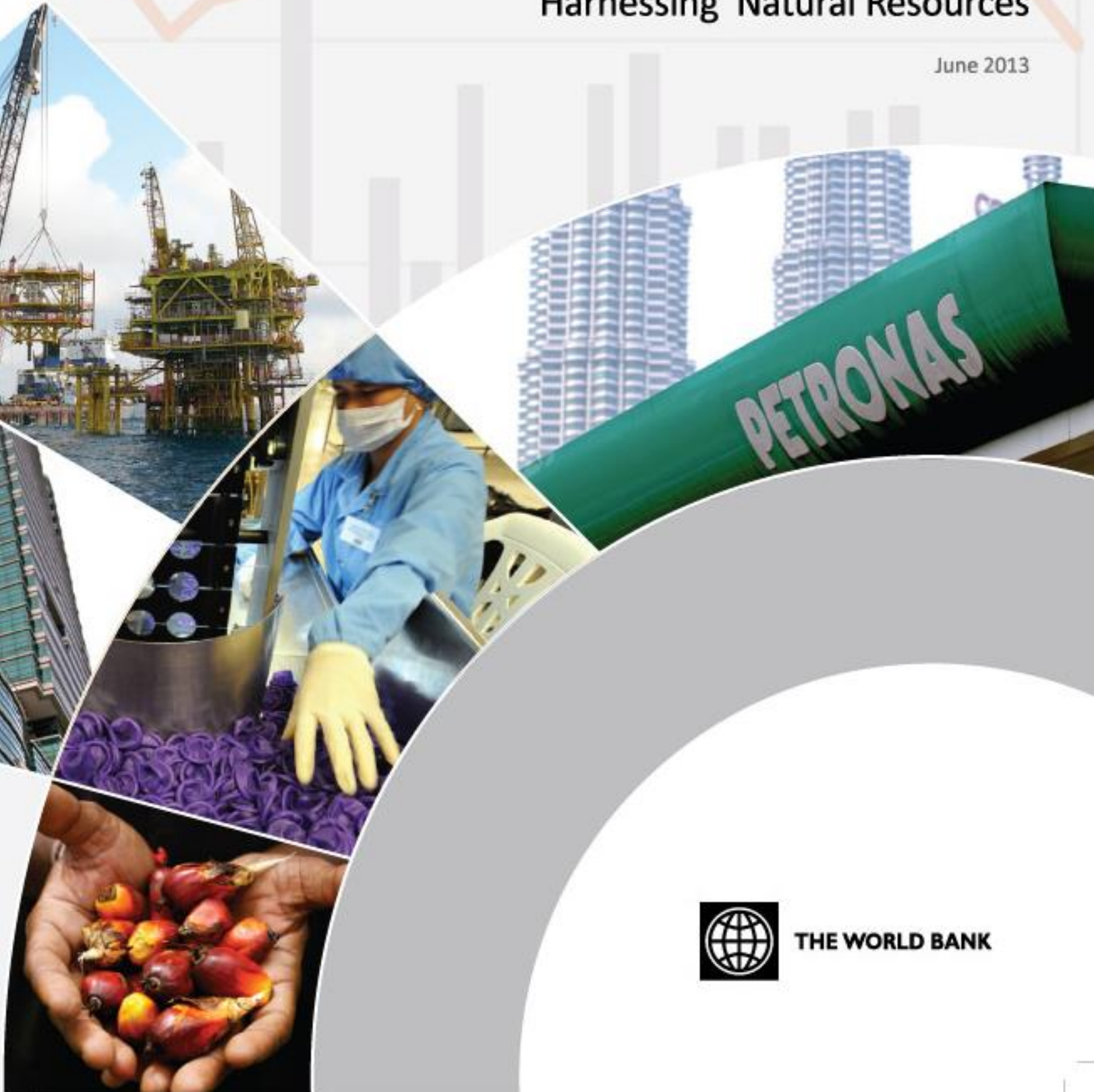


MALAYSIA ECONOMIC MONITOR

Harnessing Natural Resources

June 2013



THE WORLD BANK

MALAYSIA ECONOMIC MONITOR

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HARNESSING NATURAL RESOURCES

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The findings, interpretations, and conclusions expressed herein do not necessarily reflect the views of the World Bank's Executive Directors, or the governments they represent. The report is based on information current as of June 15, 2012.

ABBREVIATIONS

AFOLU	Agriculture, forestry and other land use activities
AFTA	ASEAN Free Trade Area
APM	Automatic Price Mechanism
ARDL	Auto Regressive Distributed Lag
ASEAN	Association of South-East Asian Nations
BCTL	Central Bank of Timor Leste
BIS	Bank for International Settlements
BNM	Bank Negara Malaysia
BR1M	Bantuan Rakyat 1Malaysia
BTU	British Thermal Unit
CAGR	Compound annualized growth rate
CBA	Cost-Benefit Analysis
CPI	Consumer Price Index
CPO	crude palm oil
CSPO	certified sustainable palm oil
DE	Development Expenditure
DECPCG	Development Economics Prospects Group
DOS	Department of Statistics
E&E	Electrical and electronics
EC	Energy consumption
ECB	European Central Bank
ECM	Error Correction Model
EIA	Environmental Impact Assessment
ESI	Estimated Sustainable Income
ETP	Economic Transformation Programme
EU	European Union
FAO	United Nations Food and Agriculture Organization
FDI	Foreign Direct Investment
FELCRA	Federal Land Consolidation and Rehabilitation Authority
FELDA	Federal Land Development Authority
FFB	Fresh Fruit Bunch
FPS	Floating production system
FY	Fiscal Year
G&S	Goods and Services
GCMs	Global climate models
GDP	Gross Domestic Product
GFCF	Gross fixed capital formation
GLCs	Government-Linked Companies
GNI	Gross National Income
GNP	Gross National Product
GST	Goods and Services Tax
GTP	Government Transformation Programme
IAB	Investment Advisory Board
IB	Investment Banking
ICEM	International Center for Environmental Management
IFS	International Finance Statistics
IMF	International Monetary Fund
IPPs	Independent Power Producers
JPY	Japanese Yen
KWAN	Kumpulan Wang Amanah Negara
LEKAS	Kajang–Seremban Highway
LITS	Low Intensity Tapping Systems
LNG	liquefied natural gas
LPG	liquefied petroleum gas
LRT	Light Rail Transit
MIER	Malaysia Institute of Economic Research
MJ	Megajoules
MMHE	Malaysia Marine and Heavy Engineering
MOF	Ministry of Finance
MONRE	Ministry of Natural Resources and the Environment
MOPS	Mean of Platts Singapore
MPOB	Malaysian Palm Oil Board
MRT	Mass Rapid Transit
NAG	Non-Associated Gas
NBER	National Bureau of Economic Research
NEM	New Economic Model
NEP	New Economic Policy

NFA	Net foreign assets
NFPE	Non-Financial Public Enterprise
NOAA	National Oceanic and Atmospheric
NPVs	Net Present Values
OE	Operating expenditures
OECD	Organization for Economic Cooperation and Development
OMT	Outright Monetary Transactions
ONI	Oceanic Niño Index
OPEC	Organization of Petroleum-Exporting Countries
OPR	Overnight Policy Rate
PCE	Private Consumption Expenditure
PEMANDU	Performance Management Delivery Unit
PF	Petroleum fund
PGU	Peninsular Gas Utilisation
PITA	Petroleum Income Tax
PMI	Purchasing Managers Index
PORLA	Palm Oil Registration and Licensing Authority
PPI	Producer price index
PPP	Purchasing Power Parity
PSC	Production Sharing Contract
R&D	Research and Development
RAPID	Refinery and Petrochemical Integrated Development
RBD	Refined Bleached Deodorized
RCA	Revealed comparative advantage
REDD	Reducing Emissions from Deforestation and Forest Degradation
REER	Real Effective Exchange Rate
RFO	Residual fuel oil
RISDA	Rubber Industry Smallholders Development Authority
RM	Ringgit Malaysia
RON	Research Octane Number
RRCAP	Regional Resource Center in Asia and the Pacific
RSCs	Risk-Sharing Contracts
RSPO	Roundtable on Sustainable Palm Oil
SA	Seasonally Adjusted
SITC	Standard International Trade Classification
SME	Small and Medium Enterprise
SOGT	Sabah Oil and Gas Terminal
SRI	Strategic Reform Initiatives
TNB	Tenaga Nasional Berhad
ToT	Terms of trade
UK	United Kingdom
UMNO	United Malays National Organization
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	UN Framework Convention on Climate Change
US	United States
USD	United States dollar
WARP	Weighted Average Realized Price
WAVES	Wealth Accounting and Valuation of Ecosystem Services
WTI	West Texas Intermediate
WUE	Water Use Efficiency
WWF	World Wide Fund
y-o-y	year-on-year

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EXECUTIVE SUMMARY

ECONOMIC DEVELOPMENTS AND OUTLOOK

Following a strong performance in 2012, Malaysia's economy hit a soft patch in the first quarter of 2013.

Domestic demand kept growth buoyant in 2012 while the deceleration of growth in early 2013 mainly reflected weakness in external demand. Uneven economic recovery in advanced economies and a slowdown of growth in China, a key market for Malaysia's exports, led to slower growth of commodity exports, amplifying the ongoing decline in E&E shipments on total exports. The performance of Malaysia's economy was in line with that of its peers, underlining the predominance of external factors in the slowdown.

Resilient domestic demand continued to support the economy.

In line with the pattern observed in the past three years, economic growth has been supported by the strong, broad-based performance of domestic consumption and investment from public and private sources. This pattern continued into the first quarter of 2013 albeit at a less breakneck pace, possibly due to some uncertainties ahead of general elections in May.

The acceleration of investment growth has been a key feature of the recent growth trend.

Driven by low interest rates, government guarantees and catalytic investments from non-financial public enterprises (NFPEs), gross fixed capital formation has reached the highest levels since the 1997/1998 financial crisis. Investment growth has been driving up imports of capital goods and construction services.

Public and private consumption has also underpinned growth.

Accommodative fiscal and monetary policies have supported both higher (real) household incomes and sustained credit growth, which along with firm labor markets provided a solid backdrop for consumption growth even as agricultural commodity prices declined.

Despite significant expenditure overruns, the government met its fiscal deficit target for 2012.

This was due to a combination of higher-than-targeted revenues, lower development expenditures and a higher-than-expected nominal GDP figure. The government has maintained debt levels below its indicative ceiling of 55 percent of GDP, but debt

guaranteed by the government to finance investment projects climbed, as did the deficit of the consolidated public sector, the latter reflecting higher capital expenditures by NFPEs.

Supply-side factors kept inflation subdued amidst robust domestic demand.

Benign supply-side conditions included a decline in domestic fuel prices and moderation in food prices, which kept inflation low despite domestic demand pressures such as strong credit growth, a positive output gap and rising wages in domestically-oriented industries.

Monetary authorities emphasized macro-prudential regulation as the policy interest rate continued to be pulled in two directions.

Ongoing risks to the global economy offset strong domestic demand and credit growth and kept policy rates unchanged throughout 2012 and early 2013. Macro-prudential regulations have been effective in reducing the growth rate of personal and credit card loans from the banking system, but household debt continued to climb, partly due to non-bank credit.

Malaysia is likely to continue posting solid growth rates in 2013 and 2014.

Growth in 2013 is projected to come at 5.1 percent, supported by the strong momentum in investment growth, still-accommodative fiscal and monetary policies, higher household income due to tight labor markets, and modest improvement in the export sector. While the momentum in domestic demand looks set to slow in 2014 due to the roll-out of fiscal consolidation and possibly less accommodative monetary policy as the global economy normalizes, global demand is expected to help ailing exports, thus keeping the overall pace of growth unchanged. The favorable outlook is predicated upon the absence of new external shocks, especially more pronounced declines in commodities prices.

The sustainability of Malaysia's favorable near-term prospects into 2015 and beyond continues to hinge on the implementation of structural reforms.

Malaysia's recent economic performance has been linked to commodity sectors. Accelerating implementation of productivity-enhancing reforms, especially those linked to skills, would boost performance of the non-commodity sectors and the longer-term outlook for the economy.

HARNESSING NATURAL RESOURCES

Malaysia has been a success story in harnessing natural resource wealth for economic development.

Blessed with oil, gas, tin and fertile land, Malaysia successfully converted resource wealth into shared prosperity. Natural resource revenues were reinvested more than one-for-one in buildings, machines, and education; this diversified the assets in the economy and provided the backdrop for the diversification of economic activities. In less than forty years, Malaysia moved from being a producer and exporter of primary commodities to a manufacturing powerhouse in both high-tech and commodity-related products.

Diversification was pursued proactively. The government encouraged commodity sectors to move downstream and industrialization more broadly by easing restrictions for foreign investment in manufacturing, reforming regulations, and creating an array of tax incentives. Industrialization was further supported by the provision of adequate infrastructure while the openness to foreign labor kept labor costs in check. This policy, along with the expanding capacity in the economy, kept inflation low and the real exchange rate depreciated during the period.

In some ways, PETRONAS acted as an oil fund from the point of view of macroeconomic management.

PETRONAS kept some export earnings overseas and made significant direct investments domestically in downstream industries as well as in production abroad. This reduced the flow of foreign exchange into the economy (thus reducing exchange rate pressures), supported downstream diversification, and built assets to provide for future generations. As production expanded, the share of oil receipts in total fiscal revenues actually declined, and transfers to the budget were less volatile than oil rents.

Economic growth was translated into higher household incomes and lower poverty.

While much of this outcome can be attributed to the opportunities generated by the dynamism of the economy and investments in education and infrastructure, specific policies in the agricultural sector played a role as well.

However, economic challenges have emerged along with the recent boom in commodity prices.

The prices of Malaysia's key commodity exports – oil, rubber and palm oil – increased between three to

four times between 2001 and 2008, partly fueled by the rapid economic rise of China.

During this period, Malaysia's economy became more dependent on commodities.

The share of commodity-related exports in Malaysia's basket expanded at the expense of high-tech manufacturing and Malaysia's comparative advantage in electronics declined. Since 2010, the current account would have been in deficit if not for (net) commodity exports. Oil-related fiscal revenues climbed to new highs and were generally used to finance more generous fuel subsidies, not investments in productive capital. Finally, the pick-up in domestic investments is taking place largely in commodity sectors (both upstream and downstream), which account for over half of the committed investments under the ETP.

A significant decline in commodity prices would pose immediate risks.

Moderating demand from China and weak growth in advanced economies, combined with expanding supply from surging investments over the past five years suggest downside risks for commodity prices. Although Malaysia can cope with additional declines in prices, sharp downward movements could potentially lead to deficits in the current and fiscal accounts, as well as slower economic growth from delays in energy-related investments.

Environmental concerns pose additional long-term risks.

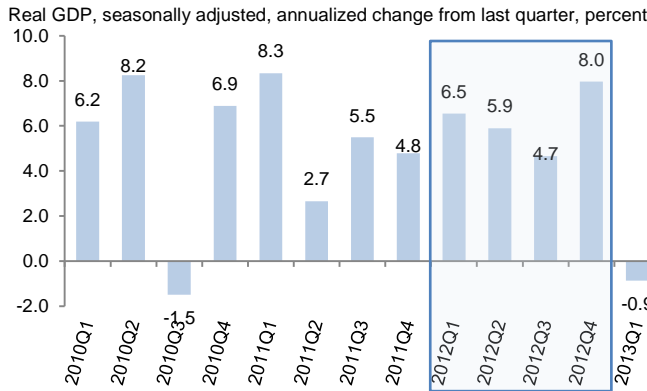
Climate change could negatively impact production of agricultural commodities, while greater environmental awareness globally increases consumer demand for sustainable agricultural commodities, reducing the potential for expanding growing areas. Moreover, diverting oil and gas revenues towards fuel subsidies has increased Malaysia's energy intensity and carbon emissions.

Policy adjustments are required in order to ensure that Malaysia remains "resource-blessed".

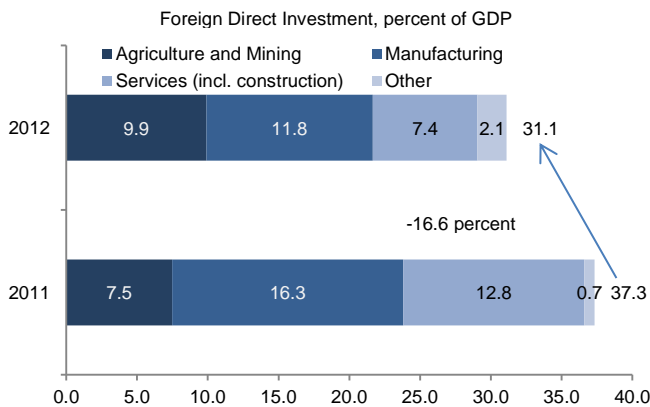
First, diversifying the economy towards higher value-added tasks in manufacturing and services requires renewed emphasis on the structural reform agenda, as well as enhancements to public investment management. These will create the necessary conditions for higher productive investments in non-commodity sectors. Second, to save more of its natural resource revenues, Malaysia can consider (i) increasing the role of KWAN, Malaysia's formal oil wealth fund, (ii) replacing fuel subsidies with targeted transfers and (iii) reviewing gas pricing.

THE MALAYSIAN ECONOMY IN PICTURES

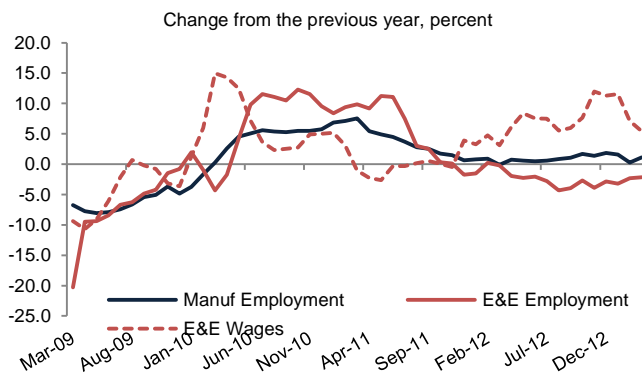
The economy hit a soft patch in 2013



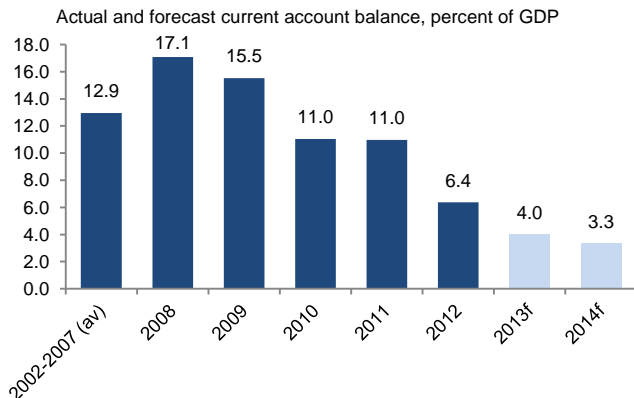
FDI in services declined, but increased in mining



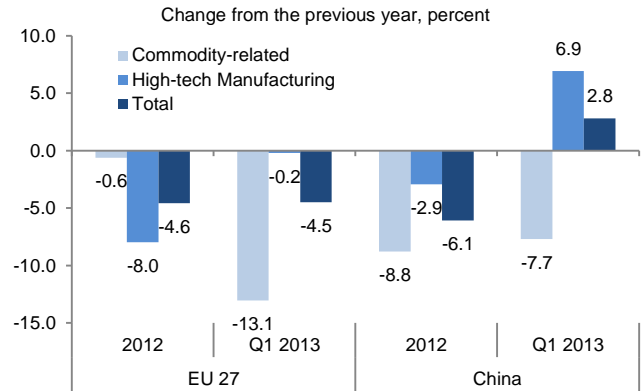
E&E employment down, but wages up



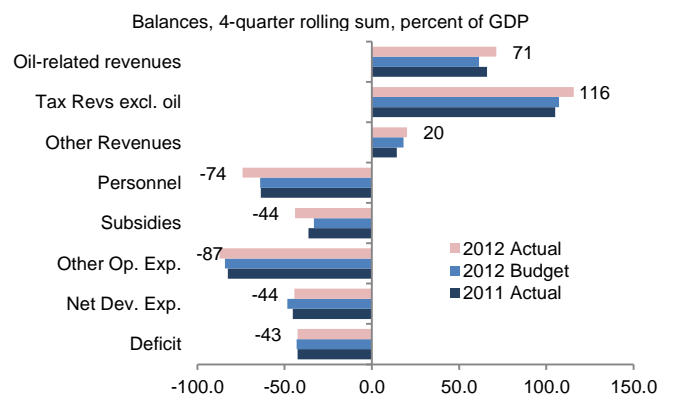
The current account is expected to contract further



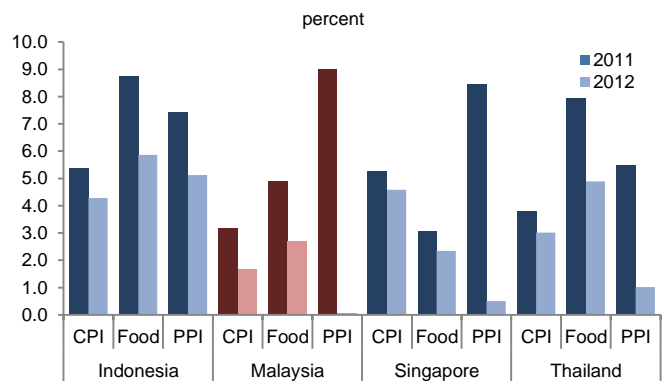
Commodity exports slowed



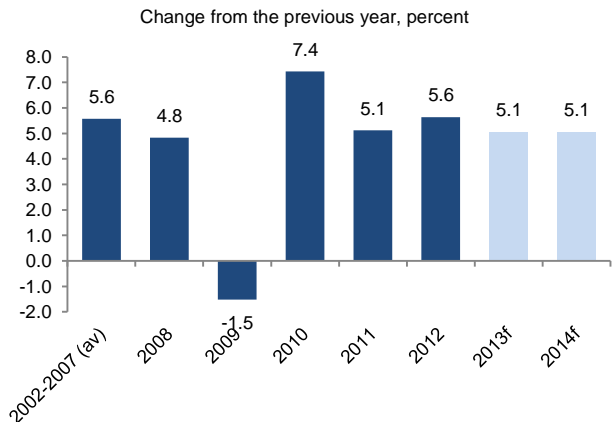
Revenue outperformance matched fiscal overspending



Inflation declined, as in in most ASEAN countries

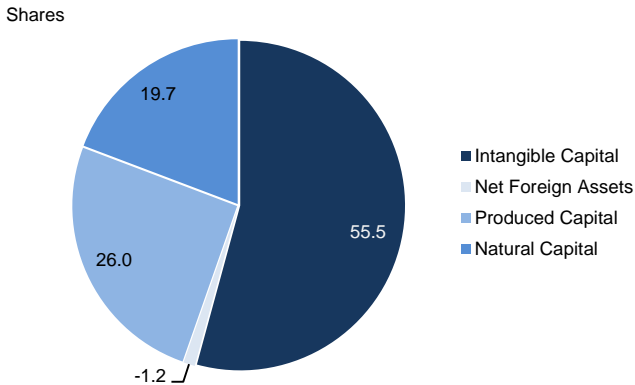


GDP growth is expected to recover in 2013

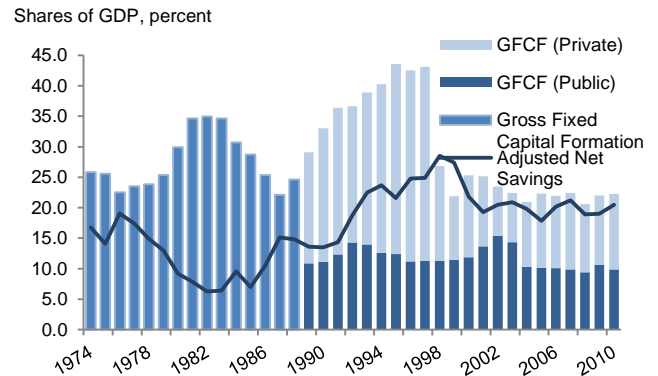


HARNESSING NATURAL RESOURCES IN PICTURES

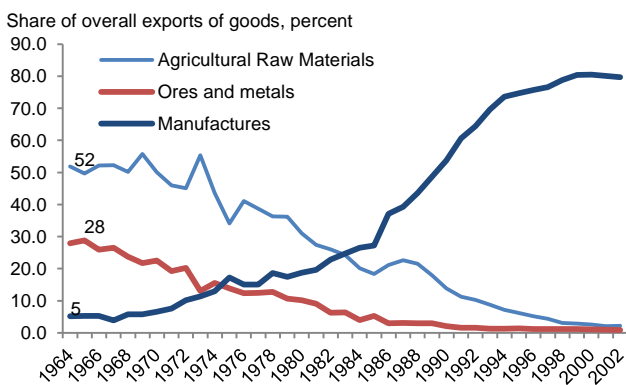
Natural capital comprises 1/5 of Malaysia's wealth



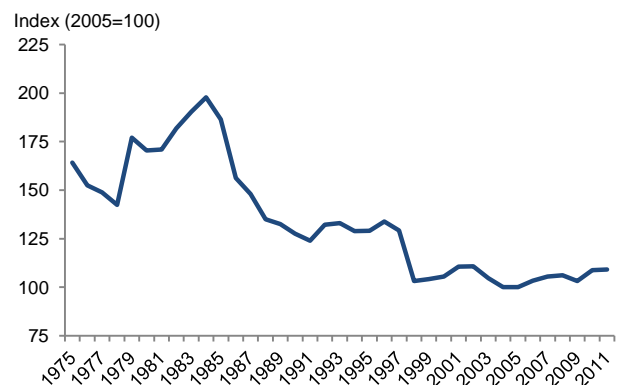
Revenues from natural resources were saved and invested



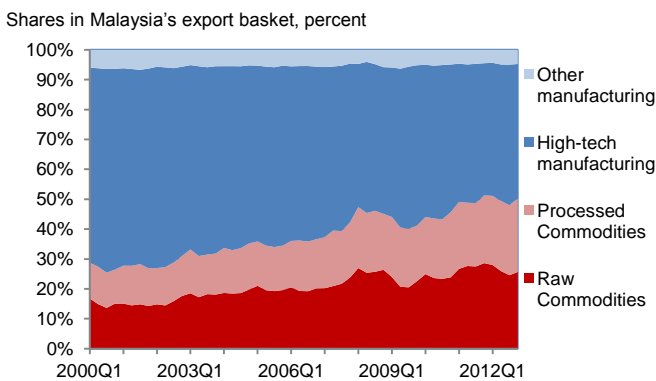
The export basket was completely transformed



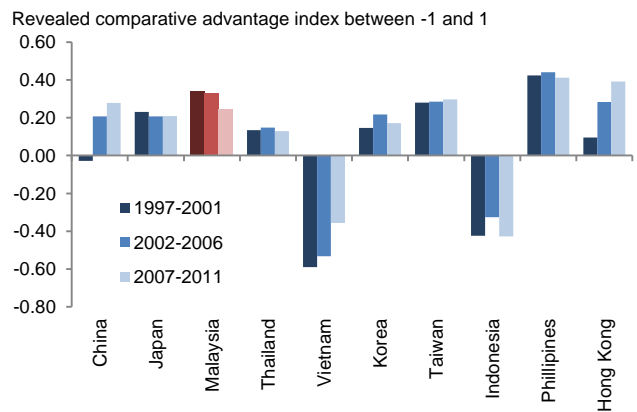
The real effective exchange rate declined in the 1980s



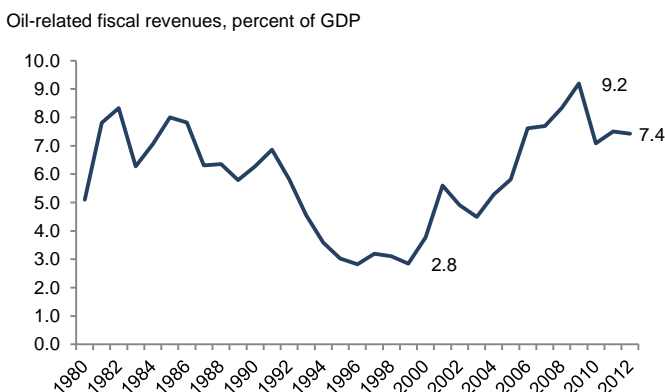
The share of commodities in exports increased



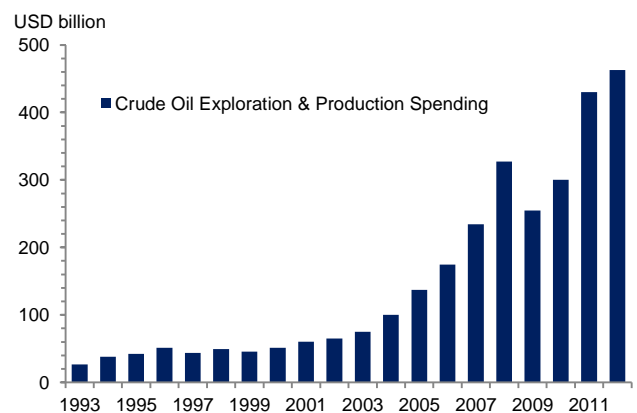
Competitiveness in E&E appeared to decline



The budget grew more dependent on oil-related revenues



Surge in capex in oil sector foreshadows higher supply



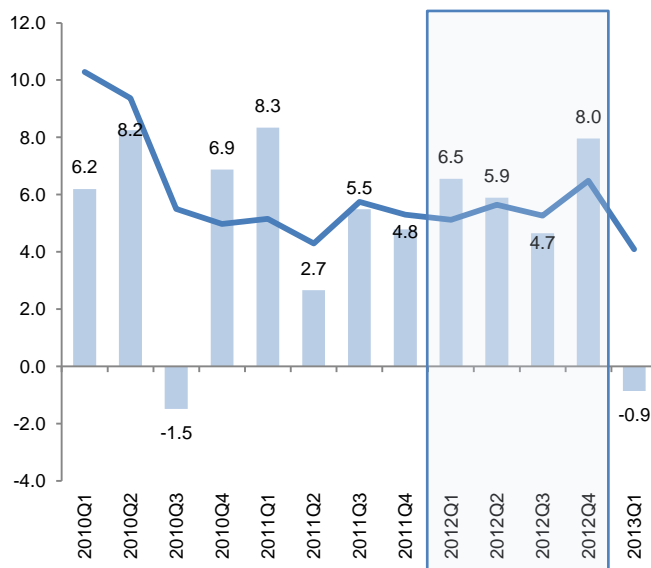
1. RECENT ECONOMIC DEVELOPMENTS AND OUTLOOK

After a strong performance in 2012, growth slows down

Following six quarters of fast growth, the Malaysian economy hit a soft patch in early 2013, dragged down by external demand. The growth rate of real Gross Domestic Product (GDP) jumped to 8.0 percent in the fourth quarter of 2012 on a sequential (quarter-on-quarter, seasonally-adjusted annualized) basis (+6.5 percent on a year-on-year basis; see Figure 1). This brought GDP growth for the year to 5.6 percent, an outcome that exceeded consensus expectations (+5.2 percent) as well as the World Bank forecast of 5.1 percent (see Figure 2). The economy gave back some of the gains from late 2012 in the first quarter of 2013, with GDP contracting 0.9 percent on a sequential basis (+4.1 percent year-on-year). The deceleration of growth in the first quarter was in line with regional peers (Figure 3), reflecting broader weakness in demand for exports from emerging economies as growth in import demand in high-income countries slowed to a 0.6 percent annualized pace in the first quarter of 2013 from the previous quarter (Q4 2012: 7.1 percent). In Malaysia, domestic value-added absorbed by external demand is estimated to have contracted by nearly 10 percent on a sequential basis, with externally-oriented industries (especially those linked to commodities) the major contributors to the contraction on the supply side (Figure 4)¹. Domestic demand continued to expand and provide support to the economy, with robust consumption growth offsetting a modest slowdown in the fast pace of investment growth ahead of the general elections.

Figure 1. Growth was buoyant in 2012 ...

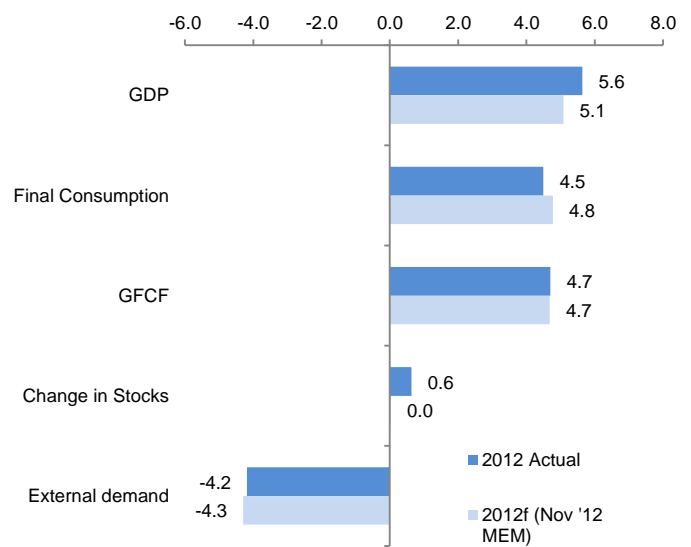
GDP adjusted for inflation and seasonal fluctuations, change from the previous quarter, annualized (bars), and previous year (line), percent



Source: CEIC and World Bank staff calculations.
Note: Seasonally-adjusted figures are World Bank estimates.

Figure 2. ...exceeding World Bank forecasts largely due to a higher contribution from inventories

Contributions to the year-on-year growth rate, percentage points

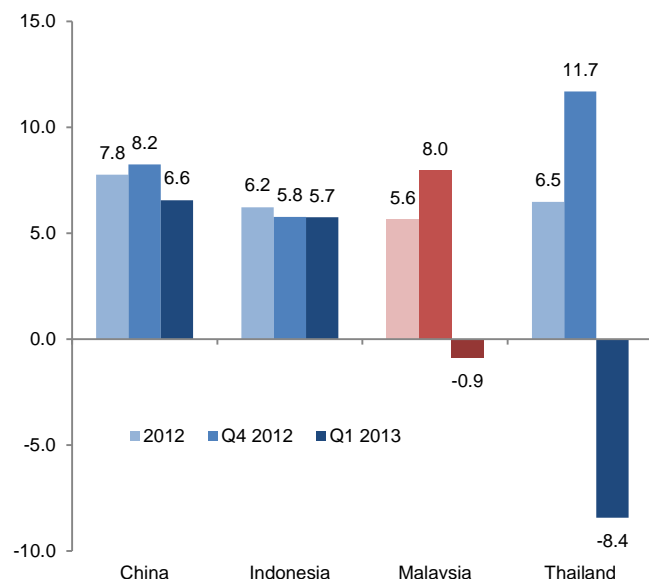


Source: World Bank (2012a) and CEIC.
Note: Figures may not add up due to rounding.

¹ In this report, export-oriented industries include palm oil, rubber, petrochemicals, mining and quarrying, electrical and electronics manufacturing, accommodation, and transport & storage. All other industries are considered domestically-oriented. This definition differs somewhat from BNM's definition of export-oriented manufacturing industries, as BNM includes wood and textile manufacturing among external industries. See Box 1 of World Bank 2012a for a discussion of value-added.

Figure 3. The slowdown in growth in early 2013 was a regional phenomenon

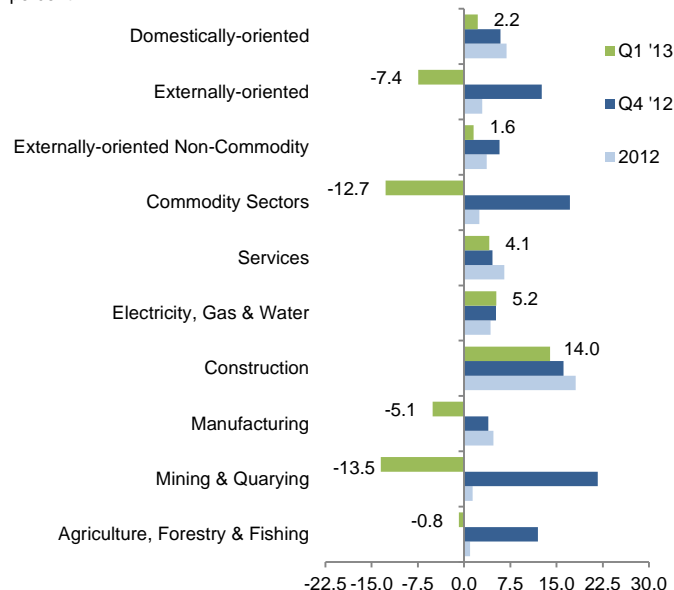
Annualized growth rates of GDP adjusted for inflation and seasonal fluctuations, percent



Sources: CEIC (Indonesia and Thailand), CEIC and World Bank staff calculations (Malaysia) and National Bureau of Statistics of China (China).

Figure 4. Significant declines in externally-oriented industries in Malaysia were a drag on growth

Annualized growth rates of GDP adjusted for inflation and seasonal fluctuations, percent



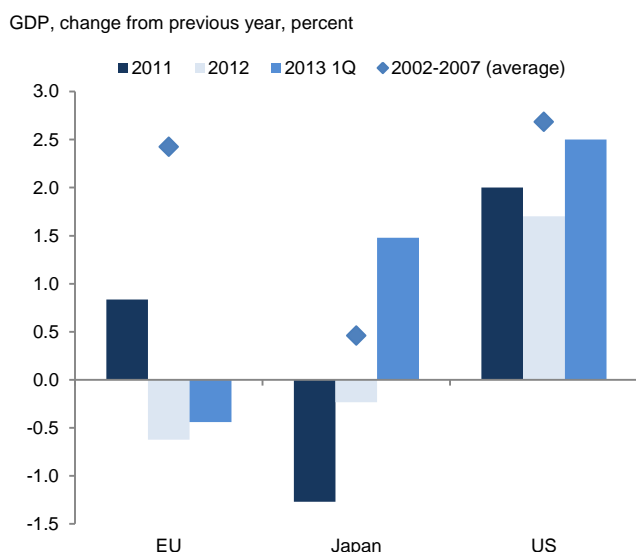
Source: CEIC and World Bank staff calculations. Note: See Footnote 1 for the definition of externally and domestically-oriented industries.

Broad-based export stagnation amid uneven and shallow global recovery

The economic recovery in advanced economies has been uneven and reliant on expansionary monetary policy, providing a weak backdrop to global trade. Global growth decelerated in 2012 and early 2013 as the Euro area contracted initially following renewed concerns about fiscal sustainability in periphery countries, and later more decisive fiscal consolidation that created a drag on growth. Moreover, GDP growth in China, one of Malaysia's main trading partners and a key source of demand for its commodity exports, slowed from 9.3 percent in 2011 to 7.8 percent in 2012, to an annualized pace of 6.6 percent in the first quarter of 2013. Growth in Japan and the US picked up, but not sufficiently to offset the slowdown in China and the contraction in the EU (Figure 5), resulting in a slowdown in global growth. In Japan, higher growth in early 2013 has been supported by aggressive monetary policies that led to a significant depreciation of the Japanese yen, dampening somewhat the impact of faster growth on Japan's import demand. Given this landscape, growth in global trade contracted through most of 2012 (overall growth of +3.5 percent compared to +6.2 percent in 2011). While trade appeared to be recovering by the end of 2012 (+9.3 percent in the fourth quarter), it decelerated in the first quarter of 2013 (+4.1 percent).

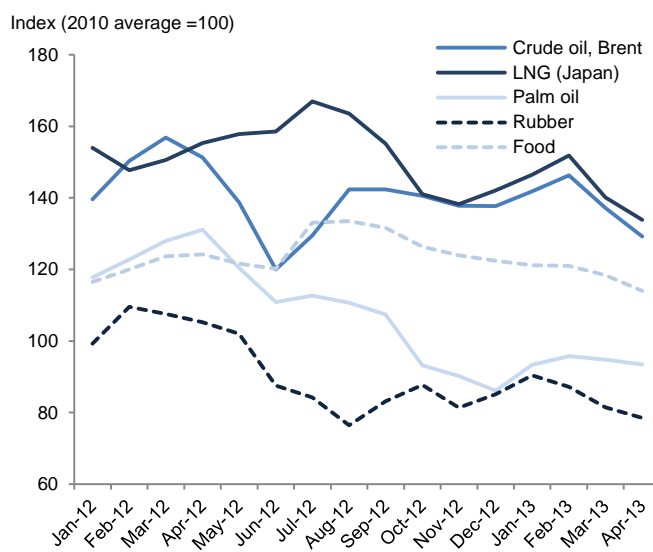
Commodity prices followed production and trade patterns and were generally lower by early 2013. Prices of key commodities recovered in late 2012, but fell further in early 2013. Energy prices were slightly higher in 2012 than 2011 on average, but by April 2013 prices were below 2011 levels (Figure 6). Upside gains were limited by increasing OPEC spare capacity and the slowdowns in China and the EU, whereas global liquidity, geopolitical risks, and steady growth in the US and Japan (the latter a major consumer of natural gas from Malaysia) provided a floor. Prices of Malaysia's key agricultural commodities, palm oil and rubber, have been declining steadily since early 2012, and by April 2013, prices of palm oil and rubber were about 21 percent lower compared to January 2012. Global food prices have been on a declining trend since mid-2012 as global supply concerns eased for key commodities.

Figure 5. Recovery in advanced economies was dragged down by the EU



Source: CEIC, World Bank staff calculations.

Figure 6. Commodity prices declined in March and April and are below levels of early 2012



Source: World Bank Development Economics Prospects Group.

Malaysia's export growth ground to a halt as commodities joined non-commodity exports in the slowdown. Against a background of declining global trade growth, Malaysia's exports of goods and services contracted by 0.1 percent in real terms (+1.2 percent in nominal terms) in 2012, a significant slowdown from a 4.6 percent expansion in 2011 (+8.9 percent in nominal terms). Exports remained sluggish in the first quarter of 2013, contracting 0.6 percent in real terms from the same period in 2012. Considering the secular decline in exports of electrical and electronics (E&E) manufactured exports, Malaysia's export performance was particularly affected by moderating demand from the EU, China and Japan, Malaysia's largest markets for commodity-related exports (Figure 7). In the case of China, commodity imports from Malaysia shrunk by 7.7 percent in the first quarter of 2013 compared to the first quarter of 2012, whereas E&E imports actually increased by 7.0 percent. A similar pattern can be seen with respect to EU imports from Malaysia (Figure 8). As a result, exports of crude palm oil contracted by 11.9 percent in 2012 and 20.3 percent in the first quarter of 2013. Japanese imports of LNG in volume terms were flat in the first quarter of 2013 compared to an increase of 11 percent in 2012, which is linked to the slowdown of Malaysia's LNG exports from 6.7 percent in 2012 to -4.5 percent in the first quarter of 2013. A bright spot in Malaysia's trade accounts are services exports, which expanded by 5.8 percent in nominal terms in 2012, compared to 0.6 percent growth for exports of goods (Q1 2013: 11.5 percent vs. -2.7 percent for goods). On a value-added basis, Malaysia's exports are estimated to have shrunk by about 10 percent (SAAR) in the first quarter, after quarterly gains at end-2012.

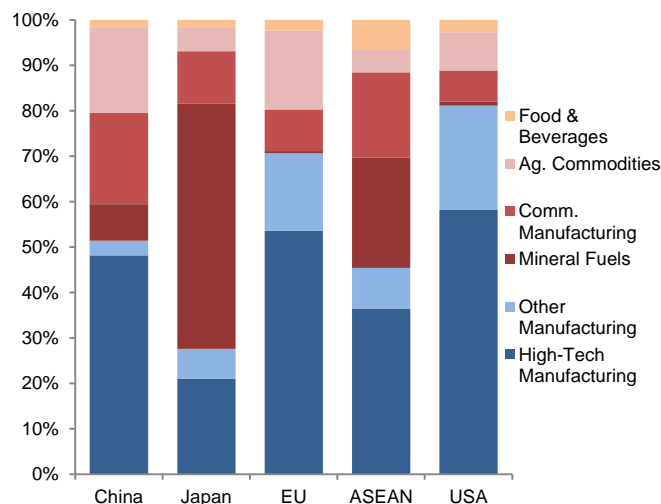
Resilient domestic demand supports robust GDP growth

Investments from both public and private sources have been key drivers of growth. While consumption growth has been robust throughout the 2000s, both public and private fixed investments have become key growth drivers over the past two years. Gross fixed capital formation (GFCF) expanded by 19.9 percent in real terms in 2012, contributing 4.7 percentage points to 2012 GDP growth. On a domestic value-added-basis (i.e. deducting capital goods imports), fixed investment contributed 2.8 percentage points to yearly growth (compared to just 0.9 percentage point in 2011). The private sector contributed 58 percent to total GFCF in 2012, up by 1 percentage point from 2011, while the investment-to-GDP ratio climbed to a post-1997 crisis high of 26 percent from an average of 22 percent between 2003 and 2011. Overall investment (inventories and capital formation combined) contributed 5.3 percentage points towards total GDP growth for the year, with inventories contributing 0.6 percentage points to total GDP growth. On a sequential basis, the pace of growth over the last two quarters (fourth quarter of 2012 added to the first quarter of 2013) decelerated to 5.3 percent (SAAR) compared to 24.7 percent in the previous period, likely reflecting both the

deterioration in global economic conditions, but possibly also some delays in investments (especially equipment) due to increased uncertainty ahead of Malaysia's general elections that took place in early May².

Figure 7. China, Japan and the EU are key importers of commodities from Malaysia

Contribution to total exports by destination, 2012



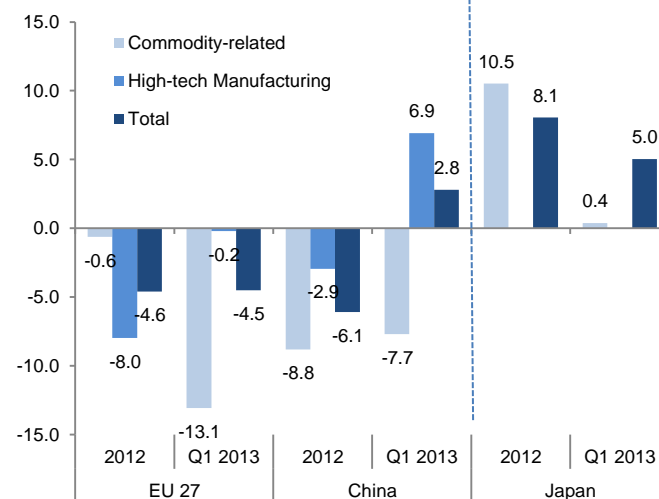
Source: CEIC and World Bank staff calculations.

Notes:

1. Products defined by the following SITC categories: mineral fuels; agricultural commodities: crude materials inedible and animal, vegetable oils and fats; commodities-related manufacturing; chemicals and manufactured goods (by material); high-tech manufacturing: E&E, machinery and transportation.
2. Exports to the EU approximated by exports to France, Germany, and the UK. Exports to ASEAN approximated by exports to Indonesia, Myanmar, Philippines, Singapore and Thailand.

Figure 8. Exports have been dragged down by commodities, especially in 2013

Change from the previous year, percent



Source: CEIC and World Bank staff calculations.

Notes:

1. Original data from EU, Chinese and Japanese sources, in euro, USD and JPY respectively except Japan "commodity-related", which are LNG imports by volume. All figures refer to imports from Malaysia, except for Japan LNG, which are total imports from all countries.
2. For EU and China, "Commodity-related" includes food and live animals; beverages and tobacco; inedible crude materials; petroleum products; animal and vegetable fats, oils and waxes; plastics, chemical and related products; and articles of rubber. High-tech includes machinery and electrical and transport equipment.

Investments have been concentrated in the real estate, oil and gas and infrastructure sectors, and have been driven by low interest rates, government guarantees, and catalytic investments from non-financial public enterprises (NFPEs).

Investments in structures expanded by 25.1 percent over 2012, while output of the construction sector surged by 18.1 percent. The main driver of the surge in construction activity seems to be public infrastructure projects, with the initial foundation work starting for the MRT, the ongoing LRT extension, the Second Penang Bridge, KLIA-II, and the double-tracking of railway lines in Southern Peninsular Malaysia. In addition, PETRONAS started work on its Refinery and Petrochemical Integrated Project (RAPID) project in Pengerang, Johor, as well as the Sabah Oil and Gas Terminal. Public investments were led by NFPEs. On the private side, investment in structures was driven mainly by high-end residential projects in the Klang Valley and Iskandar Malaysia. With regards to the latter, a number of key construction projects were also completed in the region during 2012, namely the Legoland Theme Park as well as the Educity cluster. Equipment (and other) investment was also robust, expanding by 15.6 percent from the previous year. In addition to equipment investments associated with the oil and gas projects above, a critical mass of initial contracts for major ETP projects have now been awarded and many contractors and sub-contractors started making equipment investments in anticipation of the commencement of the projects. Public equipment investment was also linked to infrastructure projects, as well as the purchase of new A380 aircraft by Malaysia Airlines.

² Because of lumpy capital goods imports, it is more informative to look at two quarters combined. Specifically, gross fixed capital formation expanded by 5.3 percent (seasonally-adjusted, annualized rate) from Q2'12+Q3'12 to Q4'12+Q1'13, compared to an expansion of 24.7 percent from Q4'11+Q1'12 to Q2'12+Q3'12. The growth rates over these same periods for the domestic value-added of fixed investment (i.e. excluding capital goods imports) is similar.

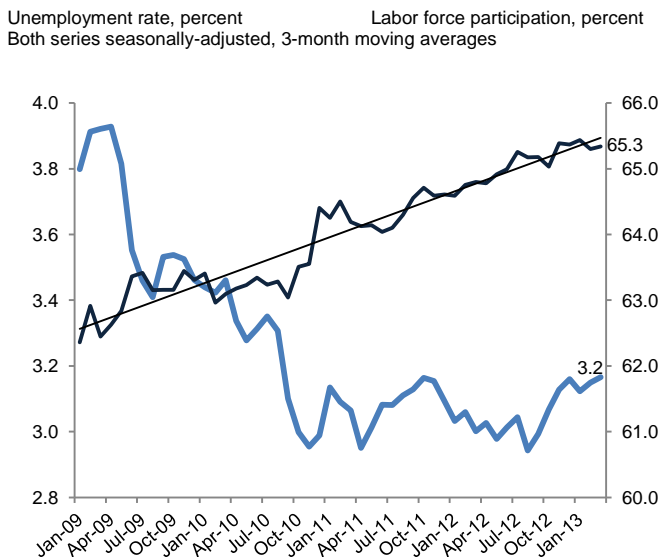
Public and private consumption remained robust, supporting the domestic-demand-driven growth. In the face of softer commodity prices—particularly crude palm oil—in the second half of the year and into 2013, private consumption was bolstered by a round of higher salaries and bonuses for the civil service, accommodative credit conditions, low inflation and the BR1M cash transfers, which were distributed to close to 70 percent of Malaysian households in early 2012 and 2013. Overall, private consumption expanded by 7.7 percent in 2012 in real terms and retained its momentum in early 2013, expanding by over 10 percent (SAAR) in sequential terms in the first quarter of 2013. Growth in public consumption decelerated from about 16 percent in 2011 to 5.1 percent, a robust level considering the high base. Indeed, the average sequential growth rate (SAAR) of public consumption was close to 9 percent, compared to 7.5 percent for private consumption. Public consumption contracted in the first quarter of 2013 due to the high base effect from a bonus to civil servants paid in the fourth quarter of 2012.

Strong job creation accommodates a growing number of labor market entrants

Unemployment remains low even as a growing number of Malaysians join the labor force. Following a peak of 3.7 percent in early 2009 during the global financial crisis, the unemployment rate declined and stabilized around 3.0 percent in 2011 and 2012, lower than the average rate of 3.4 percent between 2002 and 2007 (Figure 9). Meanwhile the number of Malaysians employed or looking for a job increased by 2.7 percent on average in the fourth quarter of 2012, compared to a 1.5 percent increase in the working-age population. These dynamics led the labor force participation rate to go up by 1.1 percentage points on average in 2012 (0.7 pp in 2011). Stable unemployment in the face of rising labor force participation was possible due to robust job growth, with the number of jobs growing by 2.4 percent (fourth quarter average) in 2012. Despite further job growth in early 2013, the unemployment rate increased modestly to 3.2 percent in March 2013 as the number of new entrants in the job market accelerated further.

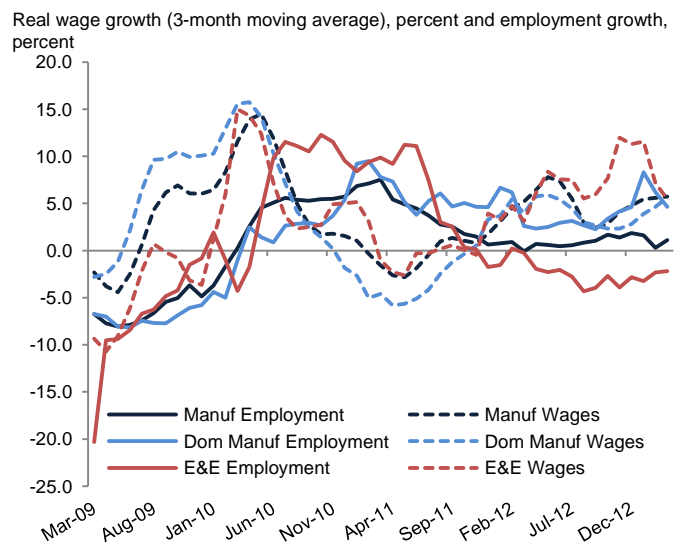
Employment in E&E declines, but wage gains in the sector suggest a possible move up the value chain. Following a recovery to pre-crisis levels by the end of 2011, manufacturing employment growth slowed in 2012, with growth by the fourth quarter averaging 1.7 percent from the previous year, compared with 2.4 percent economy-wide. The slowdown can be attributed to the continued contraction of the E&E sector, while domestically-oriented manufacturing has been adding jobs. The decline in employment in E&E has been accompanied by an increase in average wages, suggesting a possible shift in the structure of employment in the sector away from low-wage, low-skill jobs towards fewer but higher-paid jobs, as would be consistent with a move up the value chain (through upgrading, or exit of more labor-intensive firms). Manufacturing wage growth (adjusted for inflation) picked up in early 2012, but as external demand slowed again in the second quarter wage growth decelerated as well, driven by externally-oriented sectors, since wage growth in domestically-oriented manufacturing continued to accelerate (Figure 10).

Figure 9. The unemployment rate is now below pre-crisis levels while labor force participation is up



Source: CEIC and World Bank staff calculations.
Notes: Seasonal adjustment by World Bank staff.

Figure 10. Wages are starting to rise, particularly in non-resource industries



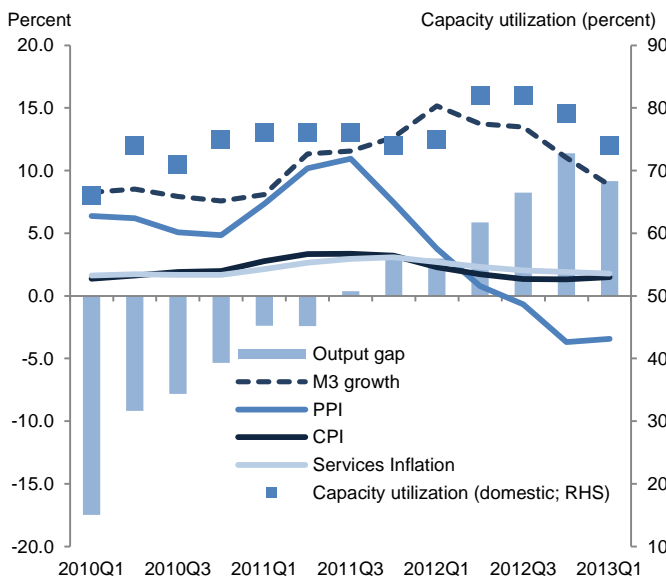
Source: CEIC and World Bank staff calculations.

Inflation remains subdued despite robust domestic demand

Inflation declined throughout 2012 before picking up modestly in early 2013. Consumer price inflation halved from an average of 3.2 percent in 2011 to 1.6 percent in 2012 (1.2 percent in December). Prices started to accelerate in early 2013, but only modestly, with inflation rising from 1.3 percent in January to 1.8 percent in May. Although headline inflation declined uniformly across the country in 2012, food inflation³ was higher in Sarawak, where it averaged 3.4 percent in 2012 compared to 3.3 percent in 2011 and 2.7 per cent each for Peninsular Malaysia and Sabah (2011: 5.0 percent and 4.7 percent, respectively). Food inflation accelerated to 3.2 percent in the first four months of 2013.

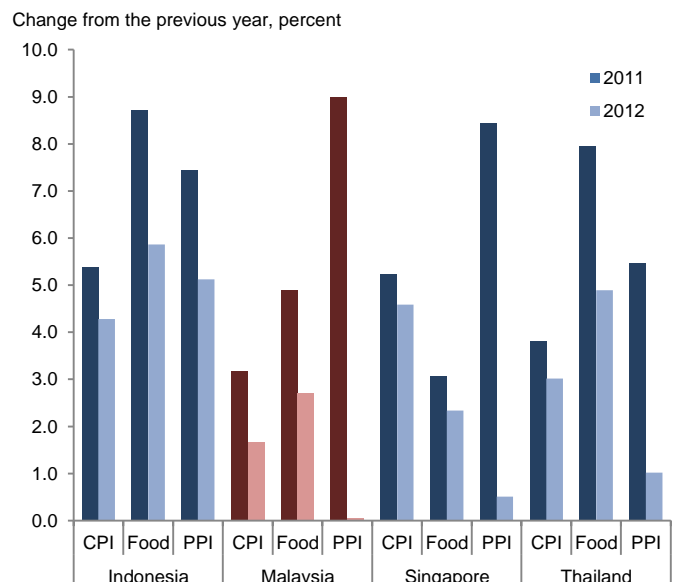
Subdued inflation contrasted with strong domestic demand, and benign inflation was driven by supply-side factors. Demand-side factors would have suggested more significant pressure on inflation, as wages in domestically-oriented manufacturing climbed, capacity utilization in domestically-oriented industries remained at relatively high levels, fiscal policy was expansionary, credit growth remained strong, and the output gap was positive throughout 2012 (Figure 11). Therefore, supply-side factors especially a decline in domestic fuel prices due to the absence of adjustments to most fuel prices and the lower price of RON97 petrol, and a moderation in food inflation from 4.9 percent in 2011 to 2.7 percent in 2012 kept inflation low. Reflecting supply-side conditions, the producer price index (PPI) rose only 0.1 percent in 2012 compared to 9.0 percent the previous year. The trend towards lower inflation in 2012 was common among countries in Southeast Asia, underlining the important role of external supply-side factors (Figure 12). Malaysia continued to experience the lowest headline inflation rates among regional peers, likely due to more extensive subsidies and price controls, as well as higher reliance on foreign workers to contain costs in non-tradable sectors. The latter may explain modest inflation in services prices (2.2 percent in 2012 compared to 2.7 percent in 2011), which ought to be relatively less influenced by supply factors.

Figure 11. Benign supply-side conditions prevailed over mounting demand-side pressures



Source: CEIC and World Bank staff calculations.
 Note: Output gap and capacity utilization rates for domestic oriented sectors. Output gap calculated using the Hodrick-Prescott filter to estimate potential GDP.

Figure 12. Most countries in Southeast Asia experienced lower inflation in 2012



Source: CEIC, IMF (IFS) and World Bank staff calculations.

Fiscal and monetary policies support domestic demand

The federal deficit declined even as expenditures expanded rapidly

The government met its deficit target for 2012 despite significant expenditure overruns. The deficit of the Federal Government came in at RM42.0 billion in 2012, exactly meeting the Government's target of 4.5 percent of GDP. The

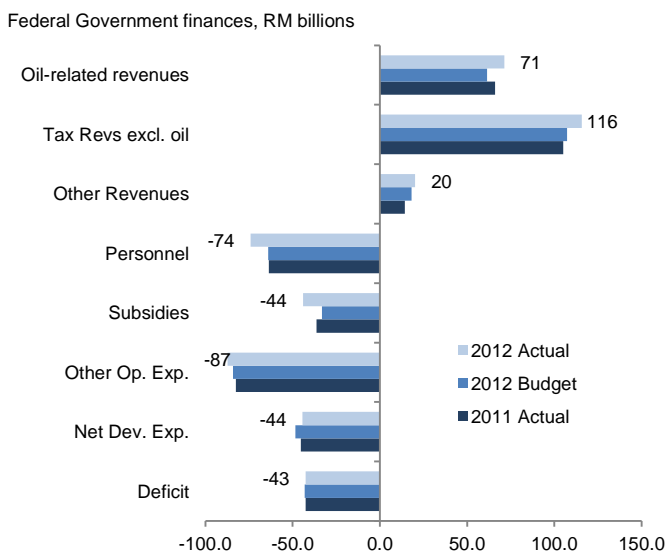
³ Refers to prices of food and non-alcoholic beverages.

deficit in nominal terms was slightly below the figure for 2011 (RM 42.5 billion) and represented a lower share of GDP (2011: 4.8 percent). Fiscal consolidation was achieved despite a 12.7 percent increase in operating expenditures, which exceeded the amount budgeted in 2012 by 13.2 percent. Three factors contributed to the reduction in the deficit-to-GDP ratio: first and most importantly, revenues expanded by 12.1 percent and exceeded targets by 11.2 percent. In addition, as in previous years, actual development expenditure fell below the budgeted figure, such that overall expenditures exceeded the budget by a more modest 9.4 percent (Figure 13). Finally, the higher-than-expected nominal GDP achieved in 2012 also contributed, allowing a higher nominal deficit.

Stepped-up efforts in revenue collection have contributed significantly to Malaysia's fiscal position. Revenue collections exceeded targets by more than 10 percent for a second consecutive year (2011: 12 percent). Gains were broad-based. Despite an average increase in oil prices of just 0.9 percent in 2012 and the reduction in the PETRONAS dividend from RM 30 billion to RM 28 billion, oil-related revenues surprised on the upside by nearly RM10 billion or 15 percent of target (year-on-year growth of 8.7 percent). Oil-related revenues accounted for 35 percent of total revenues in 2012 (2011: 34 percent). Non-oil tax revenues expanded by 15.7 percent, with personal and corporate income taxes growing by 13.7 and 9.4 percent, respectively. Considering nominal GDP growth of 6.4 percent, income taxes showed positive buoyancy (i.e. their growth rate exceeded that of the economy), unlike in much of the 2000s when revenue growth lagged nominal GDP growth, and suggesting structural improvements in tax collection.

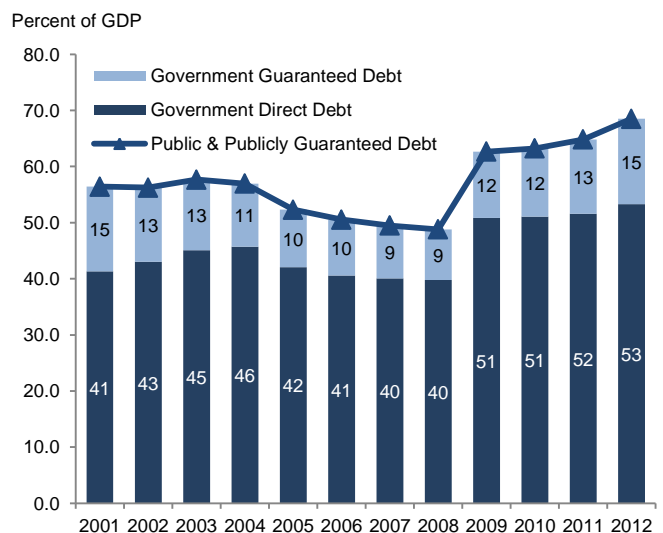
Operating expenditures continued to expand rapidly, driven by wages and subsidies, while development expenditure declined. Operating expenditures (82.3 percent of total net 2012 expenditures) were up 12.6 percent in 2012 compared to the previous year, exceeding the original budget allocation by 13.2 percent or RM24 billion. The government increased spending on subsidies, civil servant wages, and supplies and services. Of particular note is the Bantuan Rakyat 1Malaysia (BR1M) program of direct transfers of RM500. Originally targeted at an estimated 56 percent of households earning less than RM3,000 a month, the program ultimately reached 4.3 million or about 2/3 of households. BR1M added RM2.2 billion to subsidy spending totaling RM44.1 billion, with the latter accounting for 21.6 percent of the growth in operating expenditures. Spending on civil service wages increased by 19 percent, partly due to the payment of bonuses equal to 1.5-months salary. Development expenditure (net of loan recoveries) surged by 16.2 percent in the first half of the year from the same time period in 2011 but decelerated in the second half and contracted by 2.2 percent for the year as a whole to come in at 8 percent below the allocated value.

Figure 13. Strong revenue collection contained the deficit amid higher expenditures



Source CEIC, MOF, and World Bank staff calculations.
 Note: 'Personnel' includes emoluments, pensions and gratuities.

Figure 14. Guaranteed debt climbed in 2012 even as direct debt remained stable



Source: CEIC, MOF and World Bank staff calculations.

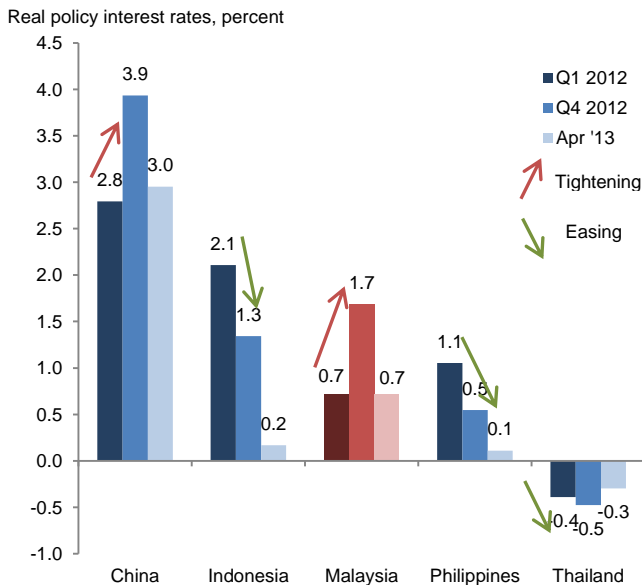
While development expenditures declined, the broader public sector contributed to investment growth through increased use of guarantees and NFPE investments. The government provided guarantees for major investment

projects such as the MRT, oil and gas projects, development of the Tun Razak Exchange, and developments in Iskandar. These guarantees drove debt guaranteed by the Federal government to jump 22.6 percent in 2012 to 15.2 percent of GDP, from 13.2 percent in 2011. This compares to a 10 percent increase in direct government debt. As a result, although the Federal government debt-to-GDP ratio closed 2012 at 53.3 percent (2011: 51.6 percent), below the Government's target of 55 percent, Federal government direct and guaranteed debt increased from 64.8 to 68.5 percent of GDP (Figure 14). Meanwhile, investments by the 30 largest NFPEs were projected to increase by 124 percent in 2012 to RM 112 billion (about 12 percent of GDP, of which 64 percent is domestic), offsetting the effect of the decline in development expenditures on public investment. As a result of this surge in NFPE investment activity, the deficit of the consolidated public sector is expected to have widened to 10.2 percent of GDP in 2012.

Monetary policy in a prolonged holding pattern

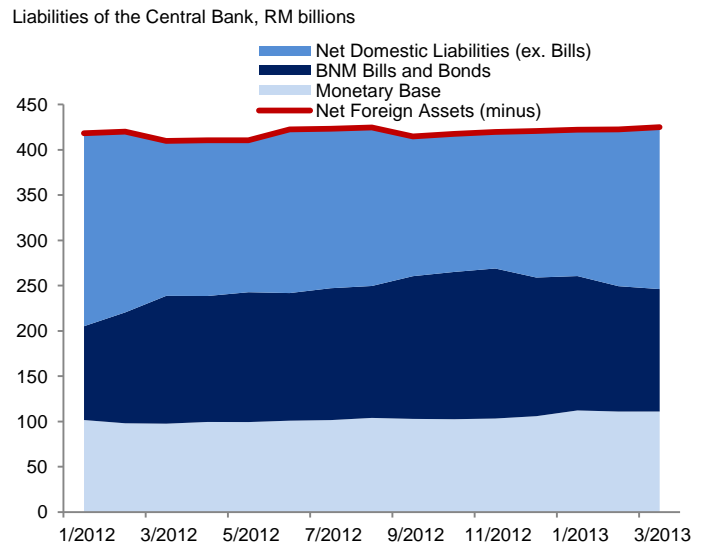
Nominal policy interest rates have been in a prolonged holding pattern as arguments for and against higher rates remain balanced. Bank Negara Malaysia (BNM) has kept its benchmark interest rate (the overnight policy rate, OPR) unchanged at 3.0 percent for two years now. While the positive output gap, robust domestic demand and strong credit growth would normally argue for an upward move in the policy rate, there are many compelling reasons against a rate hike. First, as noted earlier, inflation in Malaysia has been low and driven by external supply factors that would be little affected by higher domestic rates. Second, although nominal policy rates remain below their pre-crisis levels (rates were 3.5 percent at end-2007), real rates increased over the last year with the decline in inflation above pre-crisis levels (1.7 percent on average compared to 1.5 percent in 2007). Even with the expected pick-up in inflation in 2013, real rates remain among the highest in ASEAN (Figure 15). Third, continued weakness in the global economic environment implies excess capacity in Malaysia's open economy, and low rates can (and likely already have) support reallocation of capital from external to domestic sectors, thus allowing for some non-inflationary domestic demand expansion. Finally, higher domestic rates in an environment of near-zero rates in advanced economies are likely to attract increasing capital inflows that would complicate macroeconomic management.

Figure 15. Real policy rates were tightened in 2012 in China and Malaysia, and eased much of ASEAN



Source: CEIC.
 Note: Calculated subtracting expected inflation for the current year from the policy rate.

Figure 16. Liquidity conditions were stable in 2012 with modest growth in early 2013



Source: BNM and World Bank staff calculations.

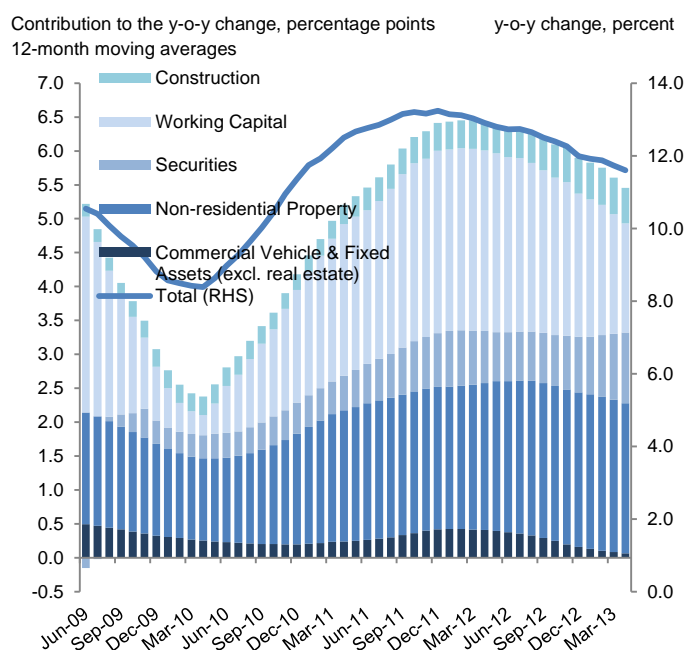
The focus of monetary authorities shifted to macro-prudential regulations. BNM has addressed risks to macroeconomic stability posed by the potential build-up of financial imbalances through macro-prudential regulations and liquidity management rather than interest rate moves. Specifically, BNM wishes to ensure that credit expansion is sustainable, especially among households, and that capital inflows do not lead to asset price bubbles or excessive currency volatility. BNM has adopted a number of macro-prudential regulations in the course of 2011 and

2012 to curb the rise in private sector credit and in particular household debt. While growth in net financing to the private sector remained robust, averaging about 12.5 percent in 2012, loans to households decelerated steadily in 2012 before picking up somewhat in early 2013. Despite higher net capital flows, net foreign assets held by BNM were little changed (+2 percent) between January 2012 and March 2013, in contrast to a 29 percent increase in 2011. Meanwhile, BNM reduced its portfolio of net domestic assets only modestly during this period (-0.8 percent), resulting in a slower growth in the monetary base. Net foreign assets held by BNM increased modestly in the first quarter, as did BNM's portfolio of net domestic assets, which also shifted in composition away from bills and bonds and towards direct loans and swaps as portfolio flows moderated ahead of the elections (Figure 16).

A sound financial sector has been supportive of growth

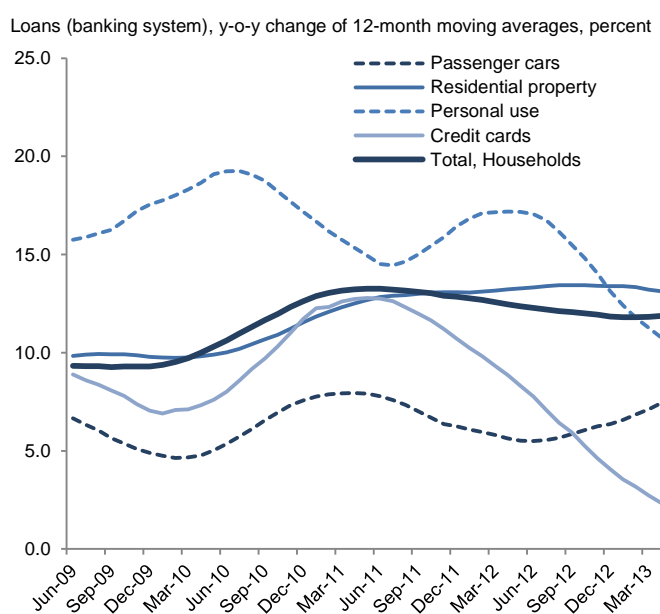
Credit growth remains strong, but financing from the capital markets moderated due to the absence of large issuances. Loans outstanding grew by 10.6 percent as at end-March 2013 (compared to 12.2 percent a year earlier). Credit to businesses increased while household credit moderated somewhat. Total financing extended through the banking system and private debt securities market to the business sector expanded by 12.0 percent as at end-March 2013 compared to 13.5 percent as at end-March 2012. Banking system loans to businesses accelerated, growing 11.7 percent as of end-March 2013 (compared to 10.8 percent a year earlier). New issuances of private debt securities amounted to RM 23 billion in the first quarter of 2013 (down by nearly half from RM 45 billion in 2012, when several large issues were placed). Financing via the equity market also decreased to RM1 billion in the first quarter of 2013 (compared to RM 1.3 billion a year earlier and RM 7 billion per quarter on average in 2012), possibly due to risk aversion ahead of elections. The increase in loans to businesses was primarily for working capital and commercial properties, although working capital loans have been contributing less to loan growth in 2013 (Figure 17).

Figure 17. Growth in working capital loans decelerated



Source: BNM and World Bank staff calculations.

Figure 18. Personal loans and credit card growth slowed but household loan growth remained robust



Source: BNM and World Bank staff calculations

Although macro-prudential measures led to some moderation in personal loans and credit cards, household credit growth remained strong. Outstanding household loan growth from the banking system was sustained at 12.1 as of end-March 2013 (compared to 11.9 percent a year earlier). Loans for personal use and especially credit cards moderated during the same period, but an acceleration in car and property loans kept overall growth little changed (Figure 18). These patterns in loan growth combined with sustained lending by non-bank financial institutions kept household debt remained relatively high at 80.5 percent of GDP as of end-2012, compared to 75.8 percent of GDP in

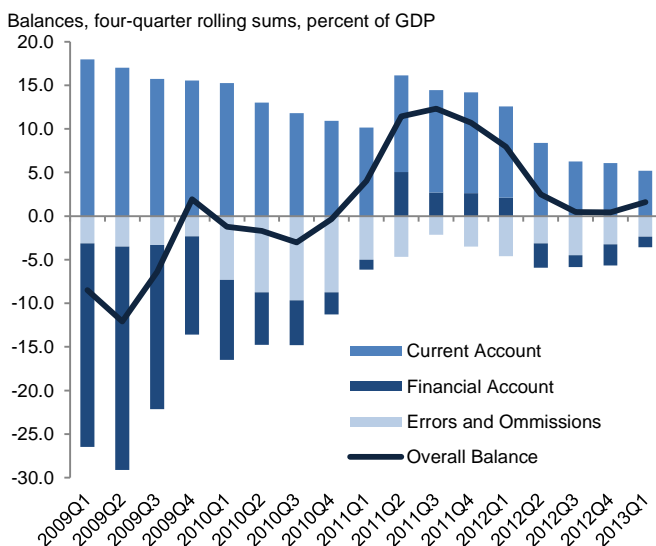
2011, 77 percent in Thailand and 30 percent in China. However, the relative asset position of households also improved as loans were increasingly taken for asset acquisition, and less for consumption.

Banks remained well capitalized despite vigorous credit growth. BNM adopted the new Basel III Capital Adequacy framework starting in 2013. As of end-March, the Malaysian banking sector remained well capitalized, with the Tier 1 capital ratio at 13.1 percent and total capital ratio at 14.5 percent, above levels required by national authorities and Basel III standards and similar to the levels of March 2012 Basel II position of core and risk-weighted capital ratios of 13.2 percent and 14.9 percent, respectively. Tier 1 capital comprised 90 percent of total capital, while capital in excess of the minimum 8 percent regulatory requirement remained high at RM74 billion. Asset quality improved further with the ratio of non-performing loans declining to just 1.3 percent as of March 2013, an improvement compared to the ratio of 1.8 percent in March 2012. Lower ratios were partly due to strong credit growth (higher denominator), but the volume of impaired loans also declined significantly (14 percent) from the previous year (lower numerator). Individual and collective impairment provisions cover nearly 100 percent of impaired loans.

The current account narrowed further

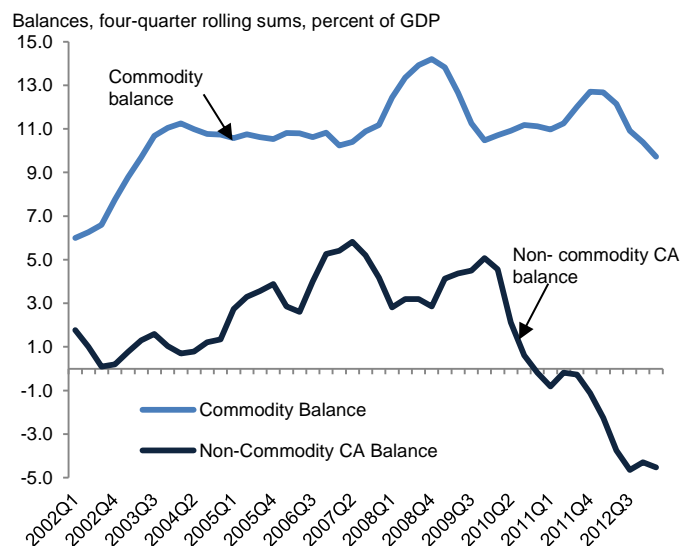
The current account balance has been declining steadily due to weak exports and strong investment-driven imports of capital goods. Malaysia posted the lowest yearly current account surplus in over 10 years in 2012 (6.1 percent of GDP, compared to 11.6 percent of GDP in 2011), and the surplus continued to decline in the first quarter of 2013 to 3.7 percent of GDP (Figure 19). The decline in the past three quarters (Q3 2012–Q1 2013) is linked to slower growth of exports of commodities, while the non-commodity current account balance stabilized around a deficit of 4.5 percent of GDP as capital goods imports surged and manufacturing exports languished (Figure 20). The slowdown in the commodity balance reflected mainly lower production and prices of, respectively, crude palm oil and rubber during the period (export values for these commodities were down 20 and 32 percent, respectively, in the past nine months from the same period in 2011/2012). Manufacturing exports expanded only moderately as electrical and electronics (E&E) exports remained weak owing to slower external demand and a secular declining trend. E&E exports in the first quarter of 2013 are 14 percent below 2007 levels. In contrast, strong domestic demand led to soaring imports of capital goods (+21 percent) and construction services (+53 percent), which supported the investment boom, whereas robust private consumption led to significant increases of imports of travel services (+12 percent) and consumer goods (+12 percent). This decline in the non-commodity trade balance, allied with larger outflows on the income account, led to the further deterioration of the non-commodity current account balance.

Figure 19. The current account posted its smallest quarterly surplus in more than 10 years...



Source: CEIC and World Bank staff calculations.

Figure 20. ... as the non-commodity balance dropped steeply into deficit

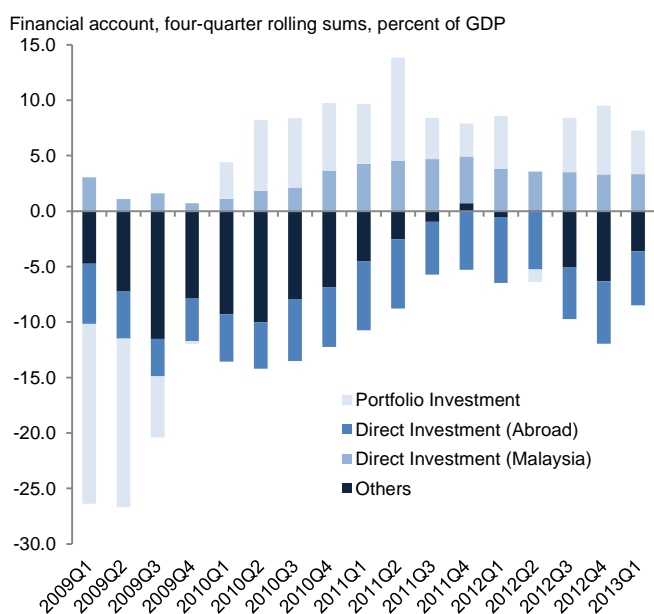


Source: CEIC and World Bank staff calculations.

Notes: Commodity-related exports include food, beverages & tobacco; mineral fuels & lubricants; chemicals; animal and vegetable oils and fats. Non-commodities include manufactured goods and miscellaneous.

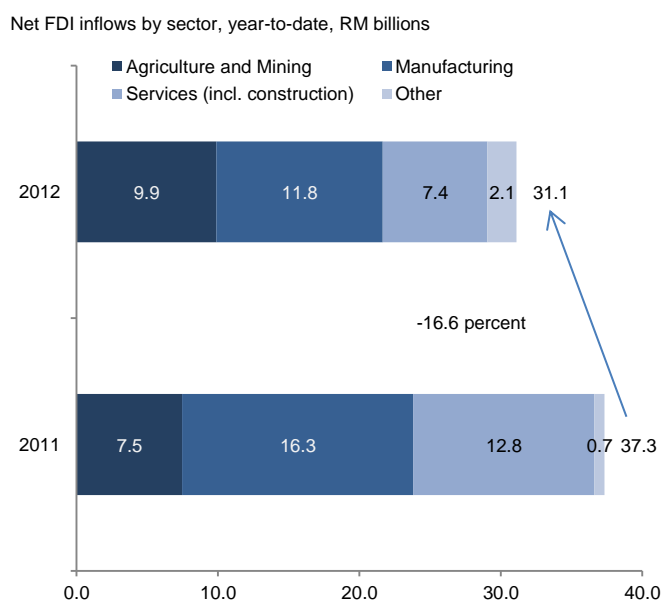
Net FDI contracted sharply in the first half of 2012 due to the Eurozone turmoil, but has been slowly recovering. Net FDI inflows contracted by 16.6 percent in 2012 from 2011, although the bulk of the contraction took place in the first half of the year, when FDI shrank by a quarter due to the Eurozone turmoil (Figure 21). FDI picked up in the first quarter of 2013 (+6.4 percent), though levels remain below those of the first quarter of 2011. In terms of sectors, net FDI in 2012 contracted in manufacturing (-29 percent) and services (-35 percent), but expanded in the commodity sectors, especially mining (+29 percent) led by the strong investments in the oil and gas industry described earlier (Figure 22). Net FDI in the services sectors contracted across all subsectors except information and communications and construction (both small sectors in terms of FDI), with the largest decline in wholesale and retail trade (-65 percent). Direct investment abroad expanded by 9.2 percent in 2012, in part due to PETRONAS purchase of shale oil and gas assets of Canada's Progress Energy. Direct investment abroad slowed by 37 percent in the first quarter of 2013, resulting in a narrowing of the deficit in the direct investment account. On a cumulative basis, Malaysia has been a net investor abroad since mid-2008.

Figure 21. As the global environment weakened, FDI declined and portfolio flows turned negative



Source: CEIC and World Bank staff calculations.

Figure 22. FDI in manufacturing and services contracted in 2012 but mining FDI increased



Source: CEIC.

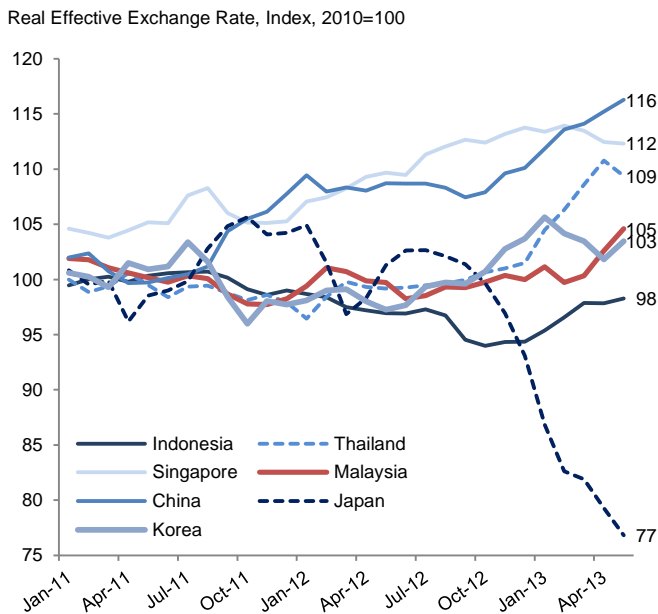
The Ringgit was flat against the US dollar in 2012 and strengthened in 2013 as the Japanese yen depreciated. The nominal exchange rate was fairly stable throughout 2012, trading within a narrow (+/- 3 percent) range around RM 3.10/USD. Currency movements followed capital flows, appreciating in the first two months, falling modestly during the remainder of the first half with increased concerns over the Eurozone's fiscal issues, and recovering in the second half as monetary policy in the EU fueled renewed capital inflows. The real effective exchange rate (REER) ended the year close to its average value for 2010 and within 1 percent of its 2011 levels, in contrast to China and Singapore, which have seen real appreciation of 10 and 14 percent since 2010, respectively (Figure 23). The nominal and real effective exchange rates appreciated in 2013, partly on the heels of a large depreciation in the Japanese yen (over 20 percent since mid-2012).

Malaysia retains multiple layers of buffer against volatile capital flows. Net official international reserves stand at USD 141.4 billion in as of May 15, 2013. This level of reserves is sufficient to finance over 9.6 months of retained imports⁴ and is 4.3 times the short-term external debt. While these are comfortable ratios, they may actually understate Malaysia's buffers against volatile capital flows. Considering overall foreign assets, one observes a pattern during periods of

⁴ Retained imports are gross imports less re-exports.

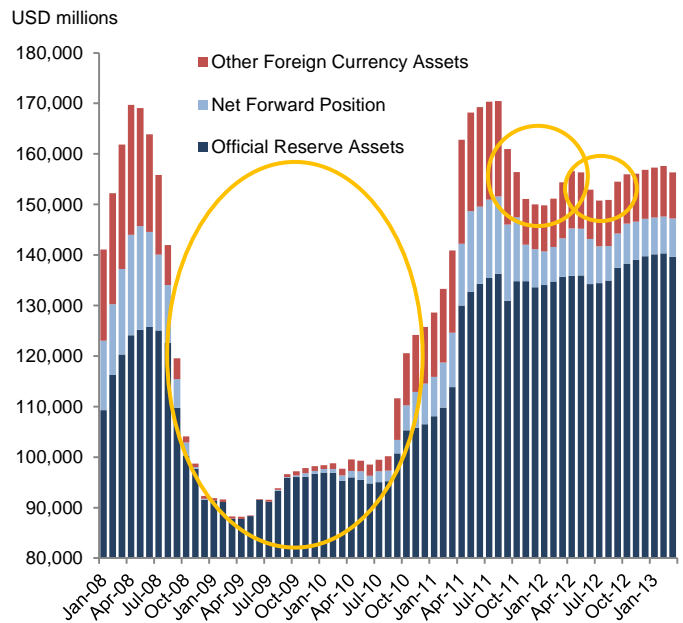
increased global risk aversion: capital outflows are accommodated first out of reductions in the net forward position and other foreign currency assets not included in official reserves (mostly BNM foreign currency deposits with residents), before drawing on official reserve assets (Figure 24). This was most clearly seen during the global financial crisis, but also during the periods in 2011 and 2012 when risk aversion increased due to the Eurozone fiscal woes and investors withdrew capital from emerging economies. Over the past two years, the variation between the lowest and highest levels of net official reserves was only 8 percent compared to 14 percent when other foreign currency assets and the net forward position are included.

Figure 23. The Ringgit appreciated modestly as the yen plummeted in 2013



Source: Bank for International Settlements.

Figure 24. Reserves have returned to the levels prior to the Eurozone crisis



Source: IMF.

Note: Net Forward Position represents aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps).

Malaysia's economic outlook still favorable, but challenges lie around the corner

Despite the weak start to the year, Malaysia is likely to continue to post solid growth rates in 2013. Growth in 2013, estimated at 5.1 percent, will be supported by five factors. First, there is momentum in investment growth, at least in the near term. A number of projects that contributed to the surge in investments in 2012 will continue to contribute a larger amount of value-added to the economy in 2013. Many of these projects are being driven by the government (directly and through guarantees) or NFPEs, and therefore are at low risk of being discontinued, while other projects should pick up following the resolution of uncertainties related to the general elections and the continuation of relatively supportive monetary policy. Second, fiscal policy is likely to remain accommodative ahead of the UMNO elections later in the year. A one-off additional annual increment of civil service pay is expected to be given in July 2013. Moreover, subsidy reforms and implementation of a goods and services tax are expected to be left to 2014, while an increase in BR1M benefits may be announced with the 2014 budget.⁵ Third, the acceleration in economic activity has led to tighter labor markets and a pick-up in household income. As long as supply-side factors remain supportive and inflation contained, higher wages will support growing consumption. Fourth, considering the modest improvements in the global environment and ample global liquidity, commodity prices are unlikely to decline significantly in 2013, providing support to fiscal policy, as well as investment growth, much of which is linked to commodities. Finally, the export outlook looks set to improve in 2013 from the very low levels of 2012, with world trade

⁵ The winning coalition pledged to gradually double BR1M from RM 600 to RM1,200 per household.

volumes forecast to grow by 4.0 percent compared to 2.7 percent in 2012. This will help offset a deceleration in domestic demand growth from 2012's buoyant levels.

Growth momentum in domestic demand is likely to slow further in 2014, but improved external demand provides support. Momentum in domestic demand is likely to ease in 2014. The reasons for this are two-fold: first, fiscal consolidation, notably subsidy rationalization and the implementation of the goods and services tax (GST), is likely to start in earnest in 2014, depressing private consumption. Second, monetary policy in Malaysia and globally is likely to become less accommodative in 2014 as economic conditions normalize. This will have an impact of dampening investment growth at the margin. While these factors do not argue for a sharp decline in domestic demand, some deceleration from the buoyant pace of 2011-2013 is likely. On the other hand, the Malaysian economy is likely to be supported by further improvements in external demand, with global export volumes projected to expand by 5 percent. Improved external conditions are expected to broadly offset the cooling of domestic demand.

There are significant downside risks to this fairly benign outlook. First, the global outlook for 2013 is expected to be an improvement over 2012 even as it remains weaker than pre-crisis levels. Should a new external shock (for example, a new crisis in Europe or a more significant slowdown in China) lead to a large deviation from this baseline, exports would contract and commodity prices would decline, with implications for both external and domestic demand. Second, while the results of the general election have proven positive for financial markets, some uncertainty ahead of the upcoming UMNO elections could negatively impact investments, especially in 2014. Finally, commodity prices have been softening, both due to the soft patch in demand in the first quarter, but also because of increased supply. More pronounced declines in commodity prices, if sustained even in the face of moderate demand growth, would also represent a downside risk for Malaysia.

Most importantly, the sustainability of Malaysia's favorable near-term outlook into 2015 and beyond hinges on the implementation of structural reforms. Malaysia's recent economic performance and near term outlook owes much to commodity sectors. A significant portion of investments has been directly in the oil and gas sector; the expansion in public consumption and capital formation has been financed to a significant degree by commodity revenues (present and future); and investments in real estate are, to some extent, also linked to the recycling of commodity flows. As discussed in Chapter 3, these investments are part of a sound strategy to ensure that the resource sector continues to provide revenues in years to come, but by themselves they bring risks related to possible shocks to commodity prices and, conversely, higher commodity prices may lead to "Dutch disease" and a loss of competitiveness in tradable manufacturing and services sectors. To mitigate these risks, Malaysia needs to accelerate the implementation of productivity-enhancing reforms to boost capabilities and competition, and thus raise productivity of non-commodity sectors.

Global recovery facing lower risks, but likely to remain uneven and slow

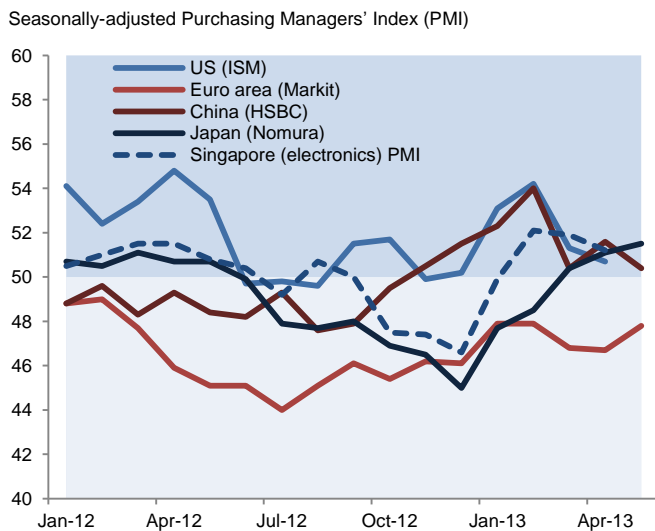
The recovery in advanced economies is set to continue, but at a modest pace and with important differences among the G3 economies. Repeating a pattern seen in the past three years, optimism in late 2012 and early 2013 has given way to a more sober mood towards mid-2013: in early 2013, Purchasing Managers' Indices (PMIs) had been in expansionary territory for all major economies except the Euro area (which was nonetheless improving until January; Figure 25 and Figure 26). Financial markets in advanced economies were buoyant, with indices in Japan and the US experiencing major rallies. However, as before the momentum fizzled in March, with PMIs declining across the board, except in Japan where optimism about new expansionary policies continued to build.

The resulting picture of the recovery of advanced economies is one with two themes: first, the recovery will be uneven. Fiscal consolidation and slow implementation of structural reforms will keep the Euro area in recession, as suggested by the PMIs, with GDP expected to contract by 0.6 percent (2012: -0.5 percent).⁶ Meanwhile, the outlook is somewhat better for the US (+2.0 percent) and Japan (+1.4 percent) even if growth remains subdued. Growth in OECD economies is expected to be an anemic 1.1 percent in 2013, before accelerating to 1.9 percent in 2014 as the recession in the Euro area abates, while growth picks up in the US and Japan.

⁶ Unless noted otherwise, all GDP forecasts are from the June 2013 Global Economic Prospects (World Bank, 2013).

The second theme is one of lower volatility. The bottom of each downward cycle in previous years coincided with Central Banks reassuring markets that tail events would not be allowed to recur, and expectations have generally converged in that regard (although concerns emerge—most recently about the timing of the tapering off of US loose monetary policy). The US recovery (measured by the unemployment rate and housing prices) appears to be on more solid ground, even if the pace has been far slower than previously expected. This lower volatility points to a less drastic decline in sentiment compared to previous years, although the outlook for a renewed pick-up in expectations is uncertain, given the remaining structural challenges in the EU and Japan, and the delicate balancing act of the US Federal Reserve in normalizing monetary policy following unprecedented easing over the past few years.

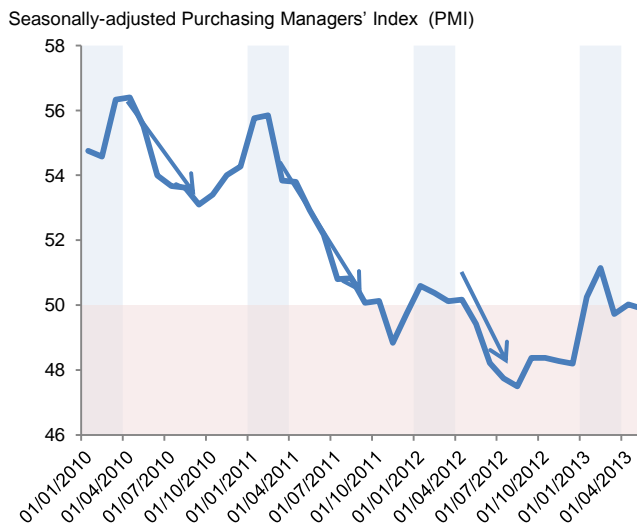
Figure 25. Purchasing managers' indices are generally in positive territory—barely



Source: Bloomberg (Japan, Euro area), HSBC (China), CEIC (US, Singapore).

Note: Scores above 50 reflect expansion.

Figure 26. For the past three years, sentiment has deteriorated following optimism early in the year



Source: Bloomberg (Japan, Euro area), HSBC (China), CEIC (US).

Note: Simple average of PMIs for US, Euro area, China, Japan and China

Growth in China and ASEAN is unlikely to accelerate from 2012 levels. While first-quarter GDP growth in advanced economies generally bettered expectations, growth in China disappointed, coming in at 6.6 percent (SAAR) compared with 7.8 percent (year-on-year, based on 2005 prices) for 2012, which was already the lowest reading since 1999. Growth is unlikely to accelerate meaningfully, as China's options for expansionary policies have been reduced by the need to ensure financial stability, while the global environment offers limited hope for export-led growth. China's PMI in May came in at 49.2, signaling renewed contraction in manufacturing output after seven months of expansion. Similar concerns exist about the ability of the highly-open ASEAN economies to continue to weather a weak external environment with domestic demand growth, although policy space is perhaps greater in these economies. Growth is therefore expected to decelerate in Thailand and the Philippines, and to remain flat in Indonesia.

Aggressive monetary expansion in advanced economies is likely to continue through 2014, when risks from the unwinding of years of massive stimulus will replace concerns about excessive liquidity and volatile capital flows.

Central Banks in Europe, the US and Japan continue to intervene aggressively to provide support to the recovery of their economies and provide a buffer against the inevitable shocks as economies go through structural adjustments. With the Euro area in recession, the ECB will continue with its OMT (Outright Monetary Transactions) program and may cut rates further this year, while the US Fed has implicitly committed to keeping interest rates near zero until the unemployment rate declines below 6.5 percent (vs. 7.6 percent at present). Meanwhile, the Bank of Japan recently announced additional asset purchases to achieve a 2 percent medium-term inflation target. Box 1 considers the potential impact of Japan's aggressive monetary and fiscal policies on Malaysia.

Supply and demand factors point to lower commodity prices. With growth in China cooling while advanced economies remain lukewarm, commodity demand is likely to be soft in the coming year. Moreover, new capacity is

expected to come online following significant investments in the past five years. Helping moderate these downward pressures, ample global liquidity implies some lingering “financialization” of commodities (i.e. their use as financial assets) and risks to supply persist due to geopolitical risks in the Middle East. Agricultural commodities tend to follow oil prices (Baffes and Dennis 2013)—and in fact according to those authors palm oil is the agricultural commodity most correlated with global oil prices. There is significant uncertainty as to the direction of prices in 2014, as continued increases in supply will need to be met with increases in demand above what is currently anticipated to prevent further declines. Chapter 3 presents a more detailed medium-term outlook for commodity prices.

Box 1. What is the potential impact of a weaker yen on Malaysia?

Following years of economic stagnation, Japanese authorities announced at the beginning of 2013 an aggressive strategy for boosting economic growth based on three pillars: first, boosting the real economy in the near term through new public works spending of JPY 10 trillion (USD 100 billion); second, a 2 percent medium-term inflation target to anchor an exit to deflation; and third, ensuring the sustainability of growth through structural policies aimed at increasing total factor productivity growth. Implementation details of policies to boost the real economy have yet to be fully spelled out. For example, although announcements indicate a focus on deregulation and government-led investment and innovation, detailed measures on long-term structural reforms are only expected in June. The announced monetary easing has had a swifter effect through the expectations channel. Although significant purchases of government securities have just begun and deflation continues, the yen's real effective exchange rate has depreciated over 20 percent since mid-2012.

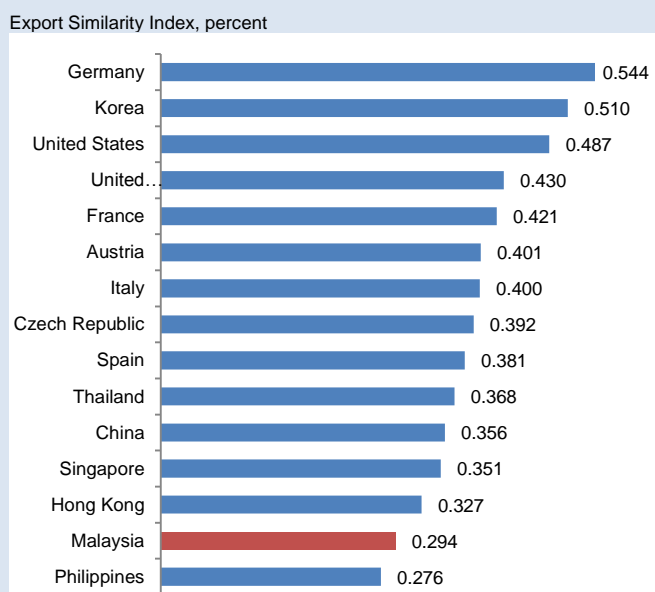
Japan's aggressive growth-boosting policies can be expected to affect Malaysia's economy in different directions:

First, yen depreciation can reduce Malaysia's competitiveness in markets in which it competes directly with Japan. However, there is relatively limited overlap in terms of exports to third markets, as shown in Figure 27 below. More importantly, it can reduce the competitiveness of Malaysia's exports in the Japanese market itself, Malaysia's third largest export market. This impact can be both in final consumer goods, as well as in intermediate goods by increasing incentives at the margin for shifting portions of supply-chain production from Malaysia to Japan. Historically, a 20 percent depreciation of the Japanese currency has been associated with a 5 percent decline in Japanese imports in the first year and an additional 8 percent in the second year. However, to understand the potential impact on exports from Malaysia to Japan, one has to consider the structural changes that have taken place in the trade basket in the past decade, which would make historical estimates biased upward.

Manufacturing exports used to be 60 percent of the basket as early as 2006 (most likely as part of Japanese supply chains), but are now only 40 percent—a 20 percentage point decline in just six years, following the decline in E&E exports as Japanese companies switched production of labor-intensive components to lower-cost countries such as Thailand or Vietnam. On the other hand, exports of mineral fuels (primarily natural gas) now comprise 54 percent of Japan's imports from Malaysia (see Figure 28). This has increased significantly since the Fukushima accident, which switched much of Japan's energy sources away from nuclear power and towards natural gas. Demand for natural gas will be much less elastic to foreign exchange changes compared to manufactured exports. The extent of decline in manufactured exports within supply chains is unclear, as increases in Japanese exports to third markets could increase demand for some imports from Malaysia, whereas in other cases it may lead to diverting a greater share of supply chain production to Japan. Only the exports of final manufactured goods should feel an unambiguous negative impact, but those are only a fraction of total manufacturing exports.

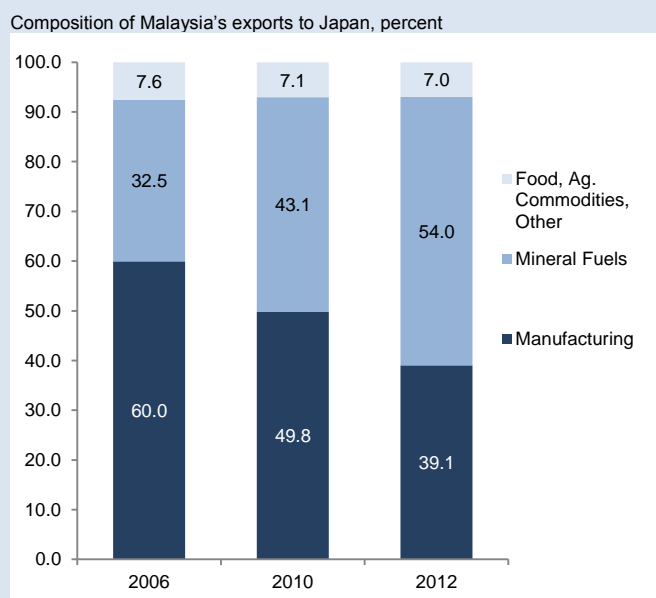
Second, to the extent that the policies succeed in improving Japan's economic growth and boosting its domestic demand, import demand is likely to increase, both for final goods but also for raw materials and energy. While the weaker exchange rate would offset the impact of increased demand for manufactured goods, imports of natural gas are likely to increase with more elevated economic activity. Given that Japan has no domestic sources of energy, the greater risk in this regard would be a resumption of nuclear power production rather than exchange rate depreciation.

Figure 27. There is little competition between Malaysia and Japan in third markets



Source: IMF (2011)

Figure 28. Most exports from Malaysia to Japan are now mineral fuels



Source: CEIC and World Bank staff calculations.

Finally, Japan's policies will add to the looseness of global monetary conditions through lower global interest rates and increased global liquidity. The announced quantitative easing component of the Japanese stimulus package is roughly twice the size of QE3 in the United States. However, financial leakages to developing countries are unlikely to be twice those associated with the U.S. QE3 because capital outflows from the United States tend to flow more directly to developing countries than do Japanese outflows (only 3.0 percent of Japanese portfolio outflows are directed to developing countries, versus 8.3 percent for the United States). Capital inflows to Malaysia and elsewhere in Southeast Asia indeed picked up somewhat in the first quarter (see discussion below), leading to currency appreciation against the US dollar and exacerbating the appreciation against the yen, but the outlook going forward is likely to depend more on expectations related to the timing of the tapering off of US loose monetary policy than on further capital flows from Japan.

Overall, the impact of Japan's new policies on Malaysia will have offsetting positive and negative effects, and is unlikely to have a large impact, on average. Another important question is the sustainability of the trends initiated earlier this year. Japan has been mired in low growth and deflation for the past two decades, and therefore significant uncertainty remains as to whether the current set of policies can succeed. In particular, sustainable economic growth will require structural reforms—should those be delayed while Japan is still experiencing declining consumer prices and wages (as was still the case in April), the return of deflation, slow growth, and yen appreciation are likely.

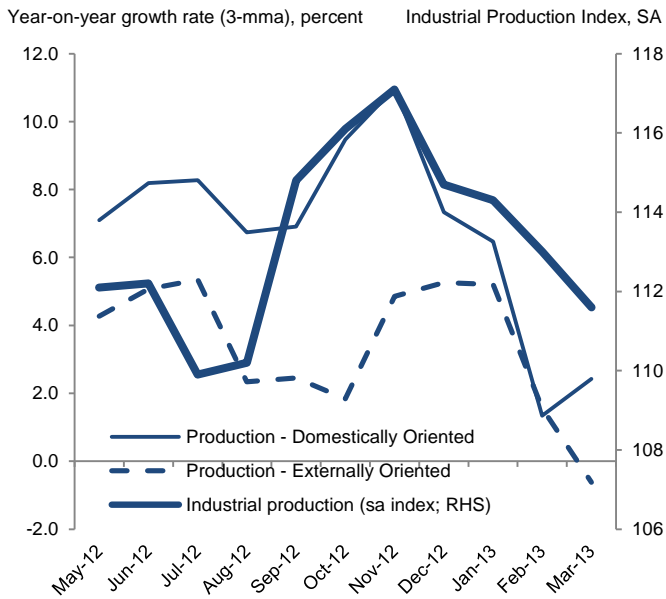
Source: Authors, World Bank (2013)

Domestic demand looks to pick up momentum after a weak first quarter

Following a soft patch early in the year, the pattern of solid growth in domestic demand is likely to have resumed.

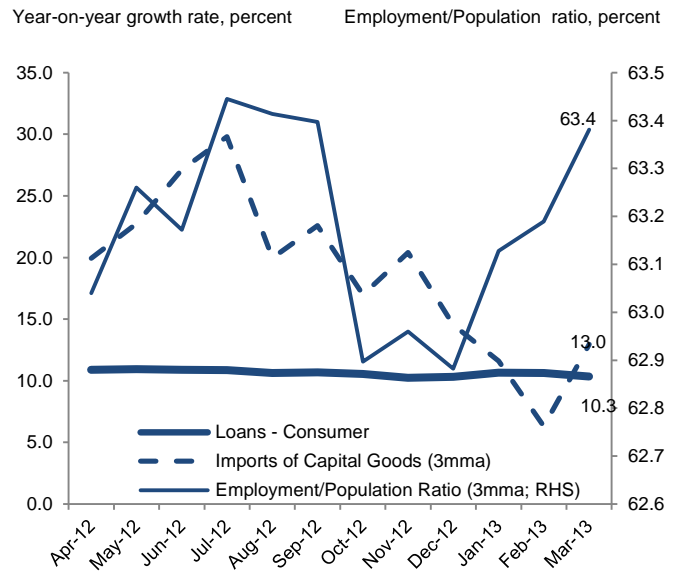
Growth in production by domestically-oriented industries declined between December and February, but picked up again in March (Figure 29). Export-oriented industries, on the other hand, continued to decline, reaching negative territory in March and underpinning the largely external source of weakness in the first quarter. Demand-side indicators reflect resilience of domestic demand. MIER consumer confidence index reached a six-year high in the first quarter, while employment continued to grow, credit growth remained solid, and imports of capital goods rebounded after several months of decline (Figure 30).

Figure 29. Industrial production slowed since November



Source: CEIC and World Bank Staff calculations.

Figure 30. Demand indicators have been mixed



Source: CEIC and World Bank staff calculations.

While domestic demand will decelerate in 2013 from the buoyant levels of 2012, it will remain Malaysia's main source of growth. The domestic value-added of goods and services absorbed by consumption or investment in Malaysia is expected to expand by 7.1 percent in 2013 and 6.0 percent in 2014, compared to 9.3 percent in 2012. Domestic demand as defined in the national accounts (total consumption and investment) is expected to contribute 7.1 percentage points to GDP growth in 2012 and 6.4 percentage points in 2014, down from 9.8 percentage points in 2012 (Table 1). The continued negative contribution from net exports (-2.1 and -1.6 percentage points in 2013 and 2014, respectively) not only reflects the weak export outlook, but also the strength in capital and consumer goods imports, which are linked to the strength in domestic demand.

The investment boom is set to continue, albeit at a moderating pace. While some of the drivers of investment growth, notably commodity prices and the global environment, are set to weaken somewhat, investments should continue to make a key contribution to growth in 2013 and 2014. Other drivers of investment growth, namely low interest rates and government support through guarantees and NFPE investments, are likely to remain in place into the medium term. Importantly, it is unlikely that a number of large investment projects that have already been initiated will be stopped, except for a severe contraction in the global economy—the risks of which have if anything declined. The pipeline both of projects that have begun, and others that have been committed is significant. PETRONAS has implemented less than 30 percent of its planned RM 300 billion investment plan for 2011-2015, while only 11 percent of committed ETP projects have been realized in 2011 and 2012.⁷ Ongoing investments expected to come online between 2013 and 2018 include regasification terminals in Sungei Udang (Melaka), Pengerang (Johor) and Lahad Datu (Sabah), the Sabah Oil and Gas Terminal and Sabah-Sarawak Gas Pipeline between Kimanis and Bintulu, the development of Gumusut-Kakap floating production system (FPS), and the floating LNG facility in Kanowit (Sarawak). These investments will catalyze significant private investments as many are developed jointly with private companies, or provide an anchor for private companies to join. Other large ongoing projects include the MRT and the broadband roll-out. As a result these ongoing projects and stable economic conditions but also greater headwinds and a higher base, real gross fixed capital formation is expected decelerate from 19.9 percent in 2012 to 9.7 percent in 2013 and 9.4 percent in 2014.

Private consumption is expected to remain robust in 2013, supported by still-accommodative fiscal policies, as well as strong labor markets. The drivers of private consumption in 2012—tight labor markets and support from fiscal policy in the form of civil service bonuses and cash transfers—remain in place in 2013. As part of its election pledges, the

⁷ Since a number of oil and gas projects from PETRONAS are part of ETP, there is significant overlap between the two.

governing coalition has committed to gradually increasing BR1M cash transfers to RM 1,200 for households, and RM 600 for single individuals. Meanwhile, 1.4 million civil servants are likely to receive an additional pay increment in the second half as a civil service transformation program is launched. On the other hand, fiscal consolidation in the form of reduced energy subsidies or implementation of a Goods and Services Tax (GST) is not expected in 2013. Meanwhile, the momentum in domestic demand growth will continue to support firm labor markets. Agricultural commodity prices are likely to weaken, however (Figure 32), and credit expansion to households has been moderating, with a significant decline in personal and credit card loans following the imposition of prudential regulation by Bank Negara Malaysia. Private consumption growth is therefore expected to moderate from 7.7 percent to 6.7 percent in 2013.

Fiscal consolidation, a possible tightening of monetary policy and weak commodity prices are likely to dent private consumption in 2014. Fiscal consolidation is expected to start in earnest in 2014 and is likely to create a drag on private consumption, although a number of supportive measures are expected to continue—notably the BR1M cash transfers. With commodity prices expected to decline further (if only modestly) and chances of tighter monetary policy in the second half of the year, private consumption is likely to decelerate further to 5.9 percent in 2014.

Government consumption will remain stable in 2013 and slow down meaningfully in 2014. Growth in government consumption will slow to 4.7 percent in 2013 before decelerating sharply in 2014 to 1.7 percent due to the strengthening of fiscal consolidation measures, including moderation in public sector wage growth. The contribution of overall consumption (public and private) is expected to decline from 4.5 percentage points in 2012 to 4.0 percentage in 2013 and 3.3 percentage points in 2014. Fiscal consolidation is expected to subtract 0.4–0.5 percentage points from growth in 2014.

Table 1. GDP growth is expected to be maintained...

Year-on-Year Growth Rates, percent				
	2011	2012f	2013f	2014f
GDP	5.1	5.6	5.1	5.1
Domestic demand	6.8	11.3	7.8	6.9
Final consumption	8.6	7.1	6.3	5.0
Private sector	6.8	7.7	6.7	5.9
Public sector	15.8	5.1	4.7	1.7
GFCF	6.2	19.9	9.7	9.4
External demand	-4.6	-31.7	-24.3	-22.6
Exports of G&S	4.6	-0.1	3.2	6.0
Imports of G&S	6.1	4.7	6.0	8.0

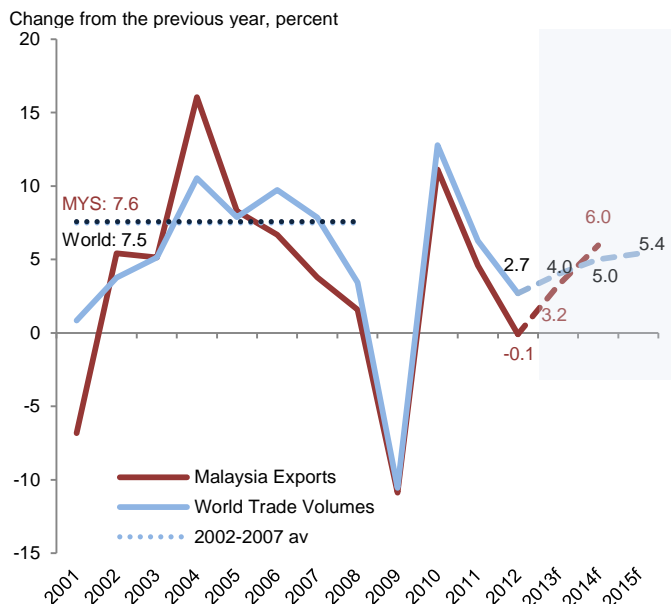
Source: CEIC, World Bank Staff calculations and projections

Table 2. ... thanks to strength in domestic demand

Contributions to GDP Growth, percentage points				
	2011	2012f	2013f	2014f
GDP	5.1	5.6	5.1	5.1
Domestic demand	5.8	9.8	7.1	6.4
Final consumption	5.2	4.5	4.0	3.3
Private sector	3.3	3.8	3.4	3.0
Public sector	1.9	0.7	0.6	0.2
GFCF	1.5	4.7	2.6	2.6
Change in Stocks	-0.9	0.6	0.5	0.5
External demand	-0.7	-4.2	-2.1	-1.4
Exports of G&S	4.6	-0.1	3.1	5.6
Imports of G&S	-5.3	-4.1	-5.1	-7.0

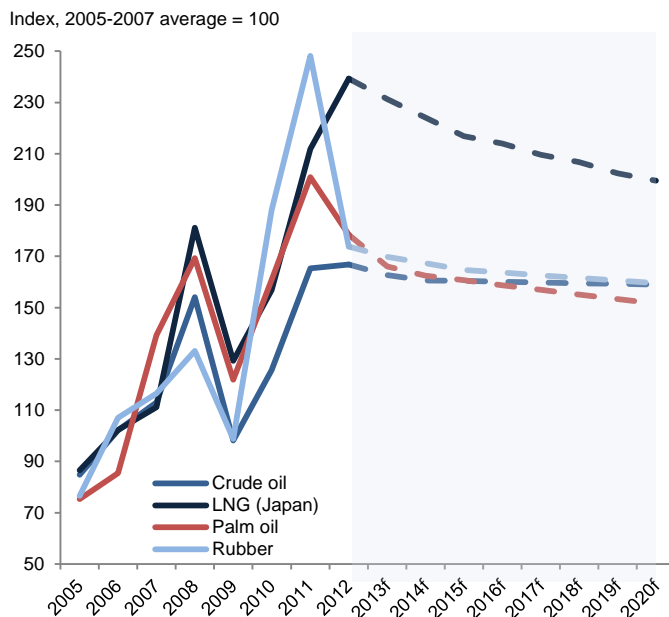
Export growth will remain subdued for most of 2013, but is expected to pick up in the second half of 2013 and into 2014, assuming global conditions improve. Exports of goods and services are expected to grow in real terms at a pace of 3.2 percent in 2013, a modest improvement on the 0.1 percent contraction in 2012. This compares with a pre-crisis export growth rate of 7.6 percent, and a forecast of 4 percent growth for global trade (Figure 31). Mining-based exports are likely to pick up gradually during the year as new investments come online, notably the Sabah Oil and Gas Terminal (SOGT), the Kinabalu Non-Associated Gas (NAG) upstream development and the Malacca regasification plant. Exports of palm oil are likely to remain sluggish, but can increase ahead of production as inventories are ample. There is some hope of modest improvements to exports of non-commodities, notably E&E, as the Singapore E&E PMI has been in expansionary mode over the past three months and US demand is expected to pick up. A more decisive recovery in growth rates in Malaysia's major trading partners, especially China and the EU, into the second half of 2013 could bring upside risks to the 2013 forecasts, and are incorporated in the acceleration of export growth to 6.0 percent in 2014 based on higher growth in these two key markets. On the other hand, export figures for March and April were weak in contrast to recovering global trends and suggest downside risks as well.

Figure 31. World trade volumes are not expected to return to pre-crisis levels in the medium-term



Source: CEIC, World Bank Development Economics Prospects Group and World Bank staff calculations.
Note: World Bank forecasts as of June 2013.

Figure 32. Commodity prices are projected to remain stable or decline in coming years

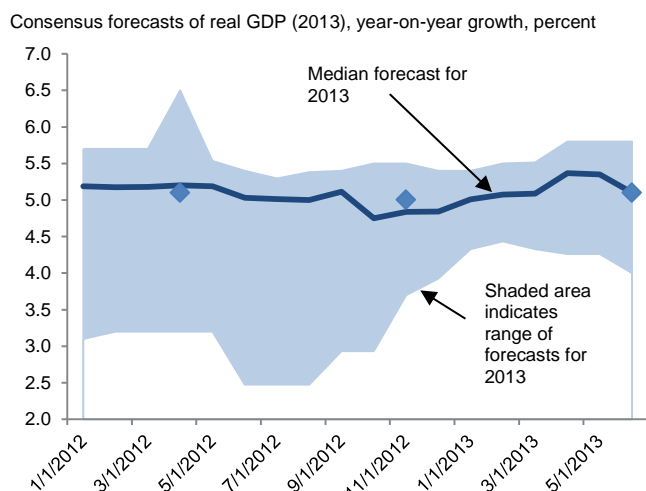


Source: World Bank Development Economics Prospects Group.
Note: World Bank forecasts as of January 2013, except oil as of June 2013.

In summary, on a year-on-year basis Malaysia is expected to register real GDP growth of 5.1 percent in 2013 and 2014. The World Bank's forecast for 2013 lie at the median consensus forecast (as of early June; see Figure 33) and slightly below the median consensus estimate for 2014. On a sequential basis, the forecast assumes a relatively optimistic acceleration from the soft patch in the first quarter to an average of 6.7 percent in the remainder of 2013, and a solid 5.0 percent average quarterly growth in 2014 despite another soft patch in the first quarter of that year when fiscal consolidation is expected to begin. Headline GDP growth projections are little changed from the November 2012 Malaysia Economic Monitor as the drivers of growth remain largely unchanged. While projections for domestic demand growth in 2013, especially investment, have been upgraded since the fourth quarter of last year (Figure 34), export growth forecasts have been trimmed, from 9.0 percent (April 2012), to 3.6 percent (November 2012), and now to 3.2 percent with further downside risks based on the first four months. For 2014, net exports represent a lower drag on growth as investment is expected to moderate further, along with capital goods imports.

This fairly benign outlook for the Malaysian economy is predicated on stable economic conditions and a gradual pick-up in global demand in late 2013 and 2014. Projections for 2014 assume that the recovery of advanced economies and China will pick up in earnest by that time and a continuation of sluggish and uneven performance represents a downside risk for growth. The continuation of the global recovery is also critical to ensure that new supplies of commodities are met by greater demand, thus keeping prices relatively stable. Sharp declines in commodity prices are a key risk and could lead to a slowdown in investments in the oil and gas sector. Further declines in commodity prices may also start to take a toll on consumption through their effect on rural incomes. Another key risk for 2014 surrounds the announcements and sentiment around the Federal Reserve's tapering off, and eventually reversing, its aggressively expansionary monetary policy of the past 4.5 years. Finally, elections within the government coalition's main constituent party are expected to be called by the end of the year, and their proximity could raise near-term risk perceptions.

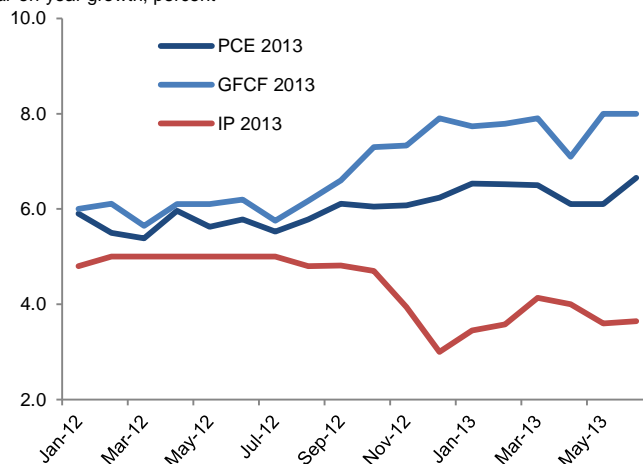
Figure 33. Forecasts for 2013 growth have come down following the soft patch in the first quarter



Source: Consensus Economics, World Bank staff calculations and projections.

Figure 34. But expectations for domestic demand components remain robust

Consensus forecasts of real GDP components and industrial production (2013), year-on-year growth, percent



Source: Consensus Economics.
Note: PCE refers to Private Consumption Expenditure.

Inflation picks up but remains relatively low

Inflation is likely to increase modestly in 2013 given the low base in 2012 and strong domestic demand, but lower commodity prices and the delay in subsidy cuts suggest lower inflation in 2013, and somewhat higher inflation in 2014.

Malaysia's headline inflation rate is projected to come at around 2.5 percent in 2013 (2012: 1.6 percent), lower than the earlier forecast of 3.0 percent in the November 2012 Malaysia Economic Monitor but above the median consensus estimate for a reading of 2.0 percent. The forecast for 2013 is slightly higher than the average rate observed during the 2002-2007 period (2.2 percent) due to the low base in 2012 and strength in domestic demand. Given declining global food prices and assuming a continuation of subsidies, there are downside risks to the forecast, although more rapid action on subsidies could lead to higher inflation in 2013. The forecast for 2014 is 3.2 percent, (median consensus forecast: 2.5 percent) due to the expected reduction in energy subsidies and continued build-up of pressures from buoyant domestic demand. The introduction of a goods and services tax (GST) is not expected to take place until late 2014 or 2015, and earlier implementation, or the implementation of other revenue measures (such as a recently-mulled tobacco tax hike) could also pose an upside risk to inflation, albeit a modest one.

Fiscal and monetary accommodation could be reduced in 2014

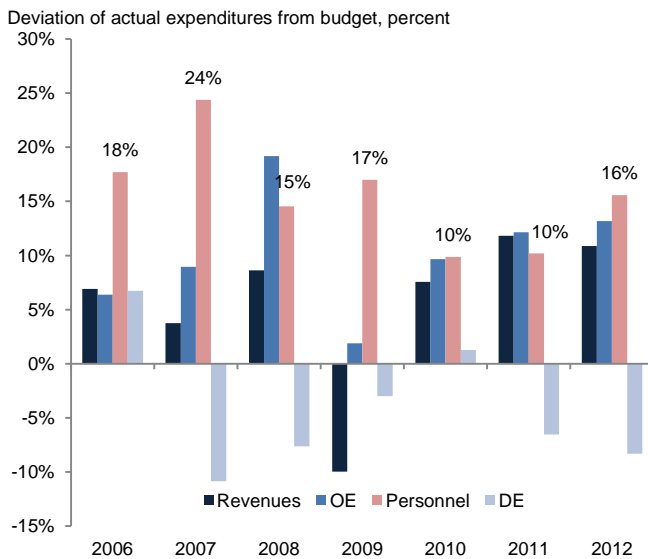
Fiscal consolidation is likely to continue in 2013, albeit at a modest pace. While the 2013 budget suggests the deficit of the Federal government will be reduced by 0.5 percentage points compared to 2012, several factors suggest this target will be difficult to achieve. As Figure 35 illustrates, for the past seven years actual operating expenditures have outstripped budgeted allocations by at least 10 percent.⁸ Accordingly, the allocation for emoluments for 2013 will almost certainly prove to be an underestimation. This is particularly so given the recent increase in the numbers of teachers and police officers, and a possible adjustment to civil service pay further to the civil service transformation program that is expected to be launched in the second half of 2013. Other budget items are not likely to have deviations of a similar magnitude. Underperformance of development expenditure disbursements have contributed to reduce the deficit, but execution of development spending typically picks up towards the second half of a Plan period, and 2013 marks the mid-point in the 10th Malaysia Plan. Revenues have also generally exceeded budget projections, by an average of 8 percent, and may again exceed targets in 2013, but significant outperformance is not likely as commodity prices have been in line with budget assumptions and could decline further. The subsidy bill

⁸ This is due to several factors, some exogenous to the budget process (normal forecasting errors by ministries or macroeconomic shocks), but some structural. For example, some measures announced in the budget speech are not incorporated in the budget estimates submitted at the same time to Parliament; such measures are only incorporated later through a supplementary budget.

was also budgeted lower in 2013 compared to 2012—perhaps assuming subsidy rationalization would start in the second half of the year. However, it is now unlikely that subsidy reform can start in 2013.

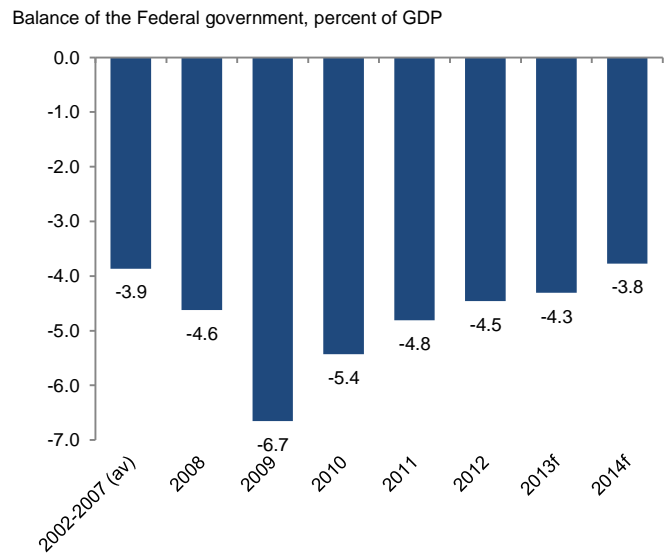
The fiscal bottom line remains relatively solid and meaningful consolidation is likely in 2014. Fiscal sustainability from a solvency point of view is not in question, at least in the near-term, due to the government's significant asset position. To put Malaysia's solvency picture in context, the government's book-value equity in PETRONAS, which is only part of its overall assets, corresponds to about 32 percent of GDP. From a liquidity point of view, there is also little question of Malaysia's ability to finance its deficit at reasonable rates in the near term, with large asset management funds (such as the Employee's Provident Fund) retaining ample liquidity. However, to ensure long-term sustainability, the deficit needs to continue on a declining path, and contingent and other non-debt liabilities need to be carefully managed.⁹ The Government is likely to make a significant effort to continue to deliver lower deficits, even in 2013, to signal its commitment to fiscal prudence. Nevertheless, the expectation is that more decisive measures are likely only in 2014. As a result, the deficit is expected to come in at 4.3 percent of 2013 GDP, above the Government's target of 4.0 percent of GDP but below the deficit for 2012 (4.5 percent; Figure 36). Assuming momentum for fiscal consolidation picks up in 2014, the deficit that year is projected to contract more meaningfully.

Figure 35. Personnel expenditures tend to exceed the budget by at least 10 percent



Source: MOF, World Bank staff calculations.
 Note: "Personnel" includes emoluments, pensions & gratuities; OE and DE refer to operating and development expenditures.

Figure 36. Despite higher expenditures, the federal balance is expected to improve



Source: MOF, World Bank Staff projections.

The debt-to-GDP ratio is projected to stabilize in 2013 and start to decline in 2014. As a result of a lower deficit and strong growth in 2013, the ratio of federal debt to GDP is expected to decrease slightly from 53.3 percent of GDP in 2012 to 53.1 percent of GDP in 2013. With more meaningful consolidation in 2014, debt levels decline further to 52.4 percent. Therefore, short of a new shock to the economy, federal debt levels are likely to remain below the Government's stated target of 55 percent of GDP. However, as pointed out in Figure 14, the level of guaranteed debt should be closely monitored as it has increased significantly in 2011 and 2012, and its trajectory is more difficult to anticipate compared to the direct debt. In addition, other contingent liabilities, such as prepaid leases and comfort letters, should be closely monitored.

In the near term, monetary authorities are likely to continue to focus on macro-prudential regulations rather than the interest rate. In its May policy statement, BNM noted the weakness in the global outlook but stated that it expects the domestic economy to sustain a steady growth. The Central Bank further noted that it expected inflation to rise during

⁹ Contingent liabilities include contingent commitments under PPPs and government guarantees, among others. Non-debt liabilities include unfunded pension liabilities and non-contingent commitments under PPPs such as capital leases.

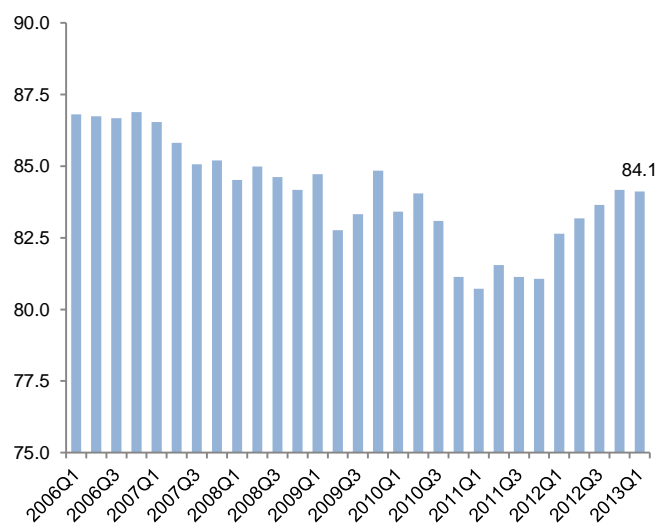
the year as domestic supply and cost factors contribute to higher prices, but that such increases would be modest. BNM views the risk of weather-related supply disruptions causing increases in commodity prices as a key upside risk to inflation, in line with the earlier discussion of the preponderance of supply factors in driving inflation. Combined with the ongoing commitment from central banks in advanced economies to keep interest rates at historically low levels at least into 2014 and many regional central banks easing rates following the soft patch in the first quarter, it is not likely that BNM will use policy interest rates as its main instrument to ensure macroeconomic balances in 2013. Rather, any need to adjust monetary policy would more likely be exercised through liquidity and macro-prudential measures as has been the case in 2011 and 2012. This general direction is only likely to change if domestic growth remains robust and the global recovery picks up sufficient pace to warrant expectations of higher global interest rates, a situation that is expected only in the second half of 2014 at the earliest.

Higher investment and sluggish exports will shrink the current account

Continued weakness in external demand and strength in investment-related imports will lead to a further narrowing of the current account surplus. The robust investment growth that is forecast for 2013-2014 implies an equally robust demand for capital goods imports. Equipment investment is estimated to have an import content of approximately 84 percent based on the average for the last four quarters (Figure 37). Investment in structures also has relatively high import content (both in terms of materials such as cement and copper wiring, but also services). The increase in imports in excess of export recovery is expected to narrow the trade balance further, which along with continued outflows from the income account would lead the current account surplus to narrow as a percentage of GDP from 11.0 percent in 2011 to 6.4 percent in 2012, 3.9 percent in 2013 and 3.3 percent in 2014 (Figure 38). The further narrowing of the current account surplus in 2013 compared to 2012 despite a slowdown in investment growth is related to the projections for lower commodity prices and export volumes, since as highlighted in Figure 20 the commodity balance is a key determinant of the current account.

Figure 37. The share of equipment investment that is imported has been rising in recent quarters

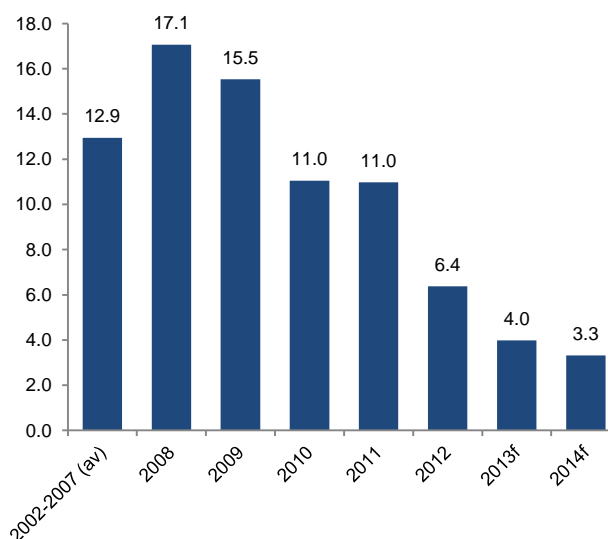
Capital goods imports as a share of investment in equipment and others, four quarter average, percent



Source: CEIC, World Bank Staff estimates.

Figure 38. The current account is expected to remain in surplus, albeit a narrowing one

Current account balance, as a percent of GDP



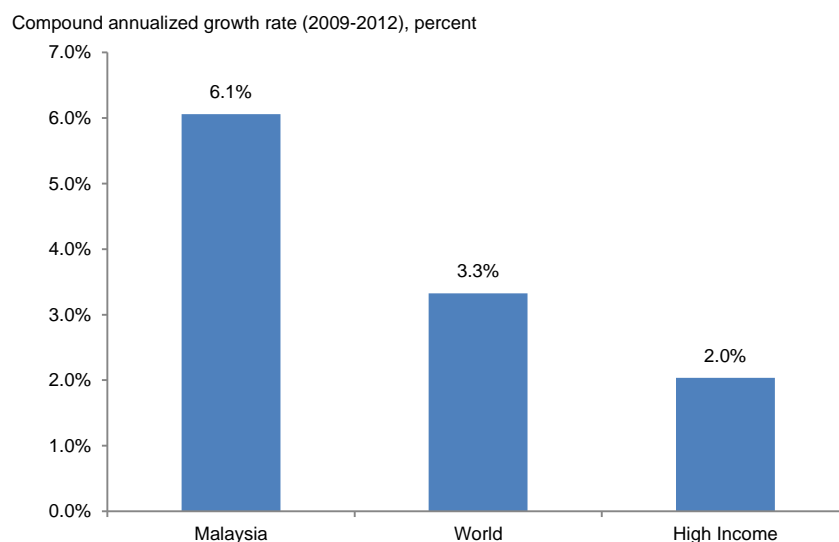
Source: DOS, World Bank staff projections.

2. SELECTED ISSUE NOTE

Shared prosperity in Malaysia—some evidence from the 2012 Household Income Survey

Between 2009 and 2012, Malaysia's economy expanded at an average rate of 6.1 percent per year in real terms—an impressive performance considering world economic growth was only 3.3 percent during this period, thanks to sluggish growth in high income economies (Figure 39). Gross National Income per capita in US dollars, targeted to reach USD 15,000 by 2020 under the Economic Transformation Programme, increased by an annualized rate of 9.0 percent during the period to USD 9,770. While this was partly due to the appreciation of the Malaysian Ringgit against the US dollar, the gains in local currency adjusted for inflation were still significant at 4.8 percent per year on average. But has this impressive performance translated into higher incomes for households or did it accrue primarily as profits to firms? Among households, were benefits concentrated on high-income households or across the income distribution? In other words, has growth in Malaysia over the past three years been inclusive?

Figure 39. Malaysia grew three times faster than high income economies in the past three years



Source: World Development Indicators, World Bank staff calculations.

To find out whether growth has been inclusive a more detailed look at the income and expenditures of Malaysian households is required. While looking at expenditures is the preferable measure of household welfare¹⁰, the last household expenditure survey was only conducted in 2009. However, the key results of a household income survey conducted in 2012 were recently released, and these suggest that growth was, indeed, inclusive over the past three years.

The 2012 Household Income Survey shows that Malaysia experienced increases in both mean household incomes and a small decline in inequality as measured by the Gini coefficient. Average household incomes recorded a CAGR increase of 7.2 percent between 2009 and 2012, from RM 4,025 to RM5,000, with the income gap between the top 20 percent, middle 40 percent, and bottom 40 percent of households narrowing (see Table 3). The urban-rural income gap however, widened from RM 2,160 in 2009 to RM 2,662 in 2012. Urban households recorded a 6.9 percent increase compared to rural households which experienced a 6.4 percent growth in incomes on average. In ratio terms, the urban-rural income gap widened from 1.8 in 2009 to 1.9 in 2012.

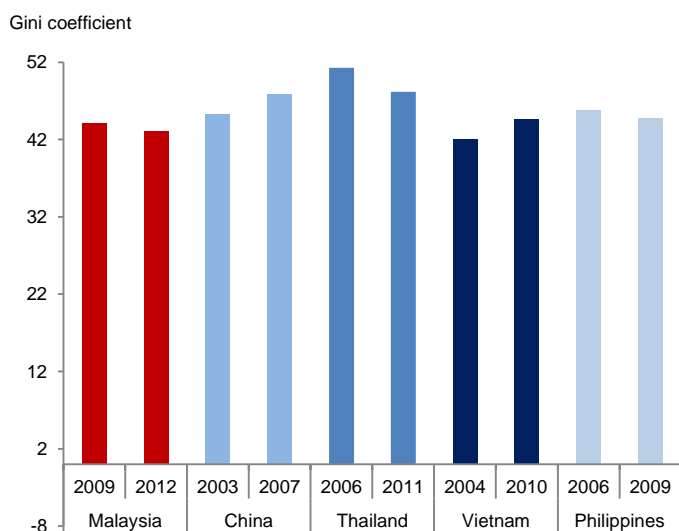
¹⁰ This is because income is more volatile than consumption; it is also harder to measure accurately since non-market activities that result in additional consumption are difficult to be captured.

With regards to income inequality, the Gini Coefficient improved overall, from 0.44 in 2009 to 0.43 in 2012. This was mostly on the back of a significant improvement in the rural Gini, which went from 0.41 to 0.38, making up for the flat urban Gini (0.42). This declining trend is in-line with other middle-income Asian countries. Malaysia's Gini coefficient for income inequality is the lowest compared to the Gini coefficients for China, Thailand, Vietnam and the Philippines (Figure 40), and is well below the OECD average (Figure 41). On the other hand, the income-based Gini coefficients for most OECD countries drop significantly once the effect of taxes and income transfers are taken into account, particularly in countries with strong redistributive tax systems and social safety nets such as Germany and Sweden (Figure 41). Unfortunately, calculations for Malaysia's Gini coefficient after imputing taxes and transfers are unavailable; therefore a similar comparison cannot be made for Malaysia.

Table 3. Income inequality declined

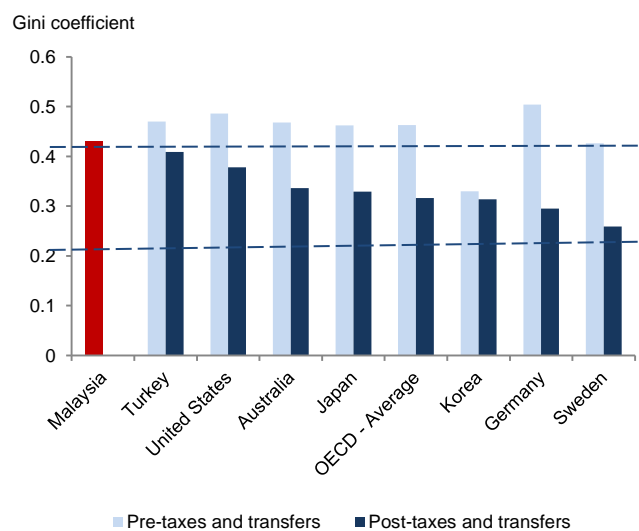
Income gap (ratio)	2009	2012
Top 20 percent/ Bottom 40 percent	6.94	6.58
Top 20 percent/ Mid 40 percent	2.75	2.66
Mid 40 percent/Bottom 40 percent	2.52	2.48

Figure 40. Inequality in Malaysia, Thailand and the Philippines declined, while it went up in China and Vietnam



Source: DOS Malaysia, World Bank staff calculations.
Note: Income-based Gini.

Figure 41. Inequality in Malaysia is lower than in OECD economies pre-tax and transfers



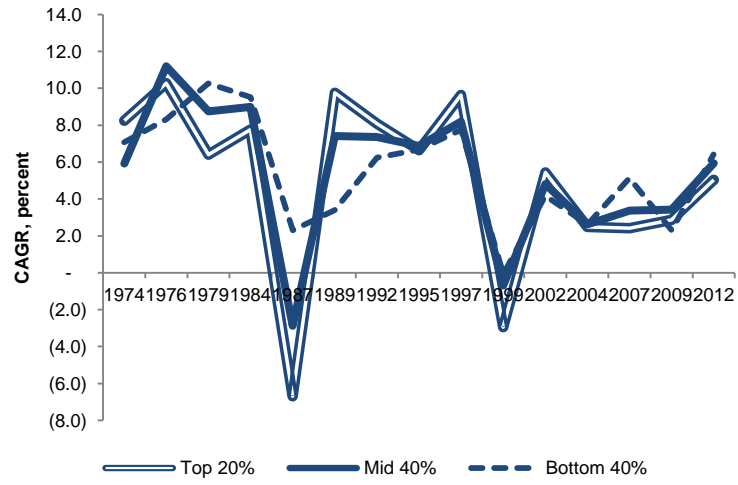
Source: DOS Malaysia, World Bank Staff projections.

The declining trend in Malaysia's inequality over the past three years can partly be attributed to the fact that the mean incomes of the bottom 40 percent of income earners have been accelerating at a more rapid rate (a CAGR of 6.4 percent) compared to the rates for the top 20 percent and middle 40 percent of income earners (5.0 and 5.9 percent respectively). Comparatively, the mean incomes for the bottom 40, middle 40, and top 20 percent of income earners grew at a CAGR of 2.3, 3.4, 2.9 percent between 2007 and 2009 (Figure 42). Although further analysis is needed to understand the drivers of this acceleration in income growth for the bottom 40 percent of households, there are two potential candidates: the steady rise in commodities prices over the past ten years, which has improved the incomes of plantation smallholders and boosted rural incomes, as well as continued fast urbanization, which helped increase average growth. In fact, it is likely that the average household income for 2009 may be slightly under-estimated given that (lower-income) rural households appear to have been over-sampled as it relied on projections based on the 2000 census¹¹. Following the 2010 census, sampling accuracy improved, giving more weight to urban households.

¹¹ According to the 2010 census, 73 percent of households in Malaysia are urban. However, the implied weights to arrive at average household income in 2009 suggest only a 68.5 percent weight to urban households.

Figure 42. Household income growth accelerated between 2009 and 2012

Compound annualized growth rate (2009-2012), percent



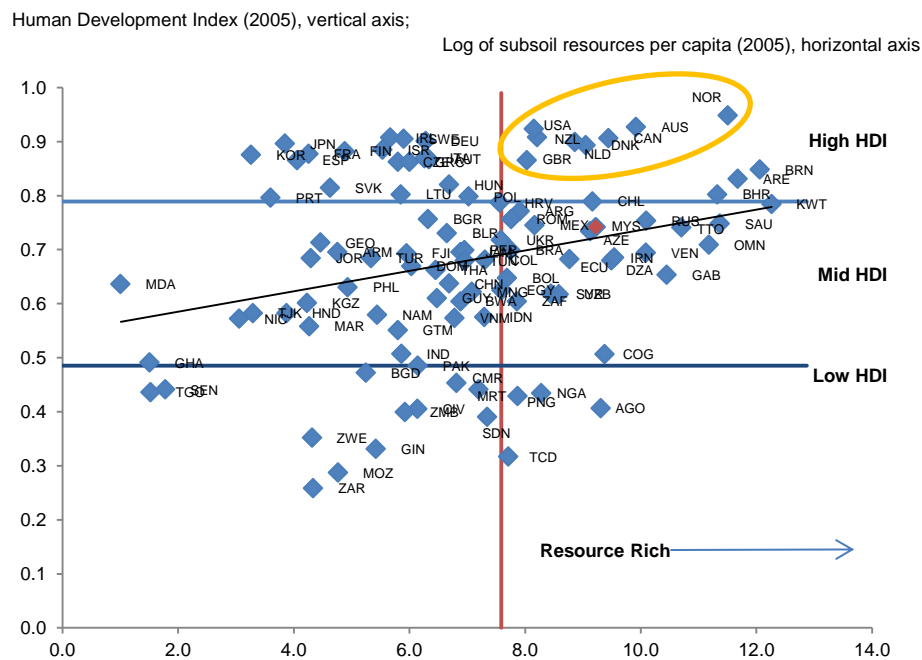
Source: World Development Indicators, World Bank staff calculations.

3. HARNESSING NATURAL RESOURCES

Malaysia is a success story of harnessing natural resources for development

Malaysia has been blessed with a wealth of natural resources. These include tin, timber, oil, gas, and fertile land. Natural resource wealth provides both opportunities and challenges to economic development. Exploration of natural resources generates income that can be used to build up health and education systems, infrastructure, and to fund general well-being in the country through redistribution of the resource rents. However, many countries have found themselves “cursed” by natural resources: natural resource wealth is correlated with lower rates of GDP growth, and despite large natural capital endowments, some countries still find themselves poor—or with a significant fraction of the population not benefiting from the resource bonanza. While the existence of a “natural resource curse” is far from established (see Box 2), it is clear that many countries with significant natural resource wealth have not translated resources into well-being for their populations. Figure 43 shows a positive, but very low correlation between natural resource wealth and the multi-dimensional Human Development Index.

Figure 43. Natural resource wealth seems to help, but does not guarantee development



Source: World Development Indicators, World Bank staff calculations.

Along with wealth, natural resource abundance also brings a number of inter-related challenges that need to be overcome to harness natural resources for shared prosperity:

- **inter-generational equity:** some natural resources are exhaustible and sustainable consumption across multiple generations requires a sound policy framework for natural resource revenue management.
- **volatility:** dependence on natural resources exposes the country to volatility of commodity prices and terms-of-trade shocks.
- **economic concentration:** without proper macroeconomic management, commodity booms can lead to reduced competitiveness of the non-resource tradable sectors via an appreciation of the real effective exchange rate and a related distortion of investments towards resource and non-tradable sectors; this effect exacerbates economic volatility.
- **social and environmental pressures:** subsoil commodities (metals, minerals, oil and gas) tend to create limited employment and their extraction and subsequent processing can have significant environmental impacts.

Agricultural and forestry commodities can also have a significant environmental impact and while these commodities generate more employment opportunities, wages tend to be low.

- **Institutions:** High dependence on commodities can have a negative impact on institutions (World Bank 2011). Commodities that involve significant rents create conditions for corruption and elite capture, especially when institutions are weak prior to resource development. Dependence of fiscal revenues on a narrow base reduces the overall tax effort and may dampen accountability in addition to increasing exposure to volatility.

Malaysia is one of a handful of developing countries that successfully overcame the challenges related to natural resource abundance:

- **inter-generational equity:** Malaysia as an economy re-invested natural resource rents into productive capital, ensuring that future generations will benefit from them.
- **economic concentration:** Malaysia's economy diversified both horizontally (from commodities to non-commodities) and vertically (from upstream or raw commodities to downstream, processed commodities). Diversification supported a positive feedback loop with policies aimed at maintaining a competitive real effective exchange rate.
- **volatility:** diversification of the economy helped minimize volatility from commodity price booms and busts.
- **social and environmental pressures:** social policies, especially those targeted directly at agricultural sectors, helped ensure growth was inclusive, while environmental policies have been gradually modernized to achieve greater sustainability—for example through improved forest management.
- **institutions.** PETRONAS played the role of a quasi-resource fund for the nation very effectively, building a solid reputation for good governance. Meanwhile, until the early 2000s the budget had been gradually reducing its dependence on oil revenues.

But the recent commodity boom has brought new challenges:

- Higher levels of resource rents have been transferred to the budget and used on the margin to finance consumption in the form of fuel price subsidies and lower tax effort elsewhere in the economy.
- The economy has become less diversified, with high-tech manufacturing declining as a share of exports and commodities taking their place. To the extent that a growing amount of rents has been used for investment since 2011, investments have focused on commodity sectors and horizontal diversification has been limited.
- As a result, economic performance has become increasingly tied to commodity prices, and the surplus in the balance of payments is currently supported primarily by LNG and palm oil exports.
- Increased volatility in weather patterns, likely associated with climate change, has important implications for agricultural commodities, while fuel subsidies, partly financed out of resource revenues, have led to higher carbon emissions and energy intensity in the Malaysian economy.

To reach its goal of becoming a high-income nation, Malaysia will need to ensure natural resources continue to be managed sustainably and smartly into the future. This may require some policy adjustments. First, diversifying the economy towards higher value-added tasks in manufacturing and services requires renewed emphasis on the structural reform agenda, as well as enhancements to public investment management. These will create the necessary conditions for stepping up productive investments in non-commodity sectors. In addition, to ensure sustainable consumption of natural resource rents, Malaysia can consider (i) increasing the role of KWAN (Kumpulan Wang Amanah Negara), Malaysia's formal oil wealth fund, to provide greater predictability and discipline to transfers of oil revenues to the budget, (ii) reforming its fuel subsidies and (iii) reviewing gas pricing. Finally, additional policies will be needed to ensure Malaysia can adapt its agricultural commodity production to climate change.

The New Economic Model (NEM) and the 10th Malaysia Plan recognize the importance of sound management of Malaysia's natural resources to achieve inclusive and sustainable economic growth. The NEM notes with concern that Malaysia "can no longer rely on our wealth from natural resources to mask our economy's weaknesses and our inability to generate sustained economic growth. (p. 109)" The document highlights the importance of applying appropriate pricing, regulatory and strategic policies to manage non-renewable resources efficiently. The 10th Malaysia Plan also notes that "The challenge is to move from an economy that competes on cost and natural resources, to an economy that is driven by productivity [and] innovation..." Both documents also stress the need to ensure environmental sustainability of economic progress through adequate natural resource management.

This chapter is organized as follows: the first part establishes the stylized facts about Malaysia's long-term performance in managing natural resource wealth. It confirms that Malaysia has diversified its economy, reinvested natural resource rents, and maximized social benefits from resources. **The second part investigates the sources of Malaysia's success.** It makes the case that proactive (but often sector-blind) policies with respect to industrialization, management of oil wealth, and social inclusion played a key role. **The third part establishes some stylized facts about Malaysia's more recent performance** under the recent commodity boom. Although by and large natural resource management remains sound, some trends away from diversification and reinvestment of resources appear to be emerging. **The fourth part provides the outlook for commodities** and considers the implications of a continuation of the recent trends established in part three. **The final part discusses possible policy adjustments** to ensure Malaysia remains "resource blessed" well into the future.

Box 2. Is there a natural resource curse?

Adam Smith argued that "Projects of mining, instead of replacing the capital employed in them, together with the ordinary profits of stock, commonly absorb both capital and stock. They are the projects, therefore, to which of all others a prudent law-giver, who desired to increase the capital of his nation, would least choose to give any extraordinary encouragement..." In the 1950s, analysts expressed similar concerns in strikingly parallel forms. Prebisch (1959), observing slowing Latin American growth, argued that natural resource industries had fewer possibilities for technological progress and, further, were condemned to decreasing relative prices on their exports. Moreover, these qualities imply that real exchange-rate appreciations driven by natural resource booms—the so-called "Dutch Disease"—in developing countries could have negative effects on long-term development by reducing the relative size of manufacturing exports and production (see Gylfason, et. al. 1999; Sachs and Warner 2001).

In a different vein, another important body of literature suggests that natural riches produce institutional weaknesses (...). Tornell and Lane (1999) described the phenomenon where various social groups attempt to capture the economic rents derived from the exploitation of natural resources as the "voracity effect." Subsequent refinements have focused on how "point-source" natural resources—those extracted from a narrow geographic or economic base, such as oil or minerals—and plantation crops have more detrimental effects than resources—such as livestock or agricultural produce from small family farms—that are more diffuse (Murshed 2004; Isham et al. 2005).

Most influentially (...) Sachs and Warner (1995, 2001) have argued empirically that since the 1960s the resource-rich developing countries have grown more slowly than other developing countries. Consequently, we find ourselves in a time when the conventional wisdom again postulates that natural resources are a curse for development, contradicting the common-sense view that natural riches are riches, nonetheless.

[But] is there actually empirical evidence for a "resource curse"? Lederman and Maloney (2007a) examine the empirical relationship between various structural aspects of international trade, ranging from natural resource abundance to export diversification, and subsequent economic growth. The central finding is that, regardless of econometric technique (...), several plausible indicators of the incidence of natural resource exports seem to have a positive rather than a negative effect on subsequent economic growth. Though several postulated channels of negative impact—depressing effects on capital accumulation, terms of trade, and macroeconomic volatility—often do appear important, overall, natural resources are good for growth.

The statistical evidence and studies suggest that rather than the presence or absence of natural resources, the key drivers of growth are high levels of human capital, internationalization of both markets and sources of technological progress, and flexibility in adjusting to shifts in demand or technology. Case studies also support this conclusion. Nokia for example evolved from a resource-based to an electronics-based firm, and firms in Sweden, Canada, Australia and the US followed similar paths.

Source: Extracted from Lederman and Maloney (2007b)

Malaysia's historical performance

The approach taken to managing natural resource wealth defines the overall approach to economic management, and Malaysia's impressive economic performance is therefore closely tied to its sound management of natural resource revenues. There are three main reasons for this. First, growth was driven by factor accumulation (physical, human and institutional capital) that was made possible in part by policies aimed at converting natural wealth into produced capital. In addition, Malaysia's declining REER in the 1980s and 1990s was underpinned by a pattern where commodity flows were transformed into higher capacity (physical capital), greater competitiveness (intangible capital) in the economy, or saved abroad as foreign assets, thus offsetting price pressures. Second, investment growth and a stable real exchange rate supported economic diversification, which not only protected the economy from volatility, but built the assets for the development of sectors with greater potential for innovation and productivity growth. Malaysia diversified horizontally into high-tech manufacturing and, to a lesser extent, modern services, as well as vertically into processed commodities; these industries involve the performance of more complex tasks compared to raw commodity production. Finally, Malaysia was able to translate economic growth at the macro level into household income growth, including, as will be discussed later, in close coordination with policies to develop commodity sectors.

Natural resource rents were invested in productive capital, not consumed

National wealth accounting

Critical to sound natural resource management is to focus on national wealth rather than national income, and to take a holistic view of wealth to include all of the nation's assets. The wealth of a nation consists of net foreign assets (including financial assets), produced capital (structures and equipment both public and private), intangible capital (institutions and human capital), and natural capital (land, subsoil assets, and the present value of environmental services provided by ecosystems).¹² Total national wealth is measured as the present value of future sustainable consumption. The gap between total wealth and the sum of produced capital, natural capital and net foreign assets owing to the necessarily incomplete measurement of assets is labeled the intangible capital residual. Intangible capital is comprised of human capital and a residual that is the "stock equivalent" of total factor productivity—the value of assets such as institutional quality and social capital that augment the capacity of produced, natural and human capital to support a stream of consumption into the future (Hamilton and Liu 2013).

The national wealth framework also helps internalize the impact of development on the environment. Although the focus of this *Economic Monitor* is on managing revenues from subsoil assets and land, the national wealth accounting framework also recognizes the value of services provided by ecosystems. While difficult, measuring the contribution of ecosystem services can be helpful in assessing trade-offs when implementing an environmentally sustainable development strategy. Box 3 discusses the World Bank's Wealth Accounting and the Valuation of Ecosystem Services (WAVES) initiative to improve the measurement of natural capital.

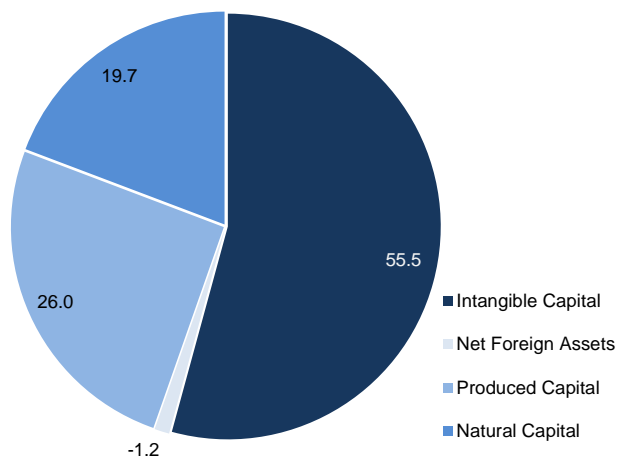
Natural capital, mostly oil and gas wealth, currently comprises about 20 percent of Malaysia's national wealth.

Intangible capital comprises 56 percent of total capital, followed by produced capital (26 percent) and natural capital (see Figure 44). Subsoil assets (oil and gas) correspond to 79 percent of natural assets, with the remainder from forestry, including the value of protected forests in East Malaysia (13 percent) and agriculture (8 percent; see Figure 45). This structure is similar to those of other middle income countries where the shares of natural capital and produced capital are roughly equal; in high income countries, intangible wealth dominates, which is reflective of their knowledge- and skill-driven economic structure. While estimates of Malaysia's national wealth for the 1970s is not available, historical series on education attainments and the nation's capital stocks confirm that the underlying assets of Malaysia's economy have been diversified during the past 40 years, resulting in a more significant contribution from intangible capital in 2005.

¹² When aggregated across the whole economy, *domestic* financial asset holdings of domestic debtors and creditors cancel each other out; hence only net *foreign* financial assets are included in national wealth along with non-financial assets.

Figure 44. Just under 20 percent of Malaysia's national wealth is comprised of natural capital...

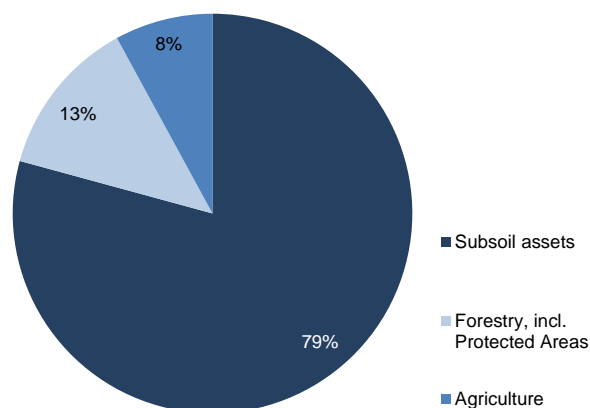
Composition of Malaysia's national wealth, 2005



Source: World Bank (2011a)

Figure 45. ... most of which are subsoil assets (oil, gas and minerals)

Composition of Malaysia's natural wealth, 2005



Source: World Bank (2011a)

Box 3. Wealth Accounting and the Valuation of Ecosystem Services (WAVES) initiative

Natural capital includes, first of all, the resources that we easily recognize and measure such as minerals and energy, forest timber, agricultural land, fisheries and water. It also includes ecosystems producing services that are often 'invisible' to most people such as air and water filtration, flood protection, carbon storage, pollination for crops, and habitat for fisheries and wildlife. These values are not readily captured in markets, so we don't really know how much they contribute to the economy and livelihoods. We often take these services for granted and don't know what it would cost if we lose them.

The Wealth Accounting and the Valuation of Ecosystem Services (WAVES) is a global partnership that aims to promote sustainable development by ensuring that the national accounts used to measure and plan for economic growth include the value of all natural resources including ecosystem services.

This global partnership brings together a broad coalition of UN agencies, governments, international institutes, nongovernment organizations and academics to implement environmental accounting where there are internationally agreed standards, and develop standard approaches for other ecosystem service accounts.

By working with central banks and ministries of finance and planning across the world to integrate natural resources into development planning through environmental accounting, the initiative hopes to enable more informed decision making that can ensure genuine green growth and long-term advances in wealth and human well-being.

Natural capital accounting can provide detailed statistics for better management of the economy. For example land and water accounts can help countries interested in increasing hydro-power capacity to assess the value of competing land uses and the optimal way to meet this goal. Ecosystem accounts can help biodiversity-rich countries design a management strategy that balances tradeoffs among ecotourism, agriculture, subsistence livelihoods, and ecosystem services like flood protection and groundwater recharge.

For a concrete example, consider the services provided by mangroves in coastal wetlands. These include provisioning (timber, fuel wood and charcoal), regulating (flood, storm and erosion control and the prevention of saltwater intrusion), habitat (breeding, spawning and nursery habitats for commercial fish species and biodiversity), and cultural services (recreation, aesthetic, non-use). The average economic value of these activities in Southeast Asia has been estimated at USD 4,185 per hectare per year as of per year as of 2007 (De Groot et. al. 2012 as cited in World Bank 2012b). Since Malaysia has an estimated 505,000 ha of mangrove forests (Giri et al. 2011), the value of

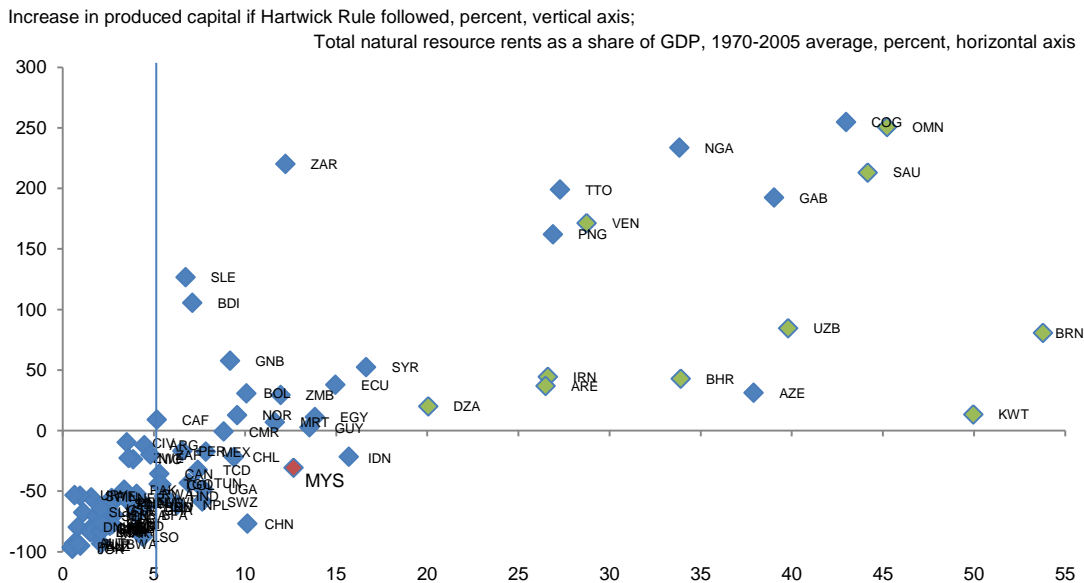
ecosystem services provided by just this one ecosystem would be valued at USD 2.1 billion per year (nearly 1 percent of 2007 GDP).

Source: WAVES, World Bank 2013c

The Hartwick rule

A 'golden rule' for the sustainability in the growth of national income and consumption in the presence of exhaustible natural capital is to reinvest resource rents into other forms of capital. Given that subsoil resources deplete over time, the national wealth framework suggests that income derived from subsoil capital be managed differently from returns on other assets to ensure the sustainability of the growth in national income and consumption. In his seminal 1978 paper, Hartwick offered a "rule of thumb" for sustainability: an optimal constant level of consumption can be sustained if the value of (net) investment equals the value of rents on extracted resources at each point in time (Hartwick 1978). To make an analogy with a firm, using natural resource revenues to finance consumption is akin to a firm financing dividend payouts by liquidating its assets: both increase present income at the expense of future income. Instead, governments need to convert income from the sale of one type of asset (the depletion of natural capital) into other forms of capital (assets) that are capable of generating as much income as the natural capital that is being replaced. "Dividends" (consumption) should therefore be paid out of *asset returns* to ensure they are available to future generations.

Figure 46. Resource abundance and capital accumulation (standard Hartwick rule) of countries



Source: World Development Indicators, World Bank staff calculations.

An empirical analysis suggests very few resource-rich countries followed the Hartwick Rule. The World Bank (2011) used a 25-year time series of resource rent data to estimate how much produced capital would resource-abundant countries have in the year 2005 if they had actually followed the Hartwick Rule over the last 35 years.¹³ In other words, they "constructed a 'Hartwick Rule counterfactual' to determine how wealthy, in terms of accumulated produced assets, would countries be in the year 2000 if they had invested resource rents as suggested by the Hartwick Rule since 1970" (Hamilton et al. 2006). The result of this work shows that no country with resource rents higher than 15 percent of GDP has followed the Hartwick rule (see Figure 46). In many cases the differences are very large,

¹³ Investments in human capital are not included given the lack of an accepted production function converting education spending into human capital. Hamilton et al. (2006) justify this choice by arguing that educational expenditures have not been significant compared to physical capital investment. Net foreign assets are included.

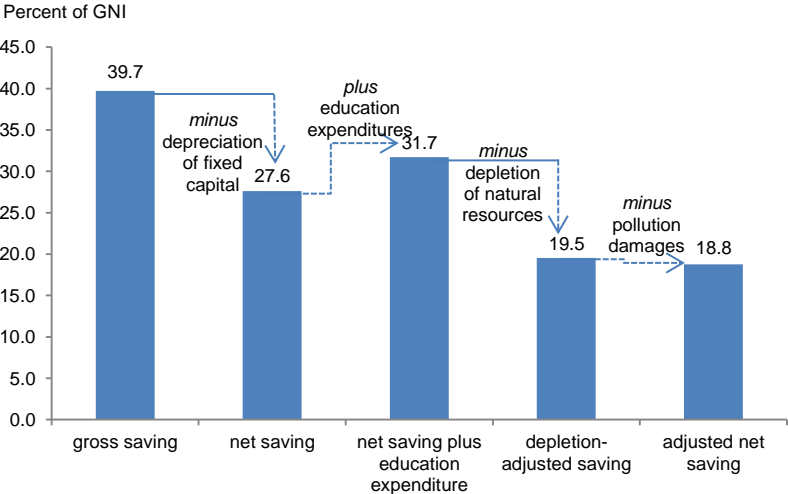
highlighting how management of natural resource wealth can have a significant impact on growth. Nigeria, a major oil exporter, could have had a stock of produced capital four times higher than the actual stock. In per capita terms, the economies of Venezuela and Gabon, both rich in petroleum, could today have a stock of produced capital of USD45,000 and USD68,000 per person, respectively, compared to USD58,000 in oil-poor South Korea.

Malaysia however did follow the Hartwick Rule, investing even more than 100 percent of its natural resource rents in produced capital.¹⁴ While consumption, rather than investment of resources rents is common in resource-rich countries, there are notable exceptions to the trend. In the bottom right quadrant of Figure 46 are high resource dependence countries that have invested more than the level of exhaustible resource rents, creating high capital accumulation. Indonesia, China, and Malaysia stand out in this group, suggesting that the diversification noted in the previous section was effectively financed by resource revenue at the macro level. In other words, as an economy, Malaysia used natural resource rents for investment in productive capital rather than consumption.

Where to invest?

The national wealth accounting framework also suggests a different approach to thinking of national savings. *Adjusted net saving* is an attempt to provide a more accurate picture of savings within an economy. This measure takes human capital expenditures as investments (not consumption), but includes the depletion of natural resources and environmental damage as a result of pollution (both types of flows that reduce national wealth) as part of consumption (see Figure 47).

Figure 47. Calculating adjusted net savings for Malaysia (2008)



Source: World Development Indicators, World Bank staff calculations.

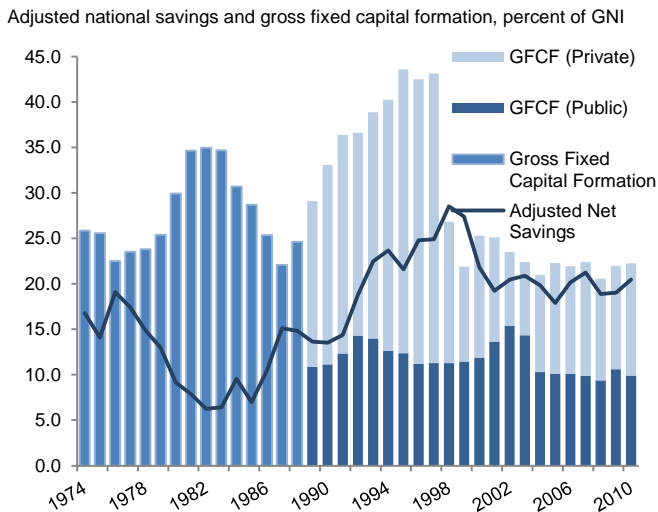
A key decision that a country with high net savings like Malaysia needs to make is whether to invest in domestic produced capital or foreign assets. Return rates of investments in emerging economies are typically high, as are investments in human and institutional capital. This suggests that potentially higher returns can be achieved by investing resource rents domestically rather than in financial assets overseas. In addition, a resource windfall may also reduce the interest rate that an economy faces in international capital markets, reducing the relative incentives for saving to invest in (foreign) financial assets (Venables 2010). On the other hand, the economy's absorptive capacity for new investments is fixed in the near term. This depends on institutions for public investment management, which limits the amount of public investment that can be productively implemented, as well as the overall institutional and business environment that constrains the demand of funds for productive private investments. Finally, the production function of human and institutional capital remains elusive, implying that simply increasing expenditures may not yield the desired build-up in related assets.

¹⁴ Rents with reference to natural resource are revenues from production less costs of extraction.

Successfully investing rents domestically requires significant absorptive capacity. When resource flows to the domestic economy exceed its institutionally-determined absorptive capacity, flows tend to spill over towards consumption or unproductive investments (such as those that characterize asset bubbles). Not only is this situation unsustainable in the long term, as discussed earlier, but it can also create a vicious cycle of under-investment through the “Dutch Disease.” The Dutch Disease is a phenomenon whereby the economy overheats (i.e. operates above capacity) due to commodity-fueled consumption and unproductive investments, leading to a combination of inflation and appreciation of the nominal exchange rate (the exchange must appreciate to allow for higher consumption without inflation or higher potential growth). In either case the resource flows lead to an appreciation of the real effective exchange rate, which reduce the competitiveness of non-resource tradable sectors, further dampening incentives for investment in those sectors and making diversification more difficult.

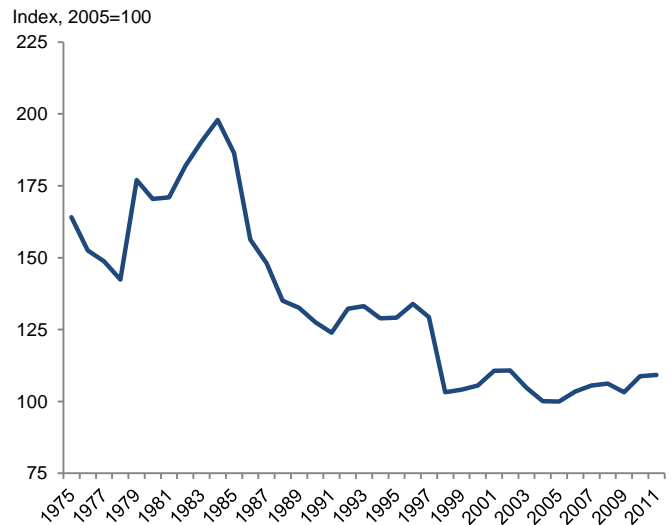
Malaysia invested domestically during the 1980s, but shifted to external investments following the 1997-1998 financial crisis. As Figure 48 indicates, during the 1980s and early 1990s, much of Malaysia's growing (adjusted) net savings were used to finance domestic investments, both public and private. In fact, Malaysia was running a current account deficit for most of this period, reflecting the relatively lower interest rates globally compared to the perceived opportunities domestically. Clearly much of the investment was productive, increasing the economy's capacity and boosting its competitiveness, as suggested by the long-term decline in Malaysia's real effective exchange rate (REER; see Figure 49) during the period. But even in Malaysia's successful case, the Asian Financial Crisis in 1997-1998 and subsequent slump in private investments suggest that investment rates may have been too high prior to the crisis. Following the crisis, the savings rate declined and remained stable at a fairly high level, but Malaysia switched to investing its savings externally, as evidenced by a large current account surplus for most of the 2000s.

Figure 48. Rising natural savings were used for investments, both public and private



Source: World Development Indicators, CEIC

Figure 49. The real effective exchange rate was declining for most of the 1980s



Source: World Development Indicators

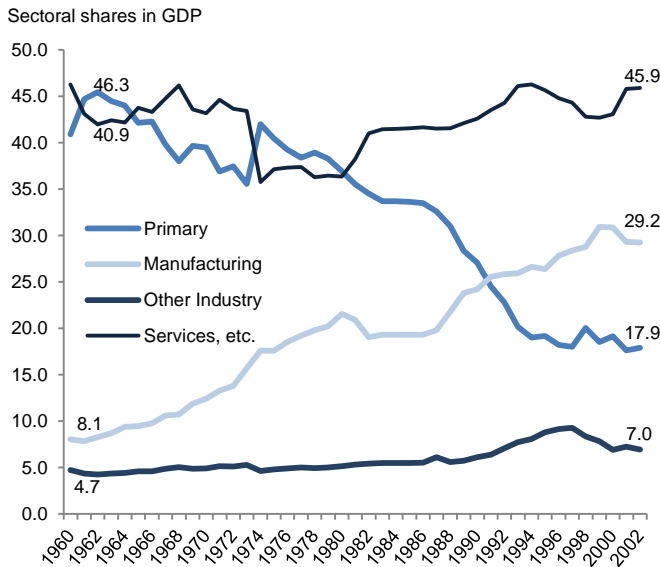
The economy diversified horizontally and vertically

At the time when Malaysia gained its independence in 1957, the economic activity was dominated by primary (unprocessed) commodities. In the early 1960s, the primary sector accounted for nearly half of GDP, compared to less than 10 percent for the manufacturing sector (Figure 50). In particular, the economy was dependent on natural rubber, tin ore and timber (Table 4). At the time, Malaysia was the world's largest producer of natural rubber and tin ore. The country's export basket reflected this economic structure, with agricultural raw materials (including rubber and timber) and ores and metals (primarily tin) comprising 80 percent of exports in 1964 (Figure 51 and Table 4).

Less than forty years later, Malaysia had dramatically diversified both its economy as well as its export basket away from primary commodity sectors. The primary sector shrank by more than half, to just 18 percent of GDP, while primary exports plummeted to about 20 percent of exports in 2002. Exports of raw ores and metals became insignificant, while raw rubber exports also declined drastically following a decline in prices. The primary commodity

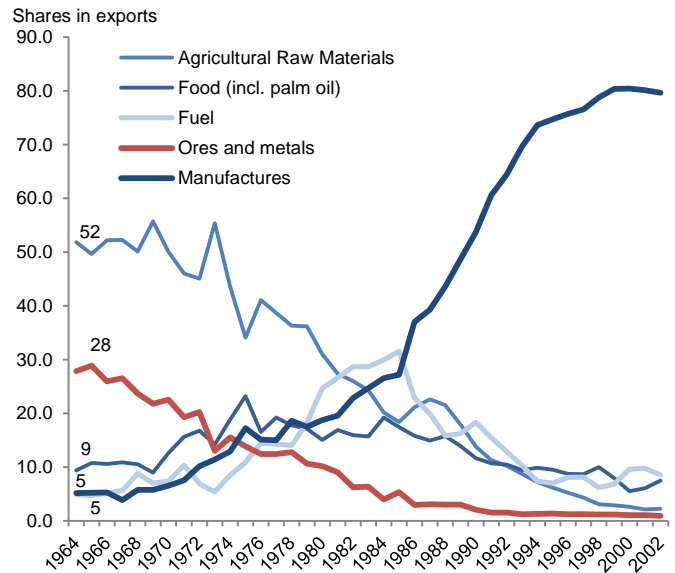
space became dominated by fuels (oil and gas) and palm oil, though combined both commodities accounted for only about 13 percent of exports by 2002. Meanwhile, the share of the manufacturing sector in the economy climbed steadily from 8 to 29 percent, while exports of manufactures surged especially since the mid-1980s. During the period of 1985-1995, the share of manufacturing exports in total exports expanded from 27 percent to 78 percent, climbing further to 83 percent by 2002 (Figure 51).

Figure 50. Malaysia's economy diversified horizontally from commodities to manufacturing...



Source: World Development Indicators.

Figure 51 ...as did exports



Source: World Development Indicators.

Table 4. Malaysia: Key Facts on Commodity Reserves, Production and Exports

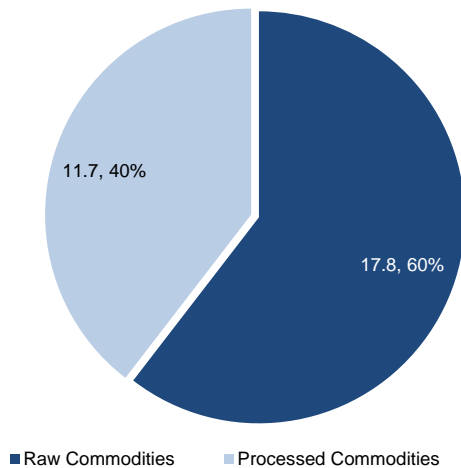
			1965	1970	1975	1980	1985	1990	1995	2000	2005	2011
Proven Reserves	Oil	% of global reserves	...	...	...	0.26	0.44	0.35	0.49	0.36	0.39	0.35
	Gas	% of global reserves	...	...	...	1.05	1.57	1.31	1.65	1.52	1.44	1.17
	Oil	Years	...	...	...	18	22	16	20	18	20	28
	Gas	Years	...	...	...	...	...	92	79	52	41	39
Production	Rubber	Ton th	...	1,269	1,459	1,530	1,471	1,291	1,087	926	1,126	996
	Timber	Cub m	...	17,794	19,163	17,916	30,957	40,102	31,842	23,074	22,399	16,000
	Palm Oil, Palm Kernel	Ton th	...	523	1,599	3,631	6,492	9,805	12,536	17,029	22,864	28,150
	Oil	Barrels m	0.4	6.6	35.8	100.7	162.4	227.0	257.0	248.6	256.8	209.1
	Gas	Cub m	...	...	...	...	10.3	17.8	28.9	45.3	61.1	61.8
Exports	Tin Concentrates	Tonne	...	73,795	64,364	61,404	36,884	28,468	6,403	6,307	2,857	3,344
	Fuel	% of GDP	1.8	2.9	4.2	12.8	15.2	12.2	5.8	10.1	13.2	14.1
	Food and Agricultural Raw Materials	% of GDP	23.4	24.7	22.3	23.9	17.3	17.0	13.1	8.5	9.2	13.6
	Palm Oil	% of GDP	1.1	2.0	5.6	4.8	5.0	3.7	4.7	2.8	3.5	6.8
	Rubber	% of GDP	15.0	13.2	8.5	8.5	3.6	2.5	1.8	0.7	1.1	1.5
	Ores and Metals	% of GDP	11.2	8.9	5.4	5.3	2.6	1.4	1.1	1.1	1.1	2.0
	Tin Ore	% of GDP	8.9	7.7	5.1	4.6	2.1	0.8	0.2	0.1	0.2	0.4
	Manufactures	% of GDP	2.0	2.6	6.7	9.7	13.1	36.0	62.2	84.2	73.3	49.3
Memo: All Exports	% of GDP	38.8	39.4	38.9	51.9	48.2	66.9	83.2	104.7	98.1	79.2	

Source: CEIC, World Development Indicators, BP Statistical Review of World Energy (2012), World Bank staff calculations.

Significant (vertical) diversification within the commodity space has also taken place. All four of Malaysia's main commodities (crude oil, natural gas, natural rubber and palm oil) have in time been used as the building block to create downstream industries. By the early 2000s, value-added in commodity-based manufacturing accounted for 12 percent of GDP, compared to 18 percent for raw commodities (Figure 52). In terms of export value, about half of all commodity-related exports were processed (Figure 53). Vertical diversification was particularly successful in the rubber and oil & gas sectors. In the case of rubber, gloves (70 percent of rubber products) accounted for over half of the exports of raw and processed rubber. In the case of petroleum, exports of refined products have increased as a share of oil-related exports, from 14 percent to around 35 percent in the early 2000s (Figure 54). In the case of palm oil, as of 2012 less than 25 percent of production and about 19 percent of exports are downstream (Figure 55), with the remainder concentrated in unprocessed or minimally-processed crude palm oil.

Figure 52. The share of processed commodities in GDP almost equaled that of raw commodities by 2002

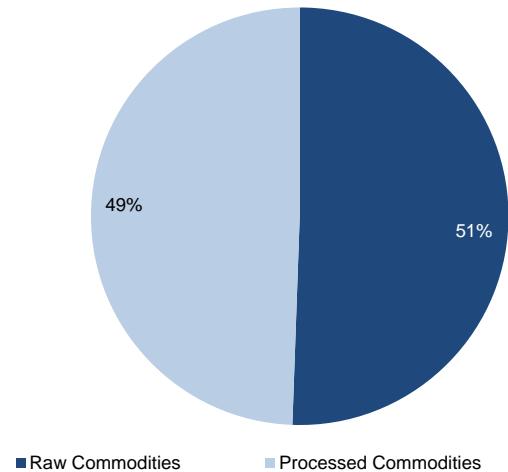
Sectoral shares in GDP, percentage points



Source: CEIC and World Bank staff calculations.
 Note: Processed commodities include food, beverages and tobacco; petroleum products.

Figure 53. Half of the value of commodity-related exports came from processed commodities

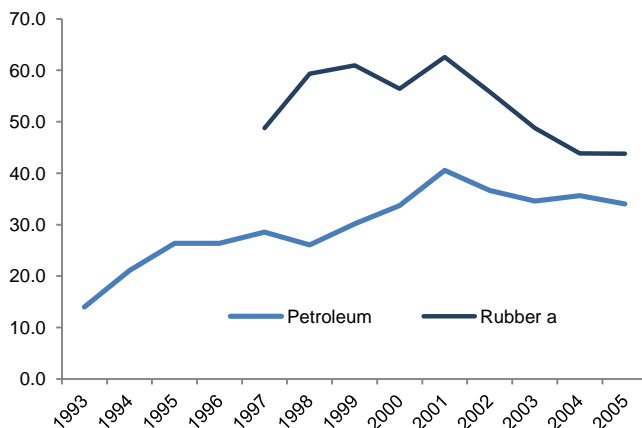
Shares in commodity-related exports



Source: CEIC and World Bank staff calculations
 Note: Processed commodities include rubber gloves and other rubber products; petroleum products, fertilizers and plastics; and minerals and metals manufactures.

Figure 54. More than half of the export value of raw and processed rubber corresponds to rubber gloves...

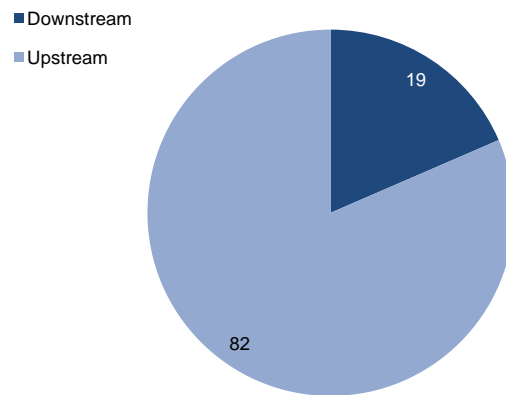
Shares of processed exports in total exports of petroleum and rubber products, percent



Source: CEIC and World Bank staff calculations.
 Note: a. Rubber gloves only.

Figure 55. ... whereas for palm oil, only 19 percent of exports are processed products

Shares of processed exports in total exports of palm oil (2012), percent



Source: CEIC and World Bank staff calculations
 Note: "Downstream" includes DOS classification "Fixed Vegetable Oils & Fats: Crude or Refined." "Upstream" includes DOS classification "Animal or Vegetable Oils & Fats: Processed".

Diversification of economic activity in Malaysia reflected a diversification in the underlying assets of the economy. The national wealth framework suggests that to reach the objective of diversification of economic output it is necessary to diversify the portfolio of assets in the economy. In other words, to diversify economic activity towards manufacturing and services, Malaysia had to build the assets that supported these activities, namely infrastructure, machinery, human capital and institutions.

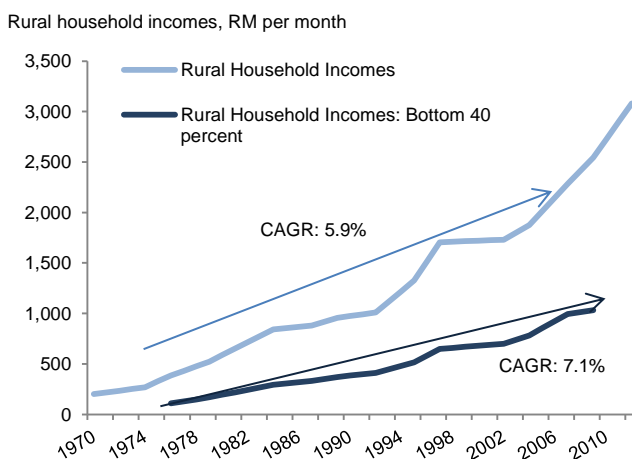
The benefits from growth were widely shared

High growth was translated into higher earnings for low-income households, notably those dependent on agriculture.

While the previous discussion explains how Malaysia transformed natural resource wealth into robust economic growth at the macroeconomic level, this does not guarantee that growth will be shared across the income spectrum. However, in Malaysia's case, not only was there elevated growth in GNI per capita, incomes of the bottom 40 percent of households also expanded significantly, especially those of poorer rural households that were mostly involved in commodity production. The income share of the bottom 40 percent of rural households increased from 11.3 percent in 1976 to 16.1 percent in 2002, reflecting the fact that income growth was faster for this group compared to the overall population (Figure 56). As a result, poverty among rural households declined from 45.7 percent in 1976 to 13.5 percent in 2002. These figures suggest that rural incomes were increasing even as commodity prices moderated and the economy was diversifying away from rural-based activities.

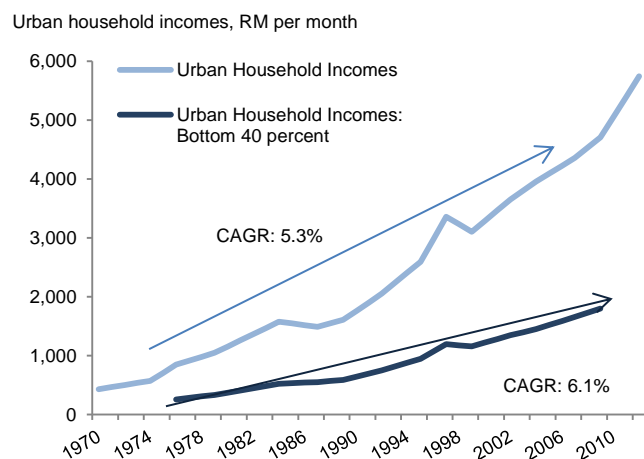
Urban households also benefited, as expanded economic activity increased incomes in urban areas as well. Urban poverty was already low by the late 1970s (1976: 15.4 percent), but declined further to 2.3 percent in 2002 even as Malaysia experienced urbanization in a faster scale than many of its regional peers due to industrialization. Income of the bottom 40 percent of urban households expanded by an average of 6.1 percent per year, faster than the average rate for all urban households (5.3 percent), and resulting in an increase in the share of income by the bottom urban households as well. These improvements were accompanied by significant improvements in infrastructure and the provision of public services in health and education. These, in addition to low inflation during the period, imply that household expenditure growth, which is a better measure of well-being, expanded faster than incomes.

Figure 56. Rural incomes have increased steadily over the past two decades



Source: CEIC, Department of Statistics, Malaysia, World Bank staff calculations

Figure 57. Urban incomes increased more slowly than rural incomes, but still at a vigorous pace



Source: CEIC, Department of Statistics, Malaysia, World Bank staff calculations

How did Malaysia do it?

The previous section established Malaysia as a successful example of a country that managed to use its natural resource wealth as a blessing, supporting economic growth. This section reviews the policies that Malaysia adopted that allowed it to benefit from natural resource wealth. It considers the policies that facilitated horizontal and vertical diversification, the role of PETRONAS, and social policies that ensured growth was inclusive.

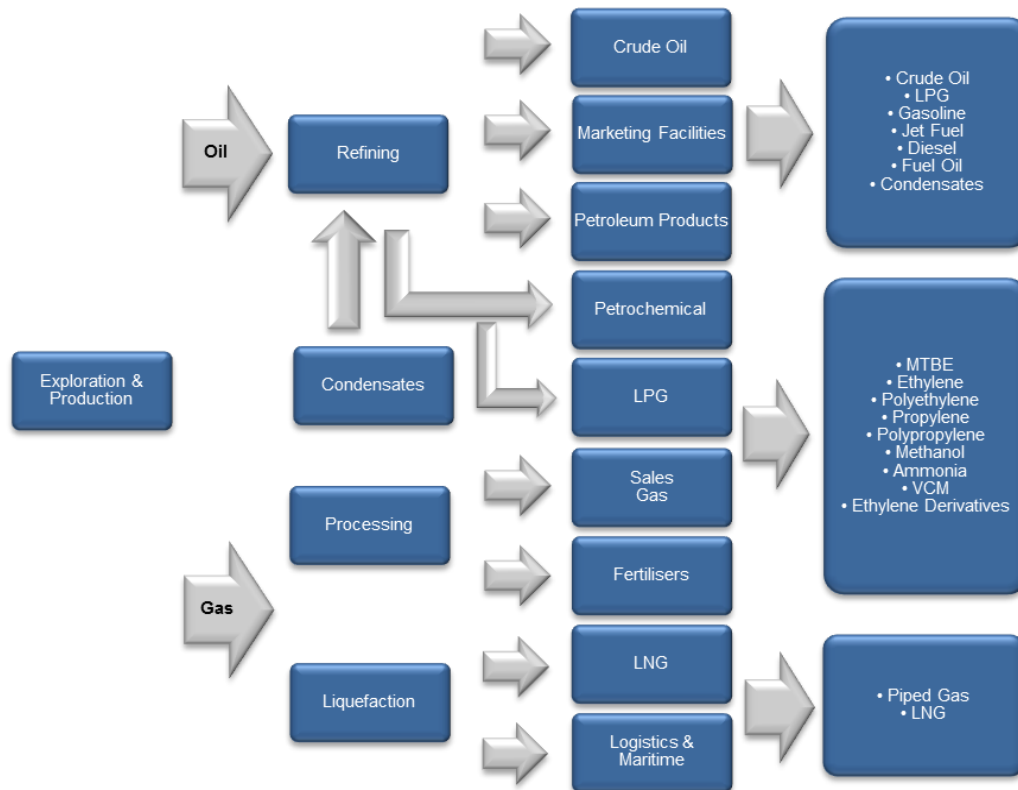
A package of ‘activist’ and neutral policies supported diversification

The government played a key role in supporting diversification of the economy through both sector-specific and economy-wide (“sector-blind”) policies. Three sets of policies can be identified that supported the transformation of Malaysia’s industrial structure away from commodities. First, many reforms and policies packaged with active industrial policies—openness to investments, stable REER, openness to foreign labor—had economy-wide benefits by improving the business environment and supporting investment in non-commodity tradable sectors broadly. Second, public investments in expanding education and building infrastructure, which were partly financed by natural resource revenues and also part of industrialization policies, diversified the underlying assets of the economy and facilitated horizontal diversification of activities. Finally, activist industrial policies included significant tax incentives and in some cases tariff protection, and played a role in the increase in investments both foreign and domestic in manufacturing industries.

Vertical diversification: government’s direct involvement and market signals

Initially, vertical diversification, the move from raw or upstream commodity production to downstream processing, was pursued through sector-specific policies implemented by government-owned companies. In the early 1960s, to address the structural over-concentration of the economy in primary commodity sectors, the government embarked on a strategy to promote resource-based industrial development, initially associated with natural rubber and tin ore and later with oil and gas and palm oil. In the case of oil and gas, the government’s policy was implemented through the state-owned oil and gas company, PETRONAS. In the case of rubber, downstream diversification happened more as a result of more neutral policies that supported the growth of SMEs in the sector. Diversification of the palm oil industry into downstream activities was also spearheaded by government-linked companies that had been nationalized in the early 1980s.

Figure 58. PETRONAS played a major role in oil and gas downstream diversification

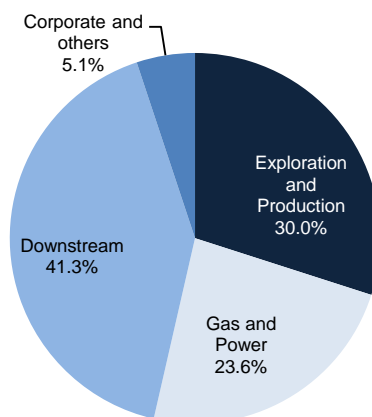


Source: PETRONAS.

The vertical diversification of the oil and gas sector was driven almost single-handedly by PETRONAS. Diversification included building refineries, LNG liquefaction, petrochemical plants, fertilizer plants, shipping and retail trading (see Figure 58). PETRONAS is now a multinational integrated oil and gas company, with the downstream business accounting for the largest share of revenues (Figure 59). In addition, the oil and gas sector resulted in the creation of local oil and gas services companies, such as SapuraKencana, Dialog and Bumi Armada.

Figure 59. The largest share of PETRONAS' revenues now comes from downstream activities

Share of revenues by business segment, FY 2012



Source: PETRONAS.

The success of PETRONAS was in part driven by a governance structure whereby the company was responsive to price signals. The depressed crude oil and gas prices of the 1980s and 1990s essentially acted as a price signal for PETRONAS to pursue more high value-added activities through developing the downstream industry. To compensate for the lack of capital and market expertise, PETRONAS partnered with external parties to jumpstart the sector. These partners included Germany's BASF, US's Dow Chemical, ConocoPhillips for a refinery plant in Malacca, and Japan's Mitsubishi Corporation and Nippon Oil for the LNG liquefaction plants in Sarawak, among others. These partnership models built on the experience PETRONAS had with companies such as ExxonMobil and Royal Dutch Shell in its production sharing contracts (PSC) for the upstream production of crude oil and natural gas. Furthermore, with PETRONAS essentially solely vested in the development of the oil and gas industry under the Petroleum Development Act 1974, the diversification effort into downstream had a powerful champion who had the means and resources to drive the plan through in a coordinated fashion. The type of products has evolved from basic products like petrol, diesel and basic petrochemical products into lubricants, specialty jet fuel and high value-added petrochemical products. As evidence of its success, PETRONAS has been able to publicly list these downstream industries over the years, such as PETRONAS Dagangan (its retail arm), PETRONAS Gas, Gas Malaysia, PETRONAS Chemicals and Malaysia Marine and Heavy Engineering (MMHE).

The successful example of the rubber industry highlights the role that sector-blind policies played in economic diversification. In contrast to the NFPE-dominated oil and gas and palm oil industries, rubber is perhaps the best example of an SME-driven industry which started small and from the ground up and, over time, has developed into a multi-billion ringgit industry. The country has had a long history with natural rubber, since colonial times under British rule, being the world's largest producer during the first seven decades of the 20th century. However, as rubber prices began to decline sharply in the 1980s, many rubber plantations were converted into other economic activities including residential properties and currently about 95 percent of all output in Malaysia is contributed by smallholders.

Favorable economy-wide policies transformed a decline in rubber prices into a catalyst for downstream growth of the rubber glove and prophylactic industry. Lower prices of natural rubber implied that rubber became a cheap feedstock for industry. At the same time, as part of its industrialization policies, the government built industrial estates with adequate infrastructure, including energy, which was available at a relatively low cost (Cho 1990). These factors,

combined with a policy of openness to foreign labor, helped rubber manufacturing take off. Many erstwhile SMEs in the rubber glove industry, particularly Top Glove, Supermax, Kossan and Hartalega have evolved into becoming major world-leading companies, having significant market share in the glove market in many industrialized countries, including the US and Europe. A Malaysian company, Karex Industries, which started as an SME in 1988, is currently the world's largest producer of prophylactics with a 15 percent global market share. Crucially, most of these companies have continued to respond to price signals by moving away from scale production where margins were in decline, and evolved into producing higher value-added products, such as nitrile gloves for the healthcare industry and costlier prophylactics. Box 4 highlights additional ways the industry could move further up the value chain.

Box 4. Moving up the value chain in the rubber and latex medical products industry

Malaysia is a dominant player worldwide in the rubber products industry targeted at the healthcare sector. Primarily known for rubber gloves and prophylactics, this industry also includes firms producing such items as disposable hospital kits, including hemodialysis, gynecology and blood transfusion tubing and other rubber and plastic extrusion products. Among the local disposable medical device manufacturers, several firms achieved compliance with internationally accepted quality system management in Malaysia.

In addition, there are also firms producing innovative kits for blood collection, which design and manufacture innovative medical devices and procedure packs for global healthcare markets. These products are sold in more than 35 countries and, initially focusing on infection control, they now are prominent in safety and innovation.

While some of the companies in Malaysia's rubber product industries are already 'top of the line' multinationals they nevertheless could, and undoubtedly will, improve their position in the value chain if they make further efforts to develop a 'Malaysian brand' for some of their products; and expand research and development (R&D) programs so as to create new state-of-the-art products, such as new generations of specialized latex and rubber gloves and the creation of disposable, ready-for-use plastic products kits for hospitals and operating rooms.

Source: World Bank (2011b)

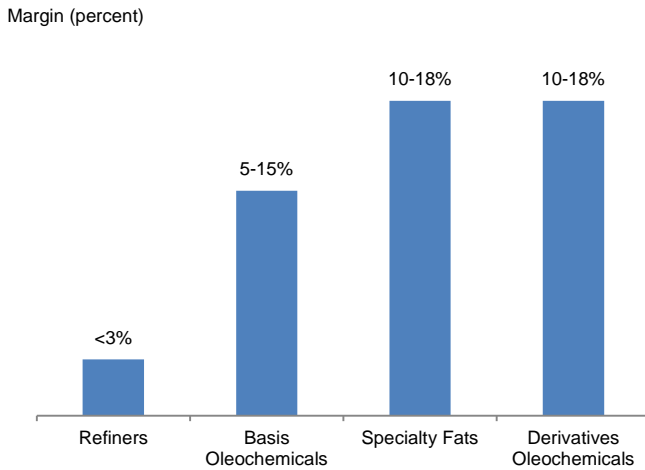
The palm oil sector also diversified downstream. Similar to the oil and gas and rubber sectors, government-linked companies in the palm oil sector also seized on the crash in commodity prices in the early 1980s and the government's industrialization drive to invest heavily in building downstream industries. The government provided tax incentives and improved infrastructure, while parallel rural development policies that favored palm oil and an open policy towards foreign labor in plantations gave assurances about availability of feedstock at competitive prices. According to Fold and Whitfield (2012) and Gopal (1999), refining capacity increased from less than 40,000 tons in the early 1970s to 8.1 million tons in 1986 to 9.3 million tons in 1989 and 25 million tons in 2012. The expansion in refining capacity in the mid-1980s was well in excess of production, resulting in excess capacity estimated at 50 percent in 1989 (PORLA 1989; Fold and Witfield 2012).

But the move towards downstream activities appears to have largely stopped at basic refining, and Malaysia has not developed a large oleochemical industry. The refineries built in the 1980s produced primarily "RBD" (Refined-Bleached-Deodorized) palm oil, which is used as feedstock for more advanced oleochemical and consumer products such as biodiesel. Beyond basic processing, Malaysia concentrates almost exclusively on simple oleochemicals, namely fatty acids and fatty alcohols (making up 99 percent of overall oleochemical output in 2011). The value-added in that segment is also low: the margin is about 8 percent of the value of the product. Achieving higher value-added in the oleochemical industry would require Malaysia to develop more complex oleochemical derivatives, particularly surfactants, bio lubricants, bio polyoils and agro chemicals.

The reasons behind the more limited success with vertical diversification in palm oil can be traced back to conflicting price signals. While the rubber industry faced declining prices throughout most of the 1980s, the surge in refining capacity created significant demand for crude palm oil in the mid-1980s, possibly helping lift prices when other commodities were still in the doldrums (see Figure 61). As prices declined again in the late 1980s along with petroleum

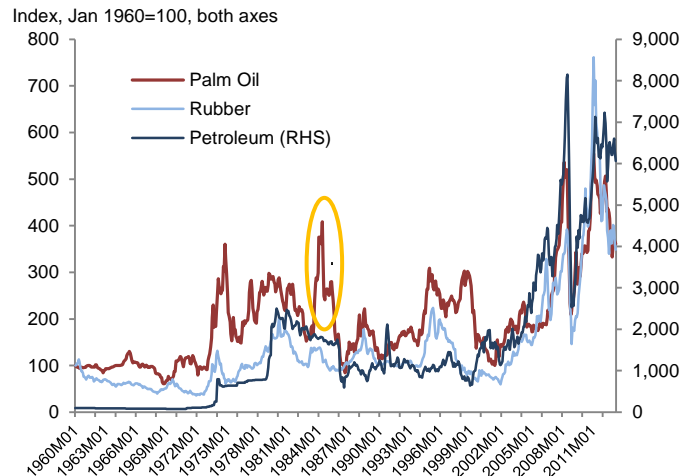
prices, incentives for the large palm oil companies had changed, as most tax incentives had been withdrawn or lapsed, while companies still enjoyed export duty exemptions for crude and minimally processed palm oil. The relatively quick recovery of prices in the 1990s, more limited financial capacity for new investments on the part of companies given the earlier build-up in refining capacity and limited revenues from resulting excess supply, as well as an exemption from export duties and the availability of low-cost foreign labor for plantations led the industry to focus its activities upstream, dampening incentives for additional moves in higher value-added downstream activities.

Figure 60. Margins are low for refiners due to excess global capacity



Source: Frost and Sullivan, quoted in NEM Part II (p. 109)

Figure 61. Palm oil prices spiked in the mid-1980s, unlike prices of rubber and petroleum



Source: World Bank DECPG, World Bank staff calculations

Horizontal diversification: sector-specific and sector-blind policies

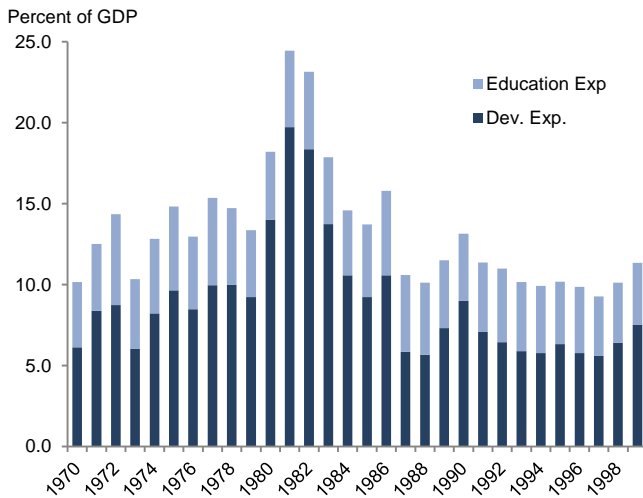
Malaysia seized upon the crisis caused by a collapse in commodity prices as an opportunity to reform its economy and adopted pro-active policies aimed at promoting horizontal diversification. In the early 1980s, the Malaysian economy experienced a slowdown in tandem with the global recession due to the second oil supply-shock amidst the Iran-Iraq war. As the recession was much longer than first anticipated, counter-cyclical programs taken to stimulate economic growth had instead led to structural imbalances in the economy, with deficits in both the current and fiscal accounts of the Federal Government. This was further exacerbated by the substantial collapse in the prices of natural rubber and tin in the early- to mid-1980s. The crisis led to a widespread change in economic strategy, and many of the reforms had economy-wide implications. As a result, there was a re-emphasis of economic growth led by the private sector, dubbed the “Malaysia Incorporated Policy”.

Earlier and concurrent investments in infrastructure and human capital, partly financed from natural resource revenues, provided an important backdrop to horizontal diversification. Early five-year plans emphasized a buildup of infrastructure and expansion of education (Figure 62). This was financed partly out of export duties on tin, palm oil and rubber and later petroleum (NEM Part I, p. 131). The mid-1980s reforms brought further re-orientation of government policy towards providing infrastructure and relevant support services, aided in large part by the rising oil and gas revenue from PETRONAS. As part of its infrastructure strategy at the time, the government developed a series of industrial estates with efficient supply of utilities and basic infrastructure (Fold and Whitfield 2012). The new strategy included institutional measures as well, most importantly the liberalization of foreign equity ownership in manufacturing activities in 1985, amendments to the Industrial Coordination Act, 1975, and the partial privatization of some government-owned companies.

Increased productive capacity and sound macroeconomic management led to a depreciation of the real effective exchange rate even as resource rents increased modestly. As shown in Figure 63, REER movements tend to follow changes in sub-soil rents: sudden increases in natural resource rents such as the one experienced in 1979 tend to lead to an appreciation of the real effective exchange rate. However, in the mid- and late 1980s, increases in sub-soil rents (though modest) took place as the real effective exchange rate continued to depreciate. There are two candidate explanations for this observation: first, investments were expanding the economy’s productive capacity, and as we

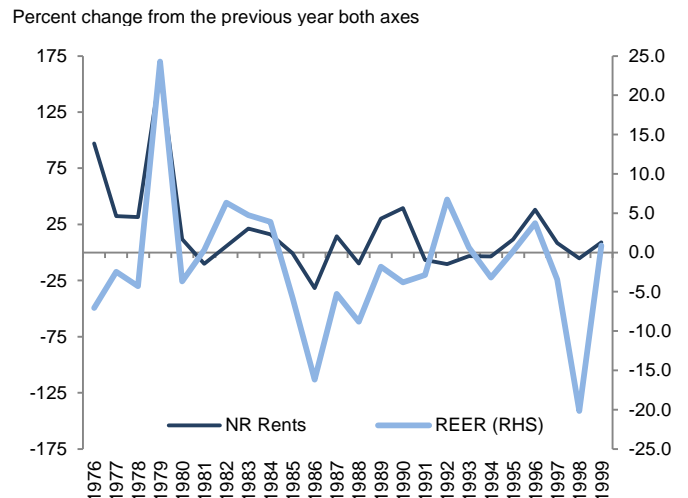
note below foreign workers were playing a role in reducing wage inflation. Therefore, pressures for appreciation were contained by increased capacity in the economy. Second, PETRONAS started keeping export earnings overseas, either in cash balances or through investments. Finally, the period also witnessed an accumulation of foreign exchange reserves. A declining REER supported investments in non-commodity tradable sectors and the horizontal diversification of the economy.¹⁵

Figure 62. In the early 1980s, Malaysia was spending over 15 percent of GDP in infrastructure and education



Source: CEIC, World Bank staff calculations

Figure 63. The REER depreciated in the mid-1980s even as sub-soil rents were generally rising



Source: World Development Indicators, World Bank staff calculations

Active industrial policies, primarily through fiscal incentives, were also used to promote the development of non-resource industries. The reforms of the mid-1980s included the creation of the Promotion of Investment Act, 1986, which provided generous tax incentives to attract foreign direct investments (mainly manufacturers) to set up their operations in the country. The two main incentive programs created by the 1986 Act include “Pioneer Status”, which provides total or partial exemption from income tax for a period of five years for promoted products or activities, as well as the “Investment Tax Allowance”, an alternative incentive designed to cater for projects that have large capital investments with long gestation period. As in the case of pioneer status, a company granted Investment Tax Allowance will enjoy a different degree of exemption depending on the types of promoted products and activities. Promoted industries were primarily in manufacturing, but also agriculture and tourism.

The role of relatively open immigration policies

Foreign workers provided labor inputs to the emerging manufacturing sector at competitive costs. Foreign workers began arriving in the early 1970s and through the 1980s, first in plantations, and later in low-skill-intensive construction and domestic services. Local labor was either unavailable in these sectors or it was perceived that wages and conditions of work could not attract Malaysian workers in sufficient numbers to fill the rapidly expanding demand. The availability of low-skilled foreign workers in the labor-intensive segments of the manufacturing sector complemented other industrial policies, facilitating diversification. Since 1991, the Government allowed manufacturing firms in electronics, textiles, non-metallic and mineral industries to employ foreign workers if they were unable to find local workers. The Government’s stated plan was to support the nation’s high growth strategy while it pursued a longer-term strategy to upgrade the economy and expand the supply of skilled labor (Kanapathy 2006).¹⁶

¹⁵ Rodrik (2008) argues that currency undervaluation actually stimulates economic growth.

¹⁶ A recent World Bank study (World Bank 2013c) suggests the benefits of openness to foreign workers to economic activity remain large even in present times.

Foreign workers also played a role in containing services costs and keeping inflation contained. The continued influx of foreign workers prevented potential labor shortages caused by increased demand from industry to lead to wage inflation. Moreover they may also have played a role in raising real wages of Malaysians through their role in containing consumer price inflation. Although there have been no studies of this impact in Malaysia, Cortes (2008) finds that, in the United States, a ten percent increase in the share of low-skilled immigrants in the labor force decreases the price of “immigrant-intensive services”, such as housekeeping and gardening, by two percent. In Malaysia, foreign workers in food and agriculture may have played a similar role.

PETRONAS has played the role of an effective resource fund

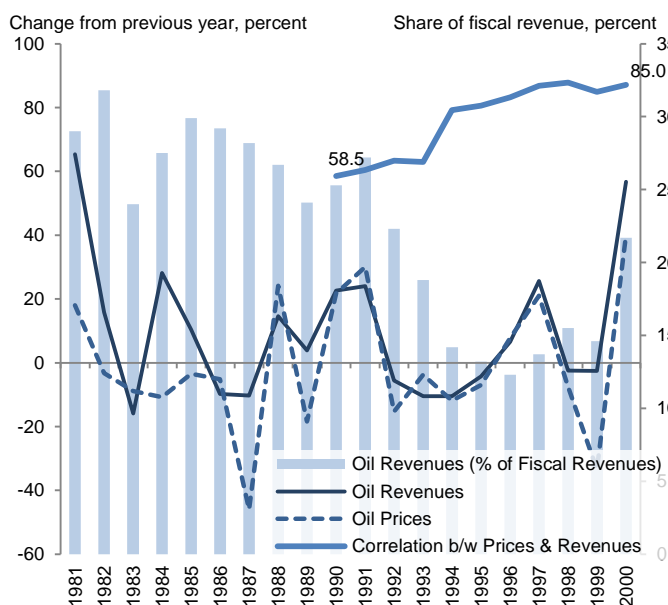
Although PETRONAS, the national oil company, is not technically a resource fund, in practice it has played a similar role. According to IMF (2012, p. 31), the objectives of resource funds are (i) savings: to transfer wealth across generations or across time; (ii) stabilization: to insulate the budget and economy from volatile commodity prices; and (iii) development: to allocate resources to high-priority socioeconomic projects. An additional objective related to (ii) is to stabilize capital inflows to avoid an undue appreciation of the exchange rate in times of commodity booms as these can undermine the competitiveness of tradable sectors. Crucially, resource funds “should be consistent with their objectives, underpinned by well-framed corporate governance arrangements” (Das 2010, p. xi). Although PETRONAS is generally not involved in allocating resources to socioeconomic projects, the company arguably fulfills (either partly or fully) the remaining characteristics.

Through its investments domestically and abroad, PETRONAS ensured that oil wealth would be available to future generations. PETRONAS has made significant investments domestically, both in upstream exploration and production, as well as downstream industries as noted earlier. In addition, recognizing the limited hydrocarbon reserves in Malaysia, PETRONAS has been a pioneer in direct investments abroad in order to extend the expected life of the company’s production assets (and revenues) given the limited domestic resources. PETRONAS has investments in Sudan, Chad, Iraq, and most recently in Canada, to name a few. Looking at payments to the federal budget from PETRONAS’ perspective, Tordo et al. (2011) found that PETRONAS “managed to keep its tax contribution below 30 percent until the early 1980s, and it now fluctuates around 35 percent, which is one of the lowest tax takes in the [national oil company] study sample.” As a result of building its capital domestically and abroad over time, the Malaysian state has built substantial equity in PETRONAS. As of 2012, the book value of PETRONAS equity corresponds to 36 percent of GDP.

PETRONAS provided some insulation to the budget against volatility in oil prices, especially in the 1980s. The first objective of a resource fund would be to provide stable flows to the budget, insulating it from the volatility in commodity prices. PETRONAS contributions to the federal budget have been relatively volatile, but price changes in the 1980s were only partially transmitted to the budget (Figure 64). The correlation between changes in oil prices and the annual variation in oil revenues was 59 percent between 1981 and 1990 (in other words 59 percent of the change in oil prices was transmitted to the budget, on average, over the 10-year period). In the 1990s, contributions from PETRONAS to federal government revenues became more closely tied to changes in oil prices (i.e. oil price changes were more readily reflected in oil revenues), and the correlation climbed to 85 percent for the period between 1991 and 2000. However, during the same period the share of oil revenues to total revenues also declined from 27 percent to a low of 12 percent, implying that overall revenues were relatively unaffected by commodity prices (Figure 65).

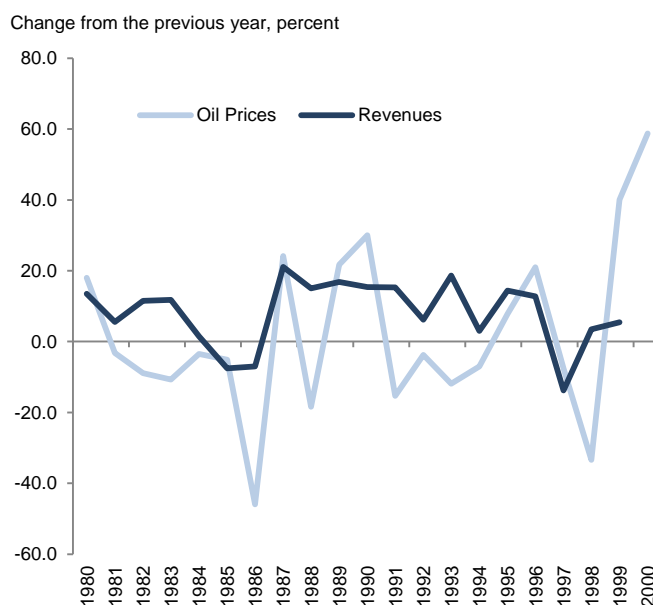
In addition to recycling some oil and gas revenue through direct investments abroad, PETRONAS also contributed to the management of resource inflows by not repatriating some of its revenue back into Malaysia. When Malaysia began to experience a sharp inflow of oil and gas revenue from PETRONAS in late 1974 following the commencement of large scale oil production activities, the Ringgit exchange rate market became highly volatile. As a result, while Malaysia’s oil exports rose by 199.4 percent to RM677.9 million in 1974, inflation rose by 17.4 percent, resulting in appreciation of the real effective exchange rate in the late 1970s (see Figure 49 and Figure 63 above). This threatened to bring the ‘Dutch disease’ and hurt the export-oriented domestic Malaysian economy. To prevent such an effect, policymakers at the time decided that foreign exchange earnings by PETRONAS, instead of being repatriated into Malaysia, should be kept overseas. This was eventually done in December 1974. (Hashim 2005, p. 85). PETRONAS no longer keeps significant foreign currency earnings overseas, but it does use export proceeds to meet foreign currency requirements of mergers and acquisitions and debt redemptions rather than repatriating them.

Figure 64. The dependency on oil declined but correlation picked up in the 1990s



Sources: Accountant General's Office, Malaysia, CEIC, World Bank DECPG, World Bank staff calculations

Figure 65. Overall revenue growth was stable, especially after 1987, while oil prices were volatile throughout



Source: CEIC, World Bank DECPG, World Bank staff calculations

Social policies supported income gains by low-income households

The development of rubber and palm oil was combined with land distribution policies that had a significant impact on poverty reduction. Malaysia succeeded in combining commercial objectives with effective social policy in its efforts to develop rubber and palm oil, essentially by ensuring that schemes aimed at resettling landless farmers could be competitive. After learning from a number of less-successful state-level resettlement initiatives in the 1950s and 1960s that did not follow commercial principles, the Federal Land Development Authority (FELDA) and the Federal Land Consolidation and Rehabilitation Authority (FELCRA) were created to resettle rural families in schemes that were characterized by (i) an estate-like structure (plantations and mills on large tracts of contiguous land) where the management and marketing operations are carried out by FELDA, while smallholders contribute their land and labor and receive dividends (thus enabling the exploitation of economies of scale); and (ii) a village structure offering basic amenities such as roads, housing, water, health care and education. Initially, the focus was on rubber but in the 1960s and 1970s, government policy began to emphasize crop diversification and in 1961, FELDA's first oil palm settlement opened, setting the stage for the growth of Malaysia's palm oil industry. "By 1988, 441 schemes had been established totaling a cropped area of about 750,000 hectares, of which two-thirds were planted with palm oil." (FELDA 1988 quoted in Fold and Whitfield 2012, p.27) More than half a million people had benefitted from the FELDA schemes, mainly on the peninsula, but to a certain degree also in Sabah, while FELDA became the largest palm oil marketing group in the country. See Box 5 for additional details of Malaysia's policies to integrate smallholder production in its plantation industries.

The New Economic Policy contributed to poverty reduction and helped provide opportunities to poor households. In the late 1960s, the inequitable distribution of wealth and identification of economic activity by race were threatening the social, political and economic stability of the fledgling multi-ethnic nation of indigenous Malays, the Chinese and Indians. This led the government to formulate the New Economic Policy (NEP) in 1970, aimed at poverty eradication and elimination of racial identification with economic function. The initial implementation of the NEP helped increase educational and employment opportunities for poor households, supporting poverty reduction during the period. The NEP also helped maintain social and political stability in the 1970s and 1980s, which was an important component of Malaysia's 'intangible capital' that allowed long-term productive investments to be undertaken.

Box 5. Integration of smallholder production in Malaysia's palm oil and rubber industries

In the early 1960s (local) state schemes were established in connection with existing villages. Fringe areas close to villages were allocated by local authorities, but support was limited to clearing of land and provision of planting materials and other inputs. Due to a high rate of failure it was soon realized that more substantial support in a stricter institutional setup was needed.

A federal institution, FELCRA (the Federal Land Consolidation and Rehabilitation Authority), was established in 1966 to rehabilitate failed state schemes and expand similar activities in other villages. Support included agricultural extension, marketing services and even establishing of milling facilities in regions with extensive FELCRA activity. In 1977 the share system was introduced and adopted on nearly all FELCRA schemes. Under this system dividend from net proceeds are paid out to the landowners (smallholders). Practice showed that maintenance and harvesting were increasingly carried out by hired labor consisting of the smallholders themselves and foreign workers.

Of minor importance in terms of acreage are schemes under the guidance of RISDA, the Rubber Industry Smallholders Development Authority. Within the framework of this institution, oil palms are grown in large estates managed by RISDA but with clear welfare goals: Employment is offered to former and present rubber smallholders in the surrounding area and owners of land less than 2.5 hectares are paid a monthly payment during immaturity and receipts from net proceeds of fresh fruit bunch sales.

Of decisive importance in the overall picture of group smallholdings are the resettlement schemes within the organizational framework of FELDA. These schemes are located relatively far away from existing rural villages and consist of urban settlements in connection with large newly established plantations on soil and topography of secondary suitability compared with the well-established private estates. The welfare objectives of FELDA have been unchanged since the inception of the organization, namely to resettle landless or almost landless rural families in schemes where basic amenities such as housing, water and health care are provided.

FELDA started operations in 1956, providing funds to local state resettlement projects for landless peasants, but already in 1960 FELDA took over as an implementing agency at the federal level. Failures were already visible in the organization of the early schemes, all of which were based on allocations to individual settlers of land for rubber trees. From 1962 oil palms were planted at FELDA schemes, thus increasing the need for centralized management of production at scheme level.

Over the years, FELDA developed a 'package approach' to the establishment of new schemes. Virgin land was cleared, roads in the new village as well as plantation areas were constructed, water and electricity supplies were installed, standard houses built, and palm or rubber seedlings planted. All these operations were carried out by private contractors hired by FELDA (Khera 1976). Production in FELDA schemes was organized in a relatively well-structured hierarchy very similar to that prevailing on private estates.

The pattern and structure of individual settlements changed considerably with a trend towards larger complexes, encompassing several schemes but with only one village or urban settlement, in which all settler families live. Individual schemes of about 400-500 families and 1600-2000 hectares were replaced by complexes of about 1,000-2,000 families and 4,000-8,000 hectares developed in successive phases. Moreover, the regional pattern of schemes changed. Early schemes were distributed in a scattered manner, whereas newer schemes or complexes (a cluster of adjoining schemes) were located in regional concentrations even constituting virtual regional development programs. This concept was also pursued from the outset in oil palm expansion in Sabah, i.e. the Sahabat complex covering slightly more than 100,000 hectares (Sutton 1989).

Source: Extracted from Fold and Whitfield 2012, p. 24-27.

Higher prices bring steeper challenges for natural resource management

Partly fueled by surging demand from a rapidly-growing China, the prices of oil, rubber and palm oil increased, between 2001 and 2008, respectively, by factors of 4.0, 3.3 and 4.5 (corresponding to average annual compound growth rates of 22, 19 and 24 percent). This sustained jump in commodity prices was temporarily interrupted by the global financial crisis of 2008-2009, but prices remain well above 2007 average prices for most commodities. This sustained increase in commodity prices supported growth in a number of commodity-producing economies, including Malaysia. In this section we consider the impact of the recent commodity price boom in Malaysia's economy and some of the trends that have emerged with respect to diversification, re-investment of resource rents, environmental concerns and social indicators.

National wealth increased, but the recycling of resource rents towards productive capital declined

Hartwick, revisited

Malaysia's national wealth per capita grew by an average of 2.2 percent annually between 1995 and 2005. This was in line with other resource-rich economies, but lower than what resource-poor Korea registered (Table 5). High growth of natural capital was a characteristic of this group of countries, except for Canada where large losses in non-mineral resources offset large gains in subsoil-assets. Intangible capital tended to grow relatively slowly in this group, especially when compared to Korea. Most resource-rich countries, except Chile, also didn't post large growth rates in produced capital.

Table 5. Growth in national wealth per capita in selected countries—1995-2005

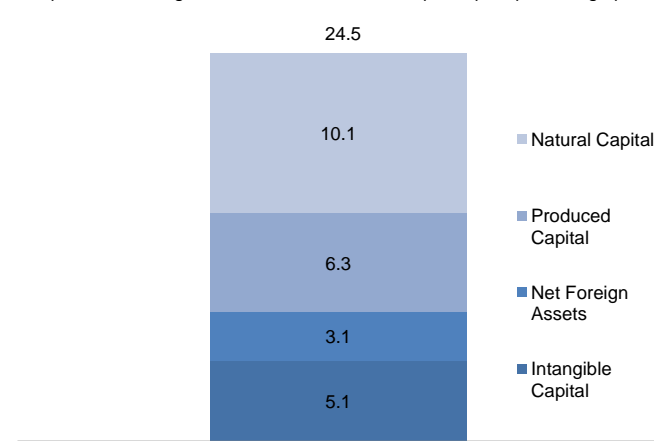
	Total Wealth	Intangible Capital	Produced Capital	Natural Capital	Pasture Land	Crop	Timber	NTFR	Protected Areas	Natural Gas	Oil	Coal	Minerals	
Malaysia	2.2	0.8	-10.8	2.2	5.4	-3.8	0.8	-7.8	3.5	0.8	5.9	16.3	20.2	-9.8
Australia	2.2	2.2	2.3	2.1	3.1	-2.0	-1.4	-9.7	12.9	-1.6	6.0	11.3	51.2	9.0
Canada	1.7	1.5	-12.8	1.6	1.3	-3.8	-3.1	-3.1	0.7	-0.2	11.3	11.0	35.6	2.1
Chile	2.1	0.7	1.9	4.7	5.4	0.0	-0.2	12.4	7.6	3.5	-6.9	5.3	...	6.9
Brazil	0.9	0.8	9.1	-0.4	3.5	3.1	-4.2	13.5	0.5	-3.7	13.2	17.9	...	9.9
Indonesia	2.1	1.2	-2.8	1.8	3.8	-1.4	0.5	11.0	-1.9	3.2	4.4	11.1	25.6	10.5
Korea	4.6	4.7	15.5	4.7	-0.7	-1.5	1.0	0.9	-0.1	-3.7	...	...	...	28.3

Source: World Bank

Note: Net Foreign Assets (NFA) are negative for all countries, therefore a negative growth rate implies a less negative position.

Figure 66. Decomposition of the growth rate in Malaysia's wealth per capita 1995-2005

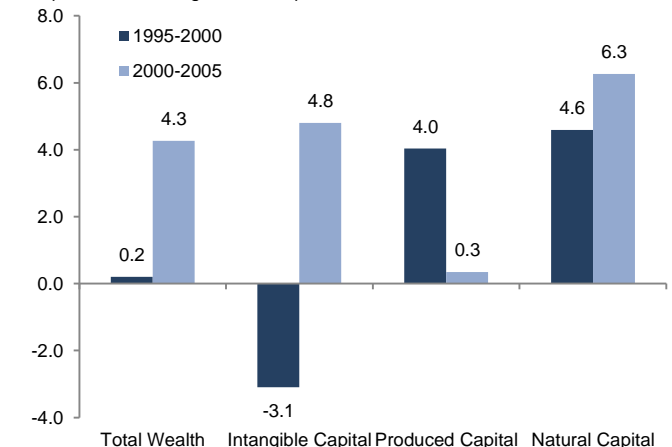
Components of the growth rate of national wealth per capita, percentage points



Source: World Development Indicators

Figure 67. Growth rate of wealth components in Malaysia

Compounded annual growth rate, percent

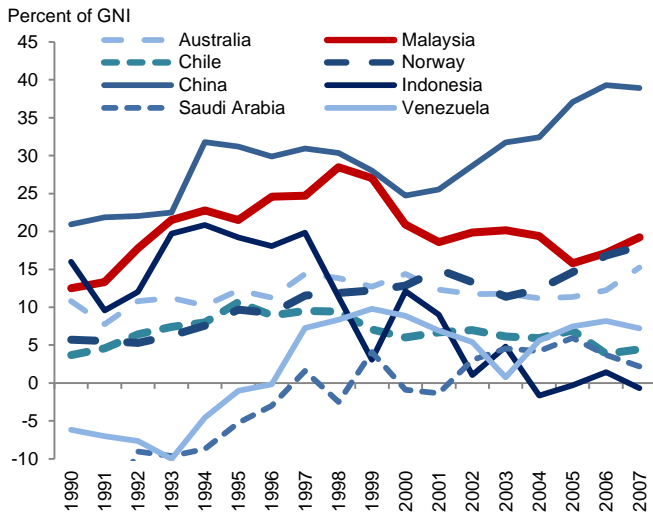


Source: World Development Indicators

Breaking down the growth rate of Malaysia's national wealth, natural capital growth dominated, accounting for 10 out of 25 percentage points of growth over the 10 year period, whereas produced capital, lower net foreign liabilities,

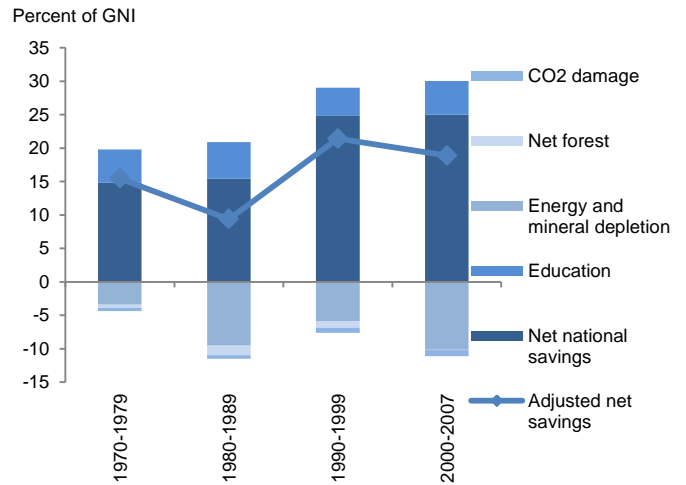
and intangible capital accounted for 6.3, 3.1 and 5.1 percentage points of the 10-year growth rate (Figure 66). Figure 67 compares the compound annual growth rates in national wealth per capita in two periods: 1995-2000 and 2000-2005. While natural capital expands robustly in both cases, 2000-2005 sees a deceleration in investments (and therefore accumulation of produced capital) but a deceleration in intangible capital, although this may be an artifact of the recovery from the 1997-1998 financial crisis, as demonstrated by the high rates of growth in produced capital and negative growth in intangible capital during the 1995-2000 period.

Figure 68. Malaysia's adjusted net savings are among the highest of resource-producing countries



Source: World Development Indicators, World Bank staff calculations.

Figure 69. Malaysia's adjusted net savings by components

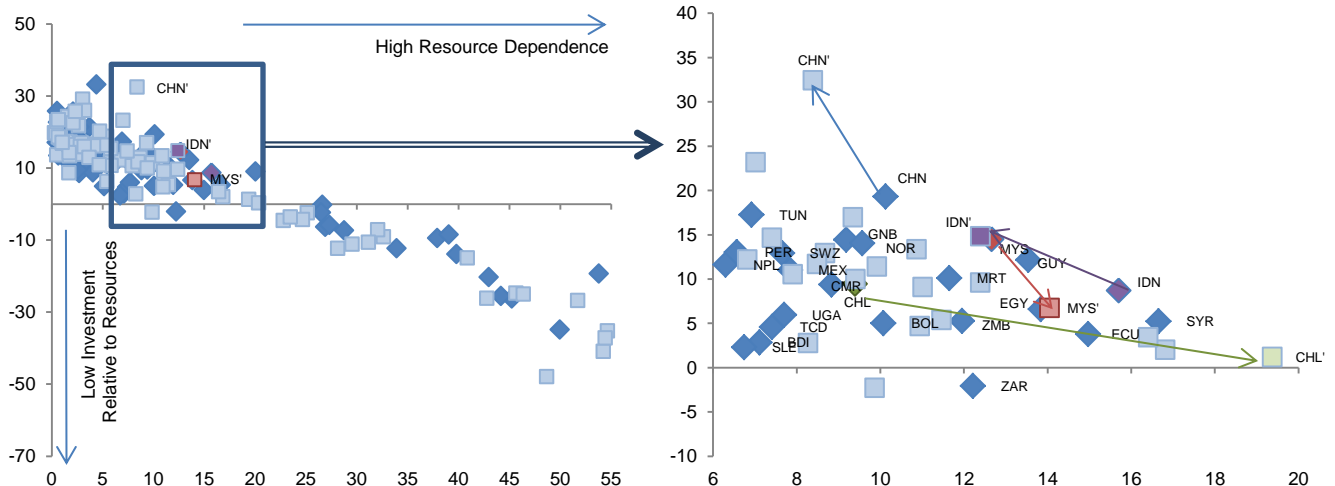


Source: World Development Indicators, World Bank staff calculations.

Malaysia's adjusted net savings declined modestly as energy depletion increased. Malaysia has had some of the highest adjusted net savings among resource-rich countries since the 1970s. However, since 2000, Malaysia's adjusted net savings have been trending downwards (see Figure 68), which is unlike the pattern observed in, for example, China and Norway. While average net national savings by Malaysia have remained at approximately 24-26 percent of GNI during the 1990s and 2000s, the increasing average share of energy and mineral depletion to GNI in the latter period has led to the fall in average share of adjusted net national savings (Figure 69). This is suggestive of greater consumption activity from the resource rents in light of the rising commodity prices during the period.

Figure 70. Changes in natural resource revenue recycling: 1970-2005 and 2006-2011

Investment (GFCF, less depreciation and natural resource rents, percent of GDP (y axis); Total Natural Resource Rents as a share of GDP, percent (x axis)
Squares denote averages for 2005-2011 while diamonds indicate averages for 1970-2005



Source: World Development Indicators and World Bank staff calculations

This lower but still relatively high savings rate was invested in foreign assets at the margins, as Malaysia's official reserves and direct investment abroad increased during the period, while investments in domestic productive assets expanded more slowly. To get a proxy for whether the Hartwick rule continued to be followed in Malaysia, depreciation and natural resource rents are subtracted from gross fixed capital formation (expressed as a share of GDP) and the resulting figure is then compared against a measure of resource dependence. As can be seen in Figure 70, while Malaysia continues to feature among the countries that follow the Hartwick rule, it is moving towards greater resource dependence and lower investments in excess of natural resource rents. This is similar to Chile, but in contrast with Indonesia and China, which invested a higher share of GDP compared to resource rents and became less resource dependent.

Natural resource revenues have increasingly found their way to consumption

The decline in the adjusted national savings is likely related to the higher share of oil revenues flowing to the budget, a decline in capital expenditures and increase in current expenditures. The fiscal dependence on oil revenues increased sharply since 2000 (see Table 6 and Figure 71), climbing from 2.8 percent of GDP in 1999 to a peak of 9.2 percent of GDP in 2009. At the same time, development expenditure as a share of GDP declined during this period (see Figure 72) suggesting that higher oil revenues were not used to finance higher development expenditures and public sector capital formation. Non-oil tax collection also declined significantly, implying households and firms had more disposable income. However, given that the private sector reduced its investment rate during the period, the lower non-oil tax collection was also not translated into higher capital accumulation by the private sector. On the other hand, consumption-based public spending (operating expenditures), especially energy subsidies rose. In addition to the revenues that flow through the budget, PETRONAS has also been incurring larger costs for gas subsidies that it provides directly to power producers (Table 7), and energy subsidies total 4.6 percent of GDP in 2011.

Table 6. The tax effort declined and fuel subsidies expanded as oil revenues increased

Share of GDP, percent						2010-2012 vs...	
	1990-1994	1995-1999	2000-2004	2005-2009	2010-2012	1990-1994	2000-2004
Emoluments, Pensions and Gratuities	7.6	6.3	6.3	6.5	7.5	-0.1	1.2
Fuel Subsidies	0.1	0.1	0.6	1.5	2.1	2.1	1.5
Other Operating Expenditure	12.1	9.7	11.0	11.5	11.0	-1.1	0.0
Net Development Expenditure	5.7	5.8	8.1	5.8	5.4	-0.3	-2.7
Oil Revenues	5.2	3.0	4.8	7.8	7.3	2.1	2.5
Non-Oil Revenues	19.9	18.6	16.2	13.1	13.8	-6.1	-2.4
Deficit Financing	-0.3	-0.3	-5.0	-4.3	-4.9	-4.6	0.1
Non-Oil Primary Deficit	-1.0	-0.7	-7.3	-10.2	-10.2	-9.2	-2.9
All Expenditures	25.4	21.9	26.0	25.2	26.0	0.6	0.1

Source: MoF, CEIC, World Bank staff calculations

Table 7. PETRONAS also makes large contributions towards gas subsidies

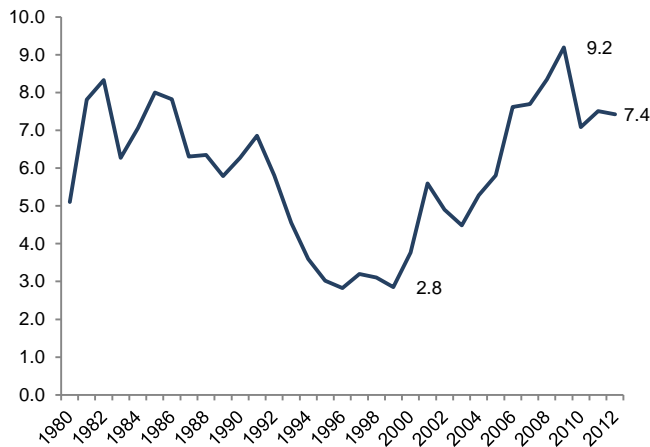
Potential revenue foregone (subsidies) RM billion unless otherwise indicated

	FY 2011	% of GDP	Cumulative since 1997
Power Sector	11.6	1.3	108.5
- Tenaga Nasional Bhd	4.9	0.6	46.1
- Independent Power Producers	6.7	0.8	62.4
Non-Power Sector, including industrial, commercial, residential users and NGV	8.5	1.0	46.4
Total	20.1	2.3	154.9

Source: PETRONAS (2012) and World Bank staff calculations.

Figure 71. Oil revenues in the budget more than doubled as a percent of GDP since the late 1990s

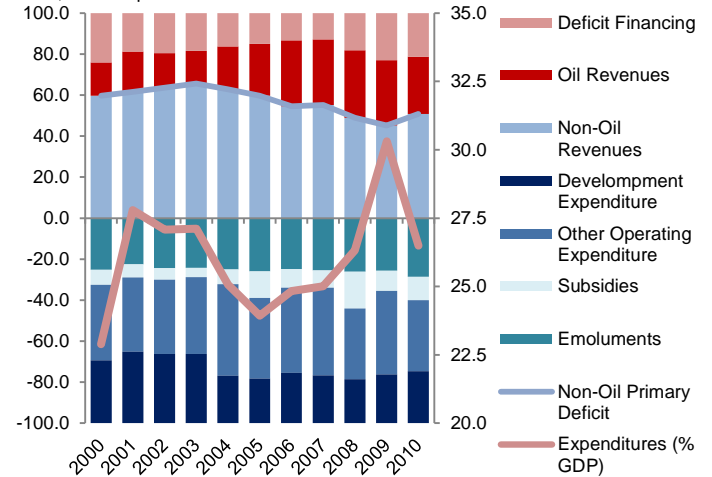
Oil revenues as a share of GDP, percent



Source: Accountant General's Department

Figure 72. Only half of expenditures were financed through non-oil revenues in 2010

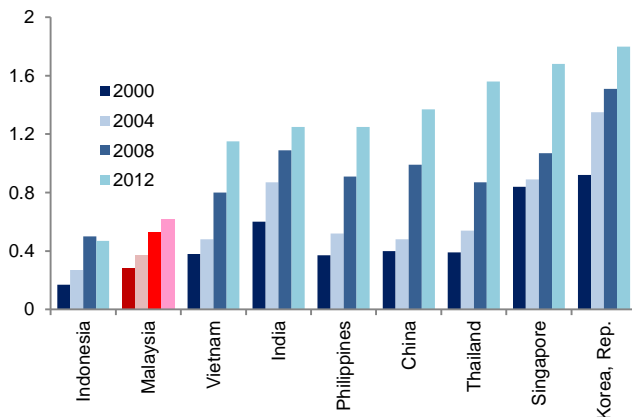
Index, Total Expenditures = 100



Source: CEIC, MoF, World Bank staff calculations.

Figure 73. Pump price in USD for petrol...

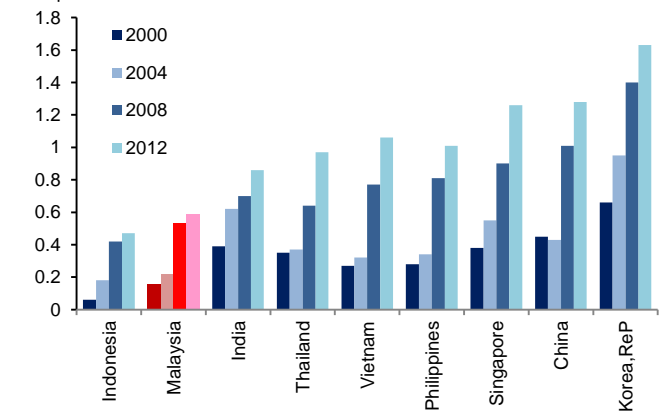
USD per liter



Source: World Bank

Figure 74. ... and diesel in selected countries, 2000-2012

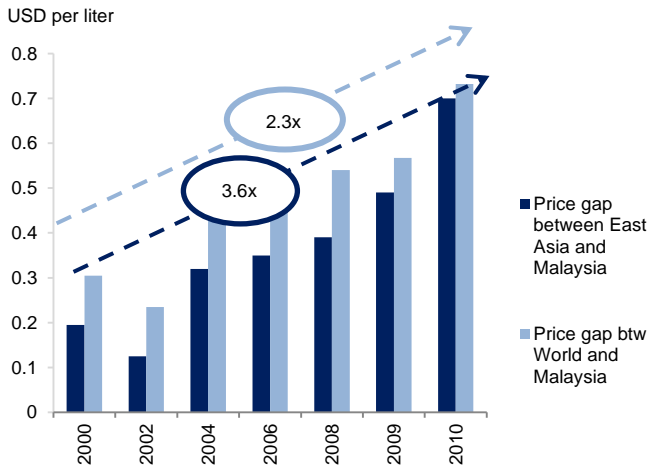
USD per liter



Source: World Bank

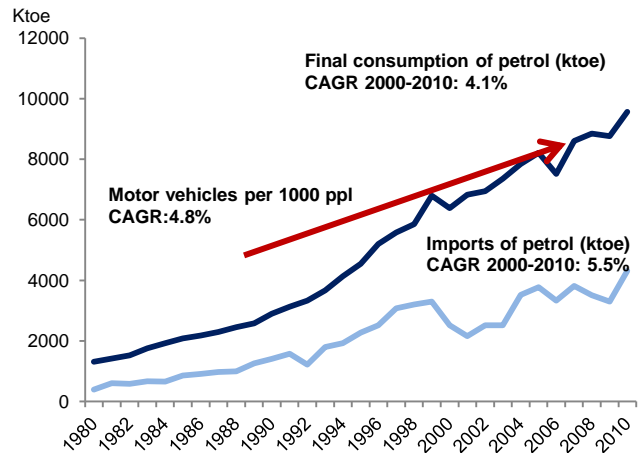
In addition to the opportunity cost of investing resource revenues in productive capital, subsidized prices of petrol, diesel and natural gas play an important role in distorting resource allocation by encouraging inefficient energy consumption. Retail prices of both petrol and diesel in Malaysia are among the lowest within the region (see Figure 73 and Figure 74), with disparity between Malaysia's fuel prices (petrol and diesel) and regional and world retail prices widening over time (Figure 75). From 2000-2010, final consumption of petrol grew by 4.1 percent per annum, but imports expanded at a faster rate of 5.5 percent per annum (Figure 76) reflecting the difficulty of domestic sources to meet higher demand. In 2010, approximately 45 percent of motor gasoline demands were met through imports. The trade position for motor gasoline and diesel has deteriorated over the past decade. Given the higher transport energy demand from continued growth in the rates of motorization, this trend is expected to continue, especially if prices remain subsidized (see Figure 77 and Figure 78).

Figure 75. Price gap between Malaysia's fuel prices and East Asia and world prices



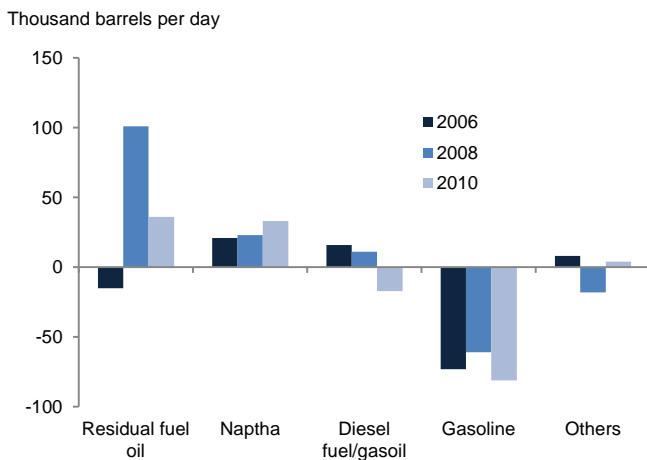
Source: World Bank staff calculations

Figure 76. Petrol consumption has risen sharply in the last decade, causing sharp rise in imports as well



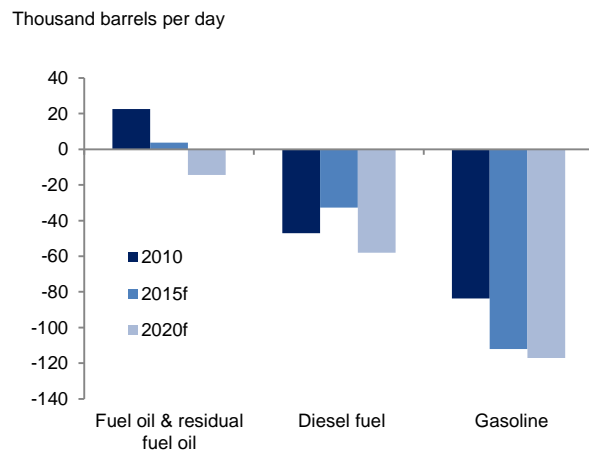
Source: World Bank staff calculations

Figure 77. The net trade position of major refined petroleum products has been deteriorating...



Source: World Bank staff calculations
 Note: Residual fuel oil (RFO) is the heavy oil comprised of non-distillates. Distillates, including fuel oil and diesel are included in the "Diesel fuel/gasoil" category.

Figure 78. ... and may deteriorate further into deficit positions as consumption rises

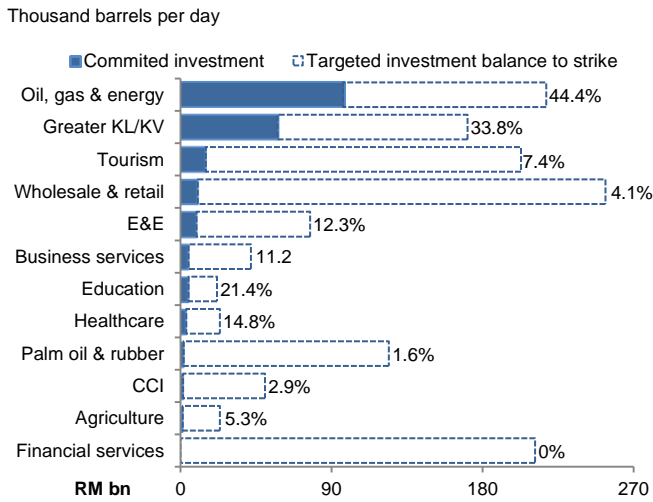


Source: World Bank staff calculations

Investments have grown more concentrated in commodity sectors

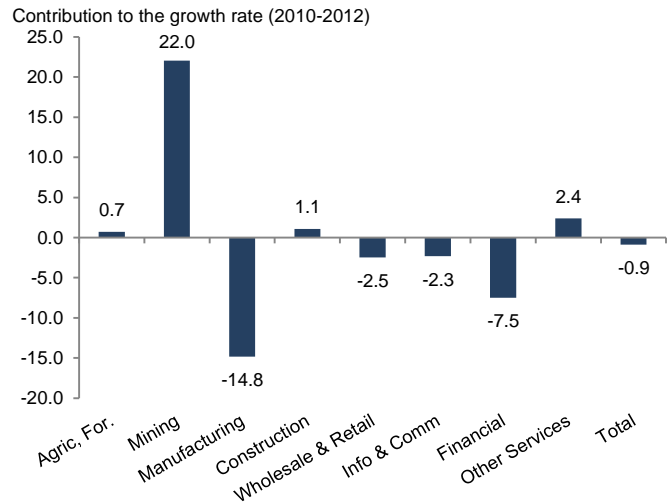
The recent pick-up in investments has focused on vertical rather than horizontal diversification. The investment boom observed in 2012 is an encouraging development, suggesting that savings are being again channeled to productive capital. However, investments have been mostly focused on resource sectors. These investments do promote further vertical diversification of the economy, which is welcome. However, efforts at horizontal diversification, which in the 1980s ran in parallel with vertical diversification, appear more subdued at the moment. Among committed projects under the Economic Transformation Programme (ETP), over half of the investments are in commodities sectors, even though the ETP targets a far bigger share from non-commodities (Figure 79). Similarly, gains in realized FDI have concentrated on the commodity sectors during the 2010-2012 investment boom (Figure 80), primarily at the expense of manufacturing and services. While the renewed investments in upstream and downstream commodities sectors are a welcome development and may strengthen the commodities sector itself, they also increase the exposure of the economy to the volatility of commodity prices when not accompanied by similar efforts to accelerate investments in non-commodity sectors.

Figure 79. More than half of the committed projects under ETP is in commodities



Source: PEMANDU

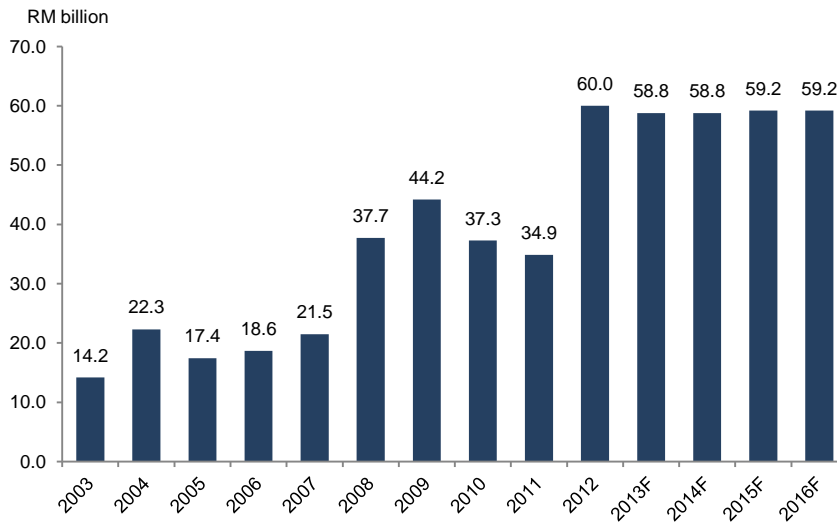
Figure 80. FDI has shifted to commodities during the investment boom



Source: CEIC and World Bank staff calculations

A related development is the scaling up of PETRONAS domestic capital expenditure plans. To address slowing production in domestic fields, PETRONAS has committed to spending about RM60 billion per year in 2012-2016, especially in developing new fields and enhancing recovery in old fields (see Figure 81). Many of these projects are part of the ETP, such as the Refinery and Petrochemical Integrated Development (RAPID) project in Iskandar, as well as construction of the Sabah Oil & Gas terminal and the Sabah-Sarawak gas pipeline.

Figure 81. PETRONAS plans to step up its investments, much of it domestically



Source: PETRONAS.

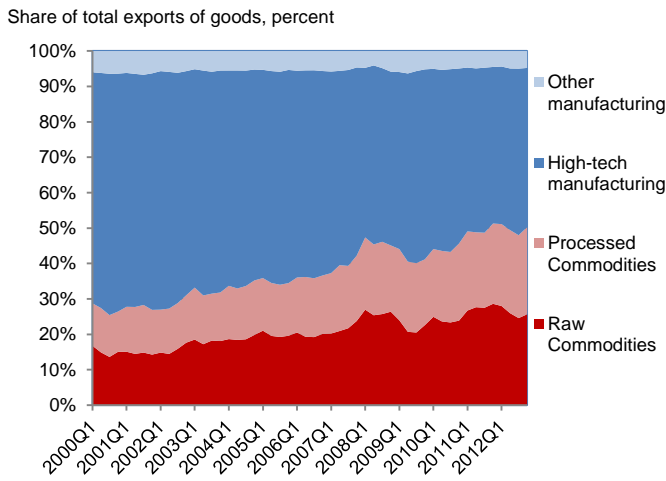
The economy has become more dependent on commodities

Commodities play a larger role in exports

Commodity exports expanded while high-tech exports declined, leading to a substantial shift in Malaysia's export basket. In the early 2000s, over 60 percent of Malaysia's exports were high-tech manufactured goods, especially electrical and electronic products (Figure 82). However, by 2012 nearly half of export value was attributed to commodities (an increase by nearly 20 percentage points), whereas the share of high-tech manufactured exports

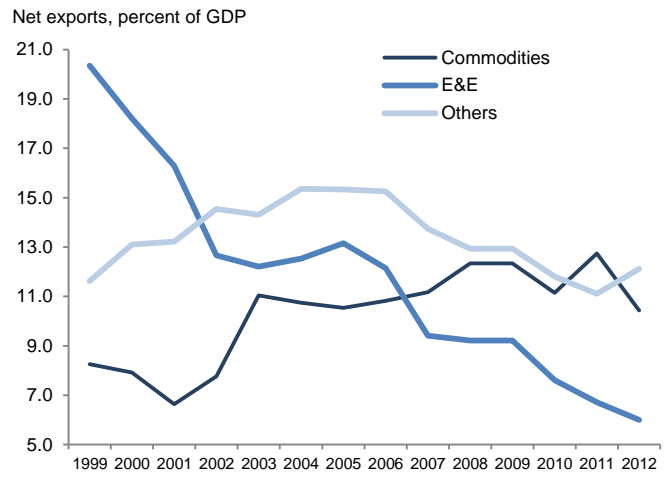
had dropped over 15 percentage points. Meanwhile, the share of processed commodities in total commodity exports increased marginally.

Figure 82. Malaysia's export basket moved towards commodities



Source: CEIC, World Bank staff calculations.

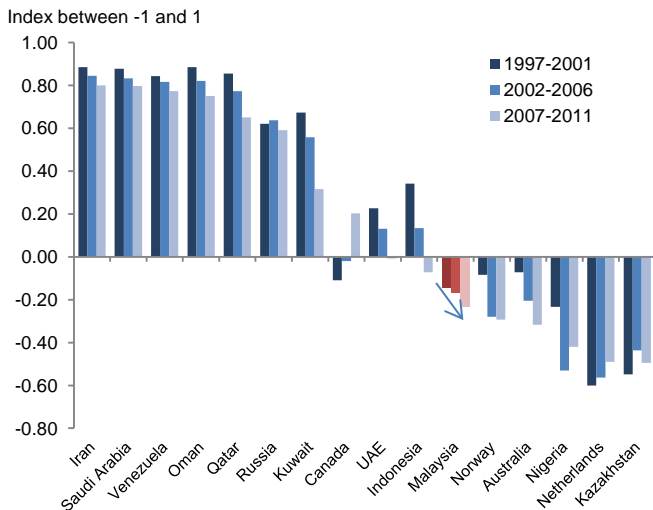
Figure 83. Net exports of E&E have plummeted



Source: CEIC, World Bank staff calculations.

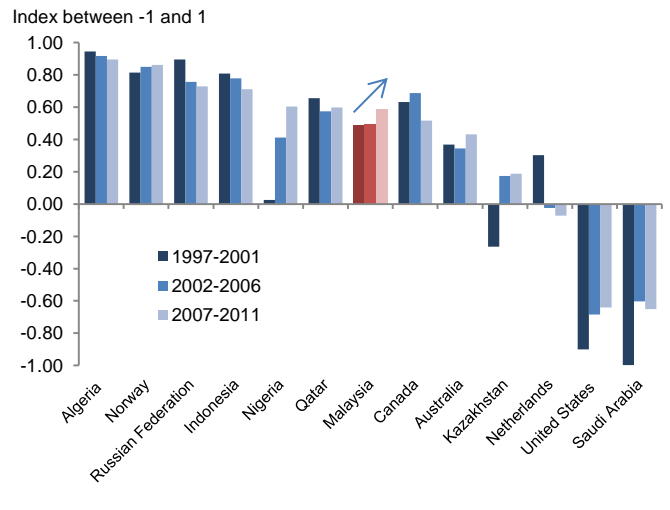
An analysis of Malaysia's revealed comparative advantage confirms competitiveness is moving towards processed commodities and natural gas and away from E&E. RCA indices monitored over time can point towards directional changes in comparative advantage (Maule 1996)¹⁷. Figure 84 through Figure 89 show the changes in Malaysia's RCA across three time periods, in comparison with other countries.

Figure 84. Revealed symmetric comparative advantage for crude oil



Source: World Bank staff calculations

Figure 85. Revealed symmetric comparative advantage for natural gas



Source: World Bank staff calculations

¹⁷ It is common in the empirical trade literature to measure international trade specialization and competitiveness of exports across countries by using the revealed comparative advantage method (Balassa, 1965). The RCA for a country in a given product is the ratio of the share of total exports that the product represents in the country's export basket and the share of global trade in that product. A product is over represented in a country's export basket if RCA is >1. $X_{c,p}$ is equal to the dollar exports of country c for product p, then the RCA of country c in product p is given by the following formula:

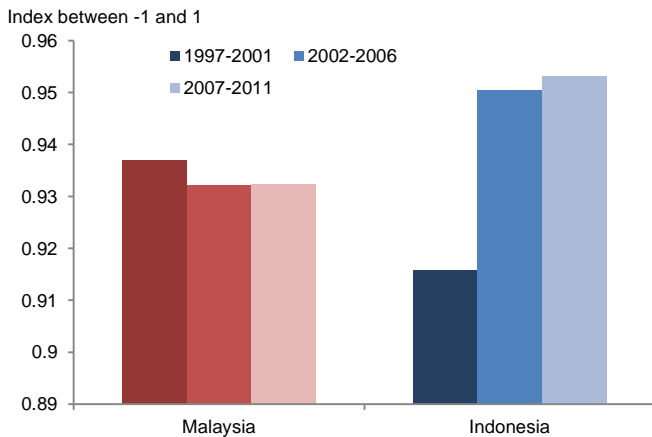
$$RCA_{c,p} \equiv \frac{X_{c,p} / \sum_p X_{c,p}}{\sum_c X_{c,p} / \sum_c \sum_p X_{c,p}}$$

The RCA index is made symmetric, obtained as $(RCA-1) / (RCA+1)$; this measure ranges from -1 to +1 (Larsen, 1998).

While Malaysia has comparative advantage on most raw commodities, RCAs have declined except for natural gas.

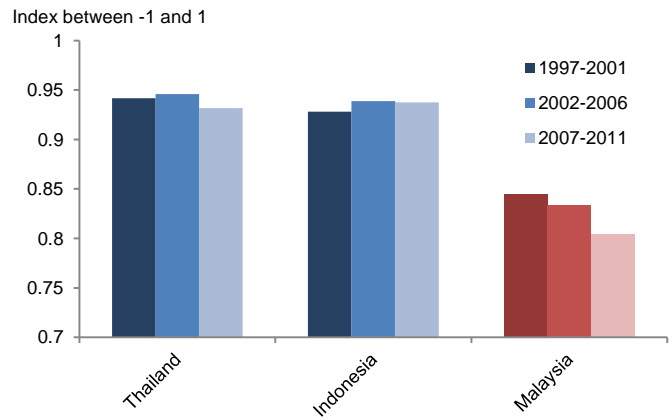
Malaysia is seen to have an increasing comparative disadvantage in the production of crude oil, compared to major oil exporters (Figure 84). Meanwhile, Malaysia enjoys a relatively significant comparative advantage and increasing trend of specialization in natural gas (Figure 85). As a major producer of crude palm oil (CPO), Malaysia still enjoys significant RCA for the commodity; however, there has been a gradual decrease in comparative advantage in recent times, particularly to Indonesia (Figure 86). Rubber exports have been on a declining trend as well (Figure 87).

Figure 86. Revealed symmetric comparative advantage for crude palm oil



Source: World Bank staff calculations

Figure 87. Revealed symmetric comparative advantage for rubber

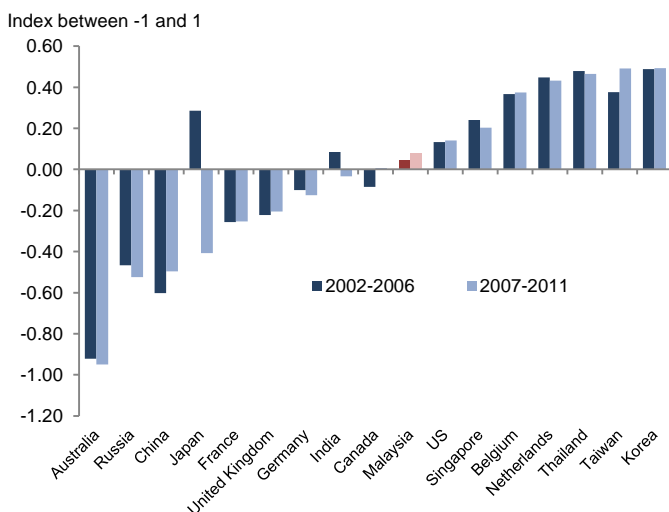


Source: World Bank staff calculations

Malaysia's competitiveness with respect to downstream petroleum and oleo-chemical products has been on the rise, while competitiveness in E&E has been declining.

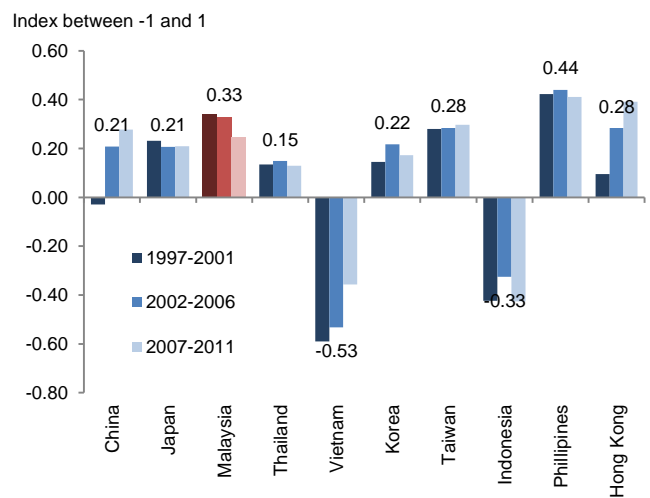
Malaysia has positive and growing comparative advantage for petrochemical and polymer industries, although this specialization is far less than key regional players such as Singapore, Korea, Taiwan and Thailand (Figure 88). Despite the relatively small size of downstream industries arising from CPO such as oleochemicals, Malaysia also has a high and growing RCA in that sector, particularly due to basic chemicals such as fatty alcohols and fatty acids (Figure 89). The increase in Indonesia's RCA is also notable. Meanwhile, Malaysia still has revealed comparative advantage in producing electrical and electronic products, but this has declined significantly between 2002-2006 and 2007-2011. This confirms that the steady decline in output and exports following the global financial crisis reflects a loss of competitiveness.

Figure 88. Revealed symmetric comparative advantage for petrochemical products



Source: World Bank staff calculations

Figure 89. Revealed symmetric comparative advantage for E&E products

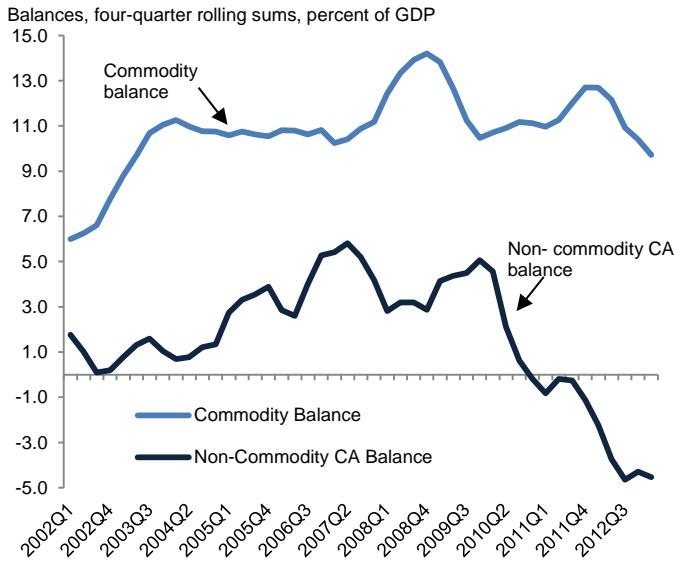


Source: World Bank staff calculations
Note: Includes machinery

The current account has become dependent on commodities

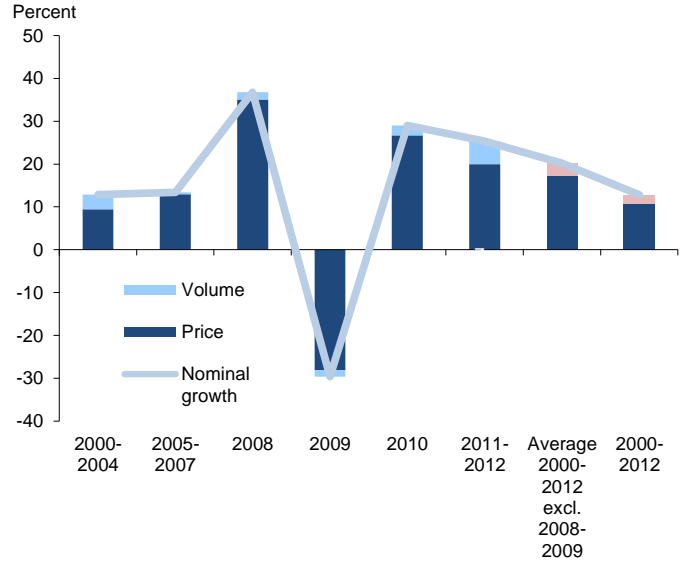
The Malaysian trade balance is now essentially wholly contributed by commodities and export growth, reflecting commodity price increases. The non-commodity balance turned sharply downward following the global financial crisis, and into negative territory since the fourth quarter of 2010, largely due to the increase in capital goods imports that accompanied to boom in investments (Figure 90). Meanwhile, the commodity balance has remained stable and high, supported until recently by rising commodity prices, as volume has been constrained by factors such as declining oil reserves and limited arable land for crops (see Figure 91).

Figure 90. The current account would be in deficit if not for commodity revenues



Source: CEIC and World Bank staff calculations.
Notes: See Figure 19.

Figure 91. Prices contributed to 86 percent of commodity export growth in 2000-2012

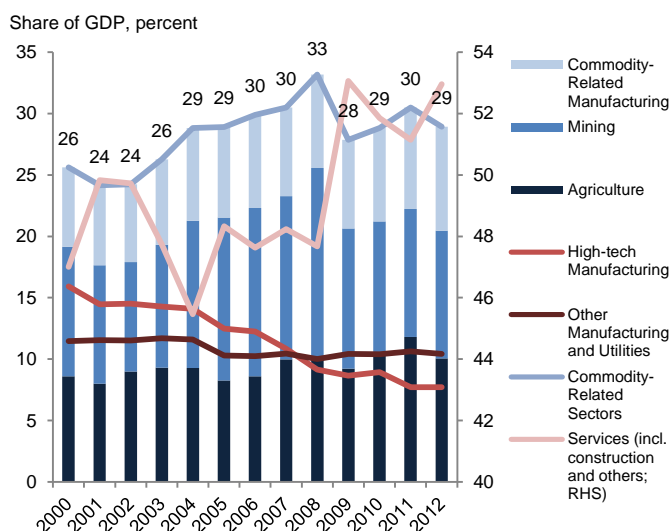


Source: CEIC and World Bank staff calculations.

Economic performance has been increasingly linked to commodity prices

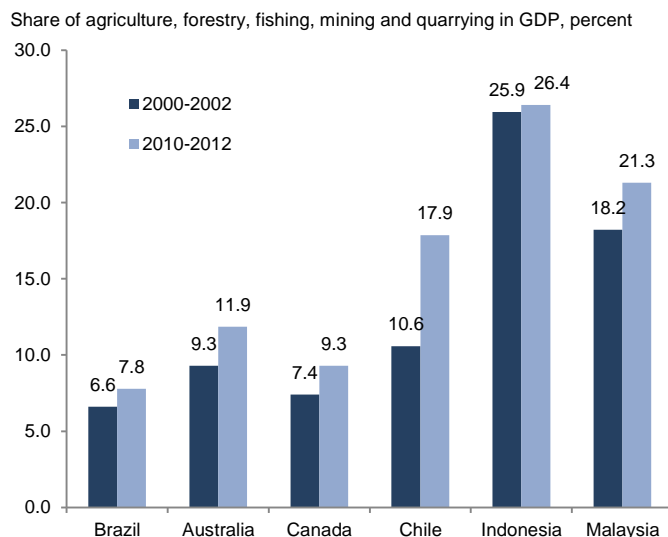
The role of commodities in GDP has also increased, though this is not atypical of other large commodity producers. From an average of 25 percent of GDP in 2000-2002, the share of commodity related sectors, including downstream activities of in the oil and gas sector, increased to about 30 percent between 2010 and 2012 after peaking at 33 percent in 2008 (Figure 92). Although the bulk of the increase can be accounted by a higher share of raw commodities, especially agriculture (+2.2 percentage points), petrochemicals expanded faster than mining (+1.7 vs. +0.9 percentage points) suggesting continued diversification downstream in the oil and gas sector. The increase in the role of commodity sectors in the economy was not atypical of large commodity producers both developed and developing, although the increase in raw commodities in Malaysia's GDP was second only to Chile (Figure 93).

Figure 92. The share of commodity-related sectors in GDP increased since 2000



Source: CEIC and World Bank staff calculations.

Figure 93. The expansion of raw commodity sectors was not out of line with other commodity producers



Source: CEIC, Australian Bureau of Statistics, Banco Central de Chile and World Bank staff calculations.

The increased share of commodities in GDP has been accompanied by higher correlation between GDP and commodity prices, an increase that has been larger in Malaysia than in other commodity-producing countries. To see this effect, a simple correlation analysis is performed between commodity prices and nominal GDP, and compares Malaysia to other countries that have commodities as a major contributor to their economy, namely Brazil, Chile, Indonesia, Canada and Australia (see Table 8). The correlation has been split into three distinct periods, with the breaks identified as the periods when commodity prices increased, in 2003 in the aftermath of the US-led invasion of Iraq and in 2007 as the emerging market economies, particularly China, began to exert substantial demand pressure on most commodities. If the correlation rises across the periods, the assumption is that commodity prices have an outsized influence on the business cycle, exaggerating the upward and downward cycle of an economy in line with the direction of commodity prices. Indeed, the terms of trade (ToT) shock derived from the commodity price movement dictates the direction of the economy.

Table 8. Comparison between commodity producer nations

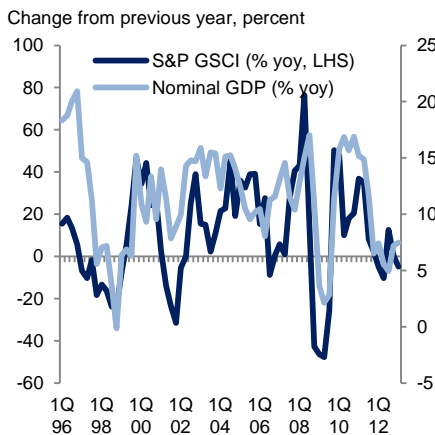
	Major commodities exported	Share of commodities to total exports	Share of commodities to GDP	Resource revenue in percent of total fiscal revenue	Reserve horizon (in years)	
Brazil	Iron ore, soybeans, coffee, sugar cane	39	8	...	19	oil
Australia	Iron ore, coal, milk, beef, gas	70	12	7	84	gas
Canada	Oil, gas, timber, iron ore	34	9	2	>100	oil
Chile	Copper	53	18	23	...	
Indonesia	Coal, copper, tin, palm oil, rubber, timber, oil, gas	60	26	23	39	gas
Malaysia	Palm oil, gas, rubber	32	21	37	39	gas

Source: Haver Analytics, BP Statistical Review of World Energy 2012, IMF (2012), Connolly and Orsmond (2011), Australian Bureau of Statistics, Banco Central de Chile and World Bank staff calculations.

Note: Fiscal revenue data refers to 2006-2010 average for Chile, Indonesia and Malaysia (IMF 2012), 2010 for Australia (Connolly and Orsmond 2011) and 2006-2010 for Canada (CEIC). Reserve horizon figures are taken from the BP Statistical Review of World Energy. Share of commodities to GDP corresponds to the share of agriculture, forestry, fishing, mining and quarrying to GDP, 2010-2012 average.

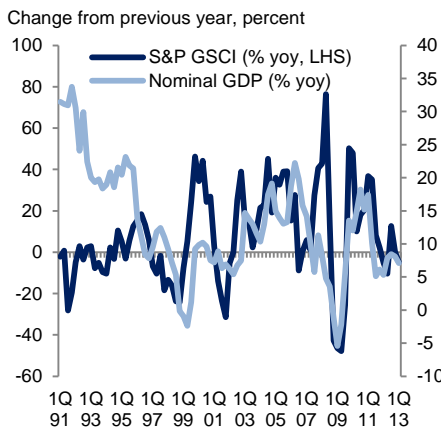
Among emerging economies, correlations of GDP growth and commodity prices have generally increased in the past decade as would be expected. The correlation in Brazil has been rising since 2007 (see Figure 94), as Brazil's key commodity exports, particularly iron ore and soybean, began to see sharp rises both in terms of volume and prices. Brazil struggled to manage the appreciation of the Brazilian currency, the real, in 2009-2011, amid the rising inflow from high commodity prices and foreign investments. Surprisingly, Chile, seen as the economy that has successfully pursued aggressive counter cyclical fiscal policy to mitigate the effects of copper exports to its economy, saw a sharp rise in co-movements after 2007, in line with the huge rise in copper prices during the period (see Figure 95). Indonesia, which has also successfully pursued countercyclical fiscal policy by reducing its dependence on oil and gas revenue, also saw a rise in co-movements after 2007 (see Figure 96), in line with the rise of its other commodities, particularly copper, coal, tin and palm oil.

Figure 94. Brazil's correlation is rising



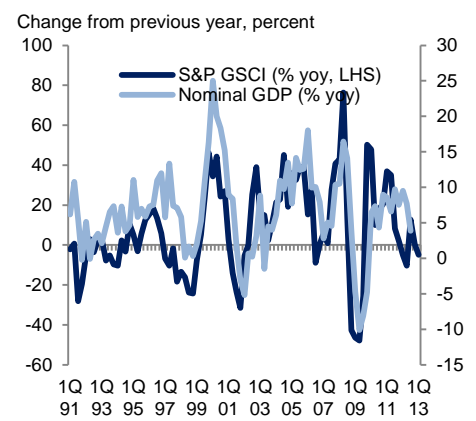
Brazil	Correlation
1996-2002	0.46
2003-2006	-0.22
2007-2013	0.65

Figure 95. Chile's correlation turned sharply higher after 2007



Chile	Correlation
1991-2002	-0.16
2003-2006	-0.11
2007-2013	0.60

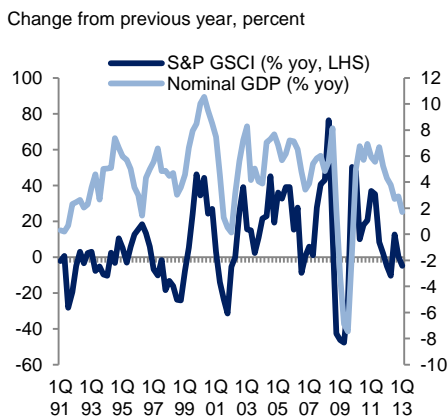
Figure 96. Indonesia's correlation turned higher as well after 2007



Indo	Correlation
1991-2002	0.62
2003-2006	0.31
2007-2013	0.59

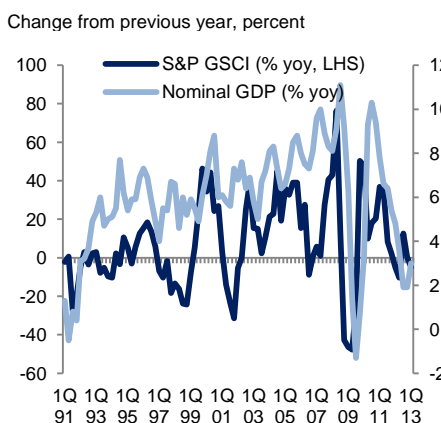
Source: Haver Analytics and World Bank staff calculations.

Figure 97. Canada's correlation is relatively constant, if elevated



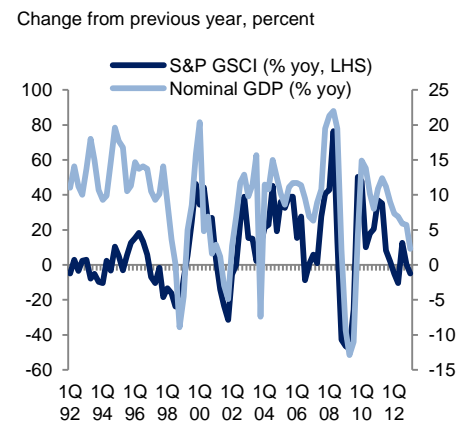
Canada	Correlation
1991-2002	0.63
2003-2006	0.53
2007-2013	0.59

Figure 98. Australia's correlation has actually declined



Australia	Correlation
1991-2002	0.36
2003-2006	0.25
2007-2013	0.25

Figure 99. The correlation increased significantly in Malaysia



Malaysia	Correlation
1992-2002	0.43
2003-2006	0.25
2007-2013	0.80

Source: Haver Analytics and World Bank staff calculations.

Developed economies did not show significant changes in correlations. Canada's correlation has been relatively constant, if elevated (see Figure 97), possibly because timber, its most important export, has had a more muted price rise than other commodities. This meant that the effect of commodity prices on the business cycle is more predictable, ensuring much less problematic policymaking. Interestingly, in Australia, the correlation has actually declined during the period (see Figure 98), which perhaps hints at the resilience of the non-tradable sector in playing a bigger role in the business cycle as opposed to commodities, despite the rise in prices. In addition, as Australia is a net oil importer, rising oil prices may have offset the positive price effect earned by Australia's key commodity exports, namely coal and iron ore.

In Malaysia, the correlation between commodity prices and GDP growth increased substantially over the past five years. During 1991-2002, the correlation was at 0.43, and actually turned lower to 0.25 between 2003 and 2006. One possible reason is that during this period, while oil prices climbed, the other major commodities, particularly palm oil and liquefied natural gas (LNG), rose at a more moderate pace. However, since 2007, as both palm oil and LNG prices climbed, the correlation rose sharply to 0.80, the highest figure among the countries analyzed (see Figure 99).

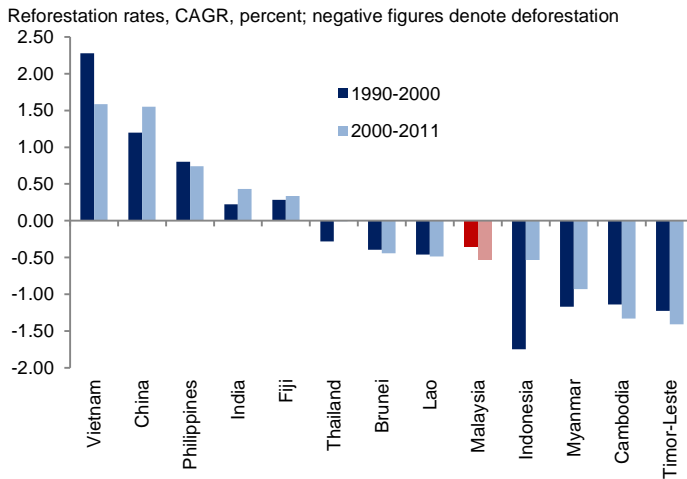
Environmental concerns have increased

Deforestation in Malaysia has increased somewhat over the past decade, to some extent due to the expansion of palm oil plantations. Tropical rainforests in South America, Central Africa and Southeast Asia, have long been recognized as one of the most productive and bio-diverse types of forests in the world. Nevertheless, in the past two decades, these forests have been threatened by a high rate of deforestation primarily led by land-clearing for agriculture, timber logging activities and oil palm expansion. Cross-country comparisons show deforestation rates in Malaysia have worsened slightly compared to most other countries in the region, declining by 0.5 percent on average each year during 2000-2011 (1990-2000: -0.36 percent; see Figure 100). As the palm oil industry expanded, the industry has drawn scrutiny on issues concerning climate change, biodiversity conservation and improving the livelihoods of poor farmers in rural communities. An evaluation by FAO in 2005 on land cover data revealed that between 1990 to 2005, approximately 55–59 per cent of oil palm expansion in Malaysia (0.83–1.1 million ha), and over 56 per cent of that in Indonesia (1.3–1.7 million) occurred at the expense of natural forest cover (Koh and Wilcove 2008). As a result, there was a loss of 6.1 percent of forest cover area between 1990 and 2011.

Deforestation can have severe impacts on ecosystem services and biodiversity. Globally, deforestation and forest degradation through agriculture, forestry and other land use activities (known as AFOLU) account for nearly 20 percent of global greenhouse gas emissions (UN-REDD Programme 2013), and 16 percent in Malaysia. Although the latest available greenhouse gas inventory for Malaysia was taken for the year 2000, it can be extrapolated that the increase in deforestation since then has been accompanied by an increase in greenhouse gas emissions, which then contributes to climate change. Conversely, it has been estimated that a 1 percent and 5 percent reduction in deforestation rate can reduce about 3.34 Mt and 16.68 Mt of CO₂ equivalents respectively from now until 2020 (Ministry of Natural Resources and the Environment 2011)

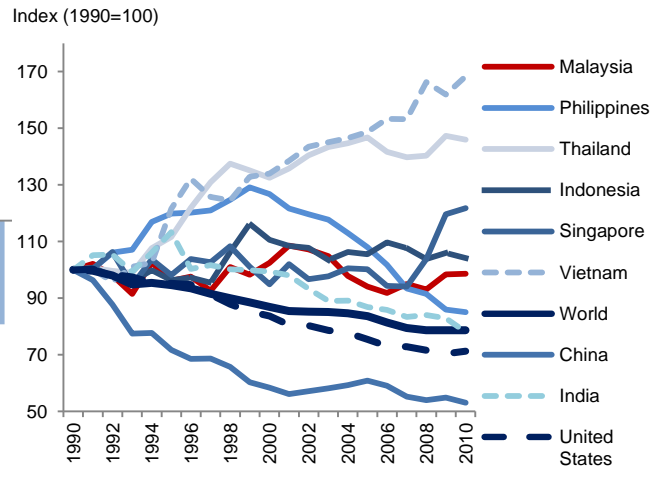
These concerns have exerted pressures on practices implemented within the intricate palm oil supply chain and led to the creation of the Roundtable on Sustainable Palm Oil (RSPO). The RSPO is a multi-stakeholder initiative based in Malaysia set up with the objective of advancing best practices across various segments of the supply chain, including growing, refining and distribution of palm oil products as well as financing. According to the World Wide Fund for Nature (WWF), certified sustainable palm oil (CSPO) now represents 10 percent of the global palm oil market. Europe is trending towards a fully sustainable palm oil market, with countries such as Belgium and Netherlands already targeting a deadline of 2015. In addition, large brands and retailers such as Wal-Mart, Marks & Spencer, Unilever and Nestle have made commitments to source only CSPO. As a result, RSPO certification could potentially become a basic entry requirement for suppliers of major international supply chains, rather than an incentive to allow access into higher value markets (Dallinger 2011 cited in Azmi and Nagiah 2013). In Malaysia, the implementation of RSPO standards can be challenging given the fact that 40 percent of the plantation area is managed by smallholders. Independent smallholders, who are not part of any extension scheme, may encounter difficulties given their limited exposure to institutional, technical and financial support as well as lack of knowledge regarding best practices and technologies. The high cost associated with obtaining certification is also another barrier for participation in RSPO (see Box 6 for more details on RSPO).

Figure 100. Deforestation rates in Malaysia worsened in 2000-2011 compared to 1990-2000



Source: FAOSTAT, 2012, latest available data

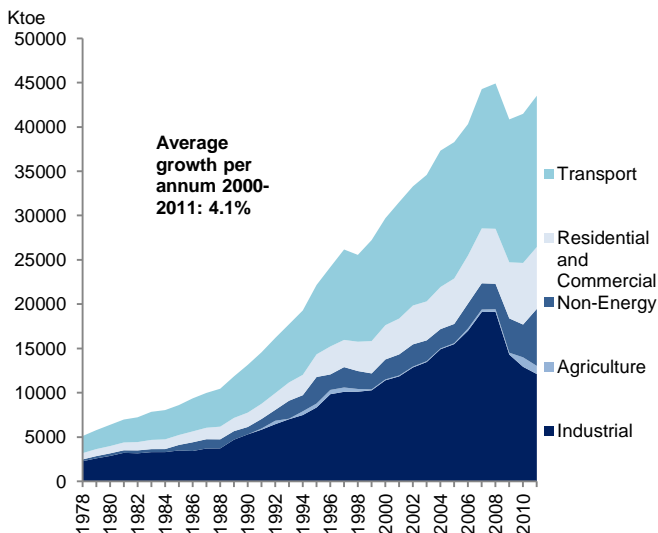
Figure 101. Total primary energy consumption per dollar of GDP (PPP)



Source: US Energy Information Agency.

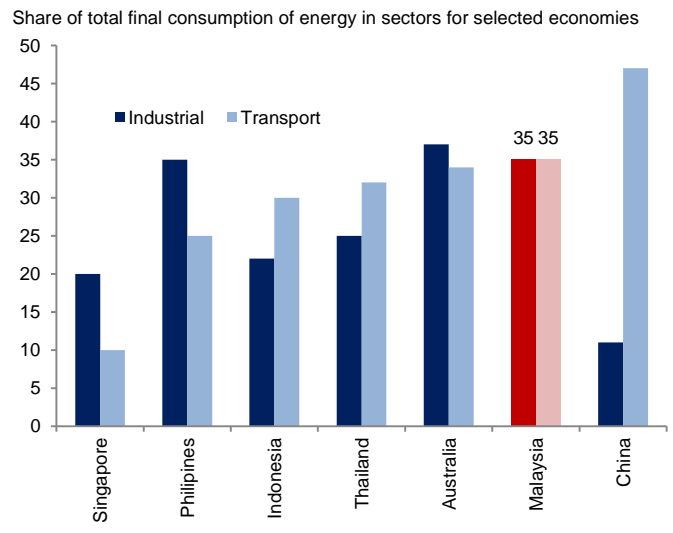
Energy subsidies have contributed to an increase in the energy intensity of the Malaysian economy and accompanying carbon emissions. Trends in aggregate primary energy use intensity have been declining since 1990 with the exception of some ASEAN countries (see Figure 101). These reductions can be attributed to strong efficiency improvements arising from the introduction of modern and efficient technologies. In the case of Malaysia, although there was on average a decline of -1.7 percent per annum in energy intensity from 2001-2006, this trend was reversed with a positive growth of 1.8 percent per annum from 2007-2010 (see Figure 102). This is attributable to the increase in the final demand for energy from the transport segment as the manufacturing sector decreased as a share of GDP. The share of energy use by the transport sector in Malaysia is second only to China (Figure 103). High transport energy demand is related to Malaysia's high levels of motorization. The Malaysian motorization rate in 2010 was 361 motor vehicles for every 1000 people, which is comparable to high income nations such as South Korea (363 per 1000 people; World Bank 2013d). A recent World Bank study (2013e) states that Malaysia's greenhouse gas emissions are also high for a country with its per capita income and level of development: per capita carbon dioxide emissions were 114 percent higher than the average for countries in East Asia and Pacific and 88 percent higher than the global average for all middle-income countries (UNDP 2007, cited in World Bank 2013e).

Figure 102. Final energy demand by sectors in Malaysia



Source: US Energy Information Agency.

Figure 103. Within the region, Malaysia is second only to China in usage of energy for transport



Source: US Energy Information Agency.

Box 6. The Roundtable on Sustainable Palm Oil

The oil palm industry has been criticized for causing large-scale deforestation and being a major contributor to greenhouse gas emissions. Some 70 percent (4.2 million ha) of Indonesia's oil palm plantations are on land that was previously forested; more than 56 percent of the expansion between 1990 and 2005 occurred at the expense of natural forest cover. Similarly, about half of Malaysia's oil palm expansion has been at the expense of forests. In common with other forms of large scale agriculture, oil palm plantations harbor much less biodiversity than natural forests and they do not provide the same level of other environmental services, such as carbon storage.

Land use change and deforestation are the largest single contributors to greenhouse gas emissions in tropical countries such as Brazil and Indonesia. Some 12 percent of Indonesia's land area (21 million ha) is classified as peat land, and some 25 percent of oil palm is estimated to have been established on peat of varying depths. Development of oil palm on peat land causes especially high levels of carbon emissions and irreversible damage to fragile ecosystems.

Responding to these concerns, in 2001, the World Wide Fund for Nature (WWF) commenced exploring the possibilities for a Roundtable on Sustainable Palm Oil. Sustainable palm oil production is comprised of legal, economically viable, environmentally appropriate and socially beneficial management and operations. The result was an informal co-operation among Aarhus United UK Ltd, Migros, Malaysian Palm Oil Association and Unilever together with WWF in 2002. Since then, other large plantation companies including FELDA, Sime Darby and the IOI Group have become members, with the Secretariat being based in Kuala Lumpur.

Since its inception, the RSPO has successfully developed a standard (its Principles and Criteria) and a certification system to certify that palm oil plantations are managed in a sustainable fashion. Notwithstanding the progress it has made, critics point to the need for the RSPO to continue to broaden its stakeholder representation and to strengthen its audit and enforcement capacity.

While independent certification for sustainable management of oil palm plantations can be an effective way to promote sustainable production of palm oil, in practice, the comprehensive requirements in the RSPO certification scheme are likely to be beyond the capacity of most smallholders, who thus may be significantly disadvantaged. This concern is being actively addressed by the RSPO, and it has proposed remedies such as the inclusion of smallholders in the certification process for larger plantations or separate certification of groups of smallholders.

Source: Adapted from World Bank (2011a).

Social indicators remained in a favorable trajectory

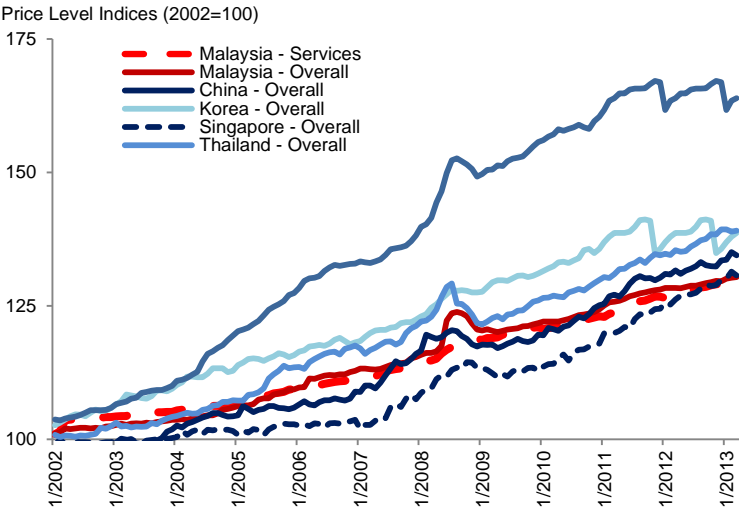
Social indicators continued to improve over the past 10 years. As noted in Chapter 2, household incomes continued to grow strongly during the past decade and poverty has been nearly eradicated. Notwithstanding concerns about the cost of such largely untargeted interventions, these trends suggest that some of the government transfers reached the needy, and that rural households were able to benefit from higher commodity prices during the boom. Moreover, government policies, including subsidies, helped keep inflation relatively low and thus secured the purchasing power of low-income households.

The increase in commodity prices led to an increase in household incomes, especially among rural households given the direct link with rising prices. About 200,000 Malaysian palm oil and rubber smallholder households benefited from rising commodity prices as their incomes rose in line with the rising commodity prices thanks to farmgate pricing practices that followed global prices. Workers in the oil and gas sector tend to have much lower levels of employment (less than 50,000), but also enjoyed higher salaries.

Malaysia's inflation rate has been relatively low, providing a measure of purchasing power protection to low income households. Malaysia's inflation rate has been low over the past decade, especially when compared to its peers

(Figure 104). There are four main factors that helped contain domestic price pressures in Malaysia. The first factor is the fixed pricing system that exists on fuel prices, natural gas and electricity prices. Fuel, including petrol, diesel and liquefied petroleum gas (LPG), has been priced since 1983 using a pricing system called the Automatic Price Mechanism (APM) that ultimately ensures a fixed retail price that tends to deviate substantially from the world market price (see Box 7). The second factor is the fixed pricing of natural gas that is used primarily in generation of electricity and energy source for many manufacturing industries, such as rubber gloves.

Figure 104. The inflation rate in Malaysia is low and comparable to its ASEAN peers



Source: CEIC and World Bank staff calculations

The third factor is the Government's network of price controls for major household goods. These are either subsidized directly or are indirectly administered by the requirement for Government approval to increase prices. Approximately 30 percent of the goods basket in Malaysia's Consumer Price Index consists of these types of goods, thus playing a major part in keeping inflation rates low. Such a system has shielded both households and firms from fully realizing the full price effect of these goods, thus protecting their purchasing power. (see Table 9)

Table 9. List of price-administered goods in Malaysia

Price-administered goods	
Price Control Act, retail price determined by the Government	Items where any changes in prices require Government approval
Items	Items
Food	Alcoholic Beverages and Tobacco
Rice	Beer
Flour & other cereal grains	Wines
Bread & bakery products	Spirits & Liquors
Fresh meat	Cigarettes, cigars, etc.
Oils	Housing, water, electricity, gas and other fuels
Sugar	Water supply
Non-food	Electricity
Gas	Communication
Fuel & lubricants	Telephone and telegraph services & equipment
	Postal services
	Transport services
	Passenger transport (rail, road, air, sea)
	Other transport charges

Source: Bank Negara Malaysia Annual Report 2011

The fourth factor is the influx of foreign workers into the Malaysian economy. The numbers of foreign workers picked up significantly in the past decade, with a significant proportion being low-skilled workers. This has caused some form of wage depression that prevented significant wage inflation from taking place, with a potential impact of dampening consumer prices (Cortes 2008). While the influx of migrants may have had negative effects to the least-

educated Malaysian workers, it has helped the economy overall and thus played a role in the positive social outcomes beyond its effect on prices.

Box 7. The automatic price mechanism

In Malaysia, fuel prices¹⁸ are typically subsidized¹⁹, using the Automatic Price Mechanism (APM). This mechanism has been in place since 1983. The APM calculates the actual cost of fuel as a sum of the cost of oil, proxied by the daily Mean of Platts Singapore (MOPS) price; the 'Alpha', which is a fixed difference in price between MOPS and the actual price paid by refiners; a fixed operational cost; and a fixed profit margin for oil companies and oil station dealers (see Table 10). When the fixed retail price announced by the Government is lower than the actual cost, the Government pays a subsidy.

Prior to 2004, the mechanism of the APM system appeared to be effective in managing Malaysia's oil subsidies. This is because the system was set up so that the retail price of petrol would be set at a higher price relative to the market, while that of diesel (which was viewed as a more strategic fuel to contain inflation given its role in logistics) was fixed at a lower price. In short, the higher price of petrol cross-subsidized the lower price of diesel. The reason for this unique setup is three-fold. First, this ensures the system is able to finance itself at minimal cost to the Government. Second it acts as an implicit tax on personal consumption, as petrol is mainly used by passenger cars. Third, the revenue earned is then almost instantaneously channeled into subsidizing diesel prices, which are mainly used by diesel-powered commercial vehicles and other machines. The latter is a major input for many economic activities, and the subsidy is given with the intention to reduce the cost of doing business.

However, the efficacy of the APM system was contingent on crude oil prices remaining below USD30 per barrel. Since this price threshold was breached in 2004, both petrol and diesel have been directly subsidized by the Government. This rendered the APM system ineffective in mitigating the effect of rising oil prices. Importantly, the cost of subsidizing fuel has increased, putting pressure on the Government's budget, peaking at RM30 billion in 2008.

Table 10. Pricing of RON 95 Petrol and Diesel in Malaysia (as of June 2013)

Items	RON95 Petrol	Diesel
	(RM)	
Means of Platts Singapore (MOPS)	2.12	2.26
"Alpha"	0.05	0.04
Operating expense	0.10	0.10
Refinery margin	0.05	0.02
Petrol station's commission	0.12	0.07
Sales Tax (Ad Valorem)	0.59	0.40
Market price (as of June 2013)	3.02	2.89
Less: Sales Tax Exempted by Government	0.59	0.40
Less: Subsidy Paid by Government to Refiners	0.53	0.69
Final retail price to customer (as of June 2013)	1.90	1.80

Source: PETRONAS Dagangan Bhd

To address this, in 2009, the government had announced a Subsidy Rationalization Plan. A major component of the plan was the imposition of a cap on subsidies to both diesel and petrol at RM 0.30 per liter. Although crude oil prices

¹⁸ Refers to RON95 petrol and diesel. RON97 petrol is not subsidised.
¹⁹ The APM allows the government to collect an ad valorem sales tax (58.62 sen per litre for petrol, 40 sen for diesel), instead of paying a subsidy. However, this only applies if the cost of fuel is lower than the retail price. In practice, the converse is usually true, thus the government subsidises fuel prices.

have continued to increase, the government has since made few adjustments to the retail price of both fuels. As such, subsidies have far exceeded the announced cap and the government continued to sustain high fuel subsidies in its operating expenditure.

Compelling fiscal and economic case support measures to optimize oil consumption; especially as the Granger causality test seen in Box 10 below shows that these measures are unlikely to have an adverse impact on economic growth. Medium-term measures that have already taken place include the aforementioned Subsidy Rationalization Plan, as well as continued promotion of the use of renewable energy in vehicles through a differentiated tax regime that favors the use of hybrid and electric vehicles. Longer-term measures that have also begun to take shape include the construction of a new Mass Rapid Transit (MRT) line and extensions to the two existing Light Rail Transit (LRT) lines. This would help in reducing vehicle mileage, particularly in the highly urbanized Klang Valley area.

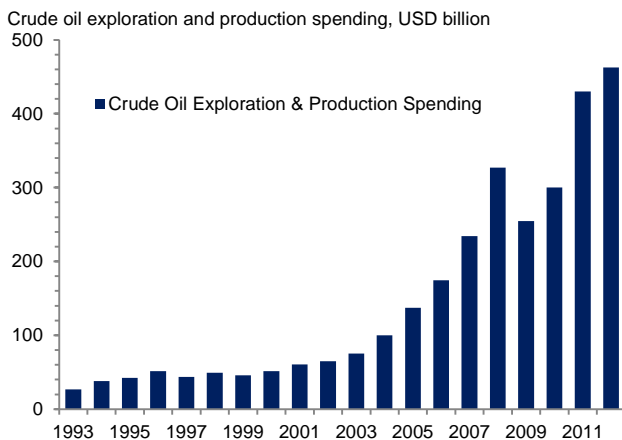
Source: Authors

2013 and beyond: outlook and risks of the status quo

Prices: an end of the commodity supercycle?

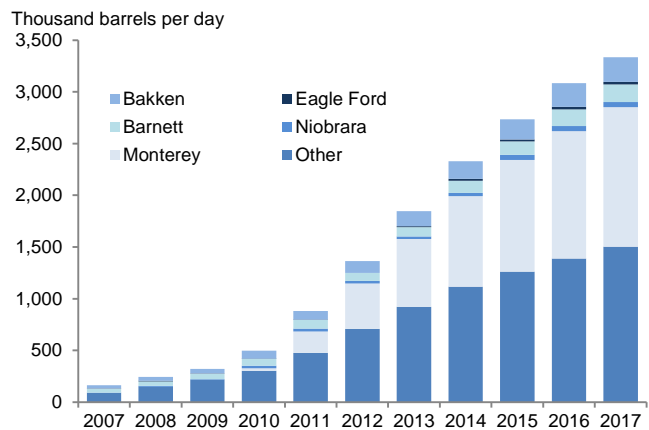
Structural factors have led to a “supercycle” of higher commodity prices in the 2000s. Jacks (2013) argues that prices of commodities can deviate from long-term trends for long periods in “super-cycles.” Super-cycles are “demand-driven episodes closely linked to historical episodes of mass industrialization and urbanization which interact with acute capacity constraints in many product categories—in particular, energy, metals, and minerals—in order to generate above-trend real commodity prices for years, if not decades on end.” According to the author, the prices of petroleum, gas and rubber are currently in such a super-cycle, driven by demand from emerging market economies, particularly China and India, coupled with supply constraints of these commodities, due to depleting reserves, limited arable land or inconsistent weather patterns amid climate change issues, and heightened geopolitical risks following the September 11, 2001 attacks in the United States. As an example, oil prices are today generally priced at approximately USD100 per barrel, more than quintupling the average price in the 1990s of just USD18 per barrel. LNG spot prices in Asia currently range from USD16-18 per million BTU, which is much higher from the USD3-4 per million BTU level in the 1990s. Palm oil prices are currently at RM2,200 per ton, which is somewhat lower than the highs seen in 2011-2012 of RM2,900 per ton, but far higher than the price in the 1990s, which was RM900 per ton. After having been in the doldrums in the 1990s with prices at about RM2-3 per kg, rubber prices currently range between RM8-10 per kg.

Figure 105. Capital expenditure in the resource sector is up 5-fold since 2000, putting pressure on prices



Source: World Bank 2013b

Figure 106. Rising shale oil production in the US over the next few years



Source: US EIA

However, an expected increase in supply with uncertain demand conditions suggests that prices of commodities experiencing a “supercycle” should decline, returning to their long-term averages. With the increase in prices, incentives for investments in production capacity increased and as a result capital expenditures in the resource

sectors grew five-fold since 2000 (Figure 105). With regards to oil, this resulted in a sharp increase in output of oil from shale in North America in the last two years. Shale oil output in the US over the next 4 years is expected to increase to about 3.5 million barrels per day (bpd) from the current level of 1.4 million bpd (Figure 106). Should this occur, oil prices would undoubtedly come under considerable downward pressure as the supply curve begins to shift outward. As more oil-importing countries, such as China, begin to produce shale oil in the near future and new capacity from new discoveries (at high extraction costs) comes online from Brazil for example, export demand for oil may slow down while supply increases – a trend already observed in the US's reduction of oil imports in the last two years - further putting pressure on oil prices.

LNG prices are also at risk from new supply sources and transportation technologies. Malaysia has benefited enormously from the rise in LNG prices in the last two years, with rising demand from Japan amid the post-Fukushima shift away from nuclear power to LNG in electricity generation, as well as the fact that LNG prices sold in North Asia are benchmarked on oil prices through the “Japan crude cocktail” formula. However, the rise in LNG imports, both in terms of volume and prices, have caused an enormous burden on the Japanese balance of payments position. As a result, Japan has already signed several long-term contracts to purchase LNG from US and Canada in the next few years, where gas prices are significantly cheaper as they are not benchmarked on oil prices, but on US- based Henry Hub prices instead. As Japan begins to switch its LNG purchase away from Malaysia (towards Australia for example), there is a good probability of LNG prices falling as well, coupled with the decline in oil prices due to the shale oil phenomena. Moreover, new capacity for LNG from Australia, Myanmar and Indonesia is expected to come online in the next five years, putting further pressure on prices.

Improved substitution of natural gas for oil and coal also has the potential to put downward pressure on energy prices. The sharp increase in natural gas supplies also induces substitution of coal by natural gas in various energy intensive industries, notably in electricity generation and petrochemicals. Although difficulties remain in substituting natural gas for petroleum products in the transportation sector (see Box 8), investments in such technological innovations have been accelerating and would put additional downward pressure on energy prices overall.

Palm oil prices are closely linked to crude oil prices, but the price pressure is already seen at the present time. From a high of RM3,480 per ton for CPO in April 2012, prices have turned sharply lower to about RM2,300 per ton as of April 2013. While the decline has been caused by higher production in both Malaysia and Indonesia and stagnant demand in consuming countries, these cyclical factors have masked the structural issue besetting the industry, which is the ongoing regional competition between Malaysia and Indonesia in dominating the palm oil industry. Moreover, a recent study (Baffes and Dennis 2013) finds that palm oil is the food crop whose price is most closely linked to crude oil prices. The authors estimate that on average, a 10 percent increase in the price of crude oil is associated with a 5 percent increase in the price of crude palm oil. The combination of a potential decline in crude oil prices and excess supply from uncoordinated development in the sector could lead to significant downward pressure on prices.

The demand conditions afforded by the fast rise of China in the 2000s are unlikely to be repeated going forward, just as new supply comes online. Growth in China is expected to moderate in the medium term as China switches from an investment-led growth model towards one emphasizing more household consumption and environmental conservation (see World Bank 2013b for more details). This will have important implications for commodity demand. Meanwhile, the recovery in advanced economies has proceeded much slower than would have been anticipated following the crisis, while other emerging economies remain a relatively small share of global commodity markets. This raises questions about demand conditions in the medium term, at a time when the new supply discussed above is expected to come online.

Box 8. The “energy revolution”, innovation, and the nature of substitution

Large, sustained price changes alter relative input prices and induce innovation (Hicks 1932). The post-2004 crude oil price increases did just that in both natural gas and oil exploration and extraction through new technologies such as horizontal drilling and hydraulic fracturing. Because of these technologies, the United States increased its natural gas production by almost 30 percent during 2005-12. Similarly, U.S. crude oil production increased by 1.3 mb/d over the

past four years. To put this additional oil supply into perspective, consider that *global* biofuel production in terms of crude oil energy equivalent was 1.2 mb/d in 2011.

Natural gas, which traded just 7 percent below oil in 2000-04 in energy-equivalent terms, averaged 82 percent lower in 2011-12 and has been trading close to parity with coal. On the other hand, growing U.S. oil supplies, coupled with weak demand, caused WTI to be traded at 20 percent below Brent, the international marker. The discount is expected to persist until 2015, when new pipelines and reversal of existing pipelines will move oil supplies from the Midwestern United States to the Gulf Coast.

Yet, the shift from crude oil to other types of energy, notably electricity and natural gas, with potential use by the transportation industry (which globally accounts for more than half of crude oil consumption) has been very slow. Such a slow response reflects the different physical properties of various types of fuel, namely density (the amount of energy stored in a unit of mass) and scalability (how easily the energy conversion process can be scaled up).

Energy density is measured in megajoules (MJ) per kilogram or liter. The energy densities of the fuels relevant to the transportation industry are 37 MJ/liter for crude oil, 1 MJ/kg for electricity, and 0.036 MJ/liter for natural gas (in its natural state). Compressed natural gas (CNG), used by bus fleets in large cities, is about 10 MJ/liter, while the density of liquefied natural gas (LNG) is 24 MJ/liter. For comparison, note that one MJ of energy can light one 100-watt bulb for about three hours.

To gauge the importance of energy density associated with various fuels and technologies consider the following illustrative example. If a truck with a net weight capacity of 40,000 pounds were to be powered by lithium-sulphur batteries (currently used by electric-powered vehicles) for a 500-mile range, the batteries would occupy almost 85 percent of the truck's net capacity, leaving only 6,000 pounds of commercial space. That is, an energy conversion process that works at a small scale (a passenger car) does not work at larger scales (in a truck, an airplane, or an ocean-liner). Similarly, to increase the energy density of natural gas, it must be liquefied, which involves cooling it to about -62°C at an LNG terminal, transporting it in specially designed ships under near atmospheric pressure but under cooling, and then offloading at destination, gasified and re-injected into the natural gas pipe network. This is a technically demanding process adding considerable costs at delivery.

Contrary to natural gas, crude oil products have convenient distribution networks and refueling stations that can be reached by cars virtually everywhere in the world. Thus, in order for the transport industry to substitute crude oil by natural gas at a scale large enough to reduce oil prices, innovations must take place such that the distribution and refueling costs of natural gas become comparable to those of crude oil, which explains why the transport industry is slow to utilize natural gas.

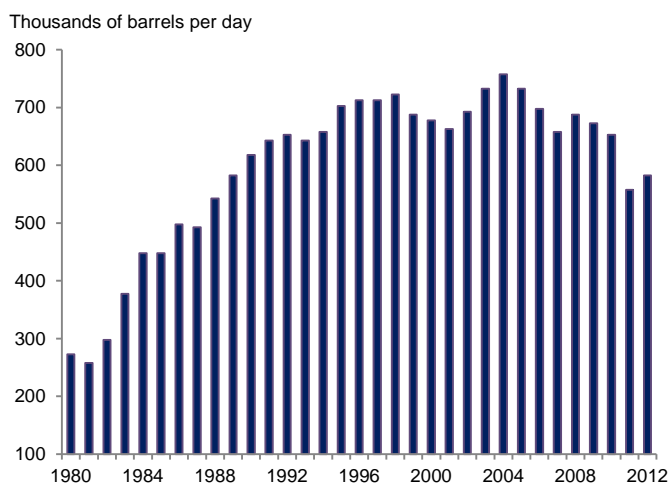
Source: Extracted from World Bank (2013)

Risks to the production outlook

The production outlook for domestic crude oil and palm oil face risks as well. Oil production trends in Malaysia have been on a downward trend since peaking at 760,000 bpd in 2004, dropping to 597,000 bpd in 2012 (Figure 107). This downward trend was due in part to maturing fields, and in part by the declining production at the Kikeh field in offshore Sabah, which was expected to produce a maximum of 100,000 bpd, but due to problems in some of its wells, have seen its production decline to less than half its original capacity (see Figure 108)²⁰. Gas production has been volatile, affected by scheduled and unscheduled maintenance shutdowns in 2011 and 2012.

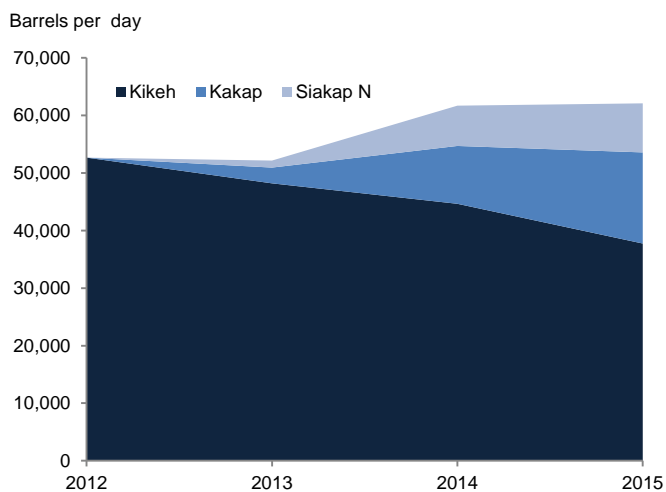
²⁰ The figures are taken from the Murphy Oil. By comparison, PETRONAS argues that for 2012, Kikeh production is closer to 70,000 barrels per day. The decline in production to Kikeh is also attributed to lower technical potential (reservoir) and ageing facilities.

Figure 107. Malaysia's crude oil and condensate production has been generally declining since 2004



Source: BP Statistical Review of World Energy 2012

Figure 108. Kikeh field production expected to decline



Source: Murphy Oil

Palm oil production is constrained by lack of new land for plantations at the same time that increased demand for urban housing increases incentives to convert plantations to residential estates. This rise is further heightened by the sprawling nature of urban development in Malaysia, which is linked to high rates of motorization and distorted fuel prices as discussed earlier. This was seen initially in the Klang Valley, then in the area around Seremban in Negeri Sembilan, and now in the Iskandar Malaysia Development Region in southwest Johor. On the other hand, stricter environmental regulations limit expansion of palm plantation into new areas. As land becomes ever scarcer, the only way for Malaysia to increase its palm oil output is through improving yields, but Malaysia's oil extraction rate (the rate of palm oil extracted from the palm fruit) has essentially stagnated at about 20 - 21 percent over the last 10 years.

Possible implications of a sharp and sustained decline in commodity prices

There is a modest risk that Malaysia's current account position could turn to a deficit in the event of a sharp decline in commodity prices. It is estimated that the current account surplus could shrink by 70 percent in the case of a 30 percent uniform reduction in commodity prices. Price declines are unlikely to be compensated by higher export volume of these commodities in the near term due to the production constraints as explained earlier, thus the likelihood of a deficit in the current account is high. With the rise in LNG imports into Malaysia to cater for rising gas demand in Peninsular Malaysia, this too will narrow the surplus of gas revenue into Malaysia and have a negative impact on the trade balance. Finally, with the continuing rise in oil consumption, Malaysia could become a net importer of oil in the near term, especially if Malaysia's oil production remains constrained at the 600,000-620,000 bpd level. A mitigating factor is the significant volume of capital goods imports associated with investments in the oil and gas sectors. Such investments could also slow, although this would have different adverse effects in the economy as discussed below.

Significantly lower commodity prices may also affect recent investments in both the upstream and downstream oil and gas sector. Progress on the RM60 billion RAPID oil and gas integrated project in southeast Johor has been delayed by several months and could be further postponed if oil prices were to decline more decisively. In addition, risk sharing contracts (RSCs) that have been used to explore marginal oil fields (see Table 11) expose PETRONAS to risks such as the abandonment obligation or, in certain cases, of full reimbursement to the contractor in the event that prices decline. Given the significance of investment in commodity sectors to Malaysia's recent expansion, this would imply a significant decline in growth.

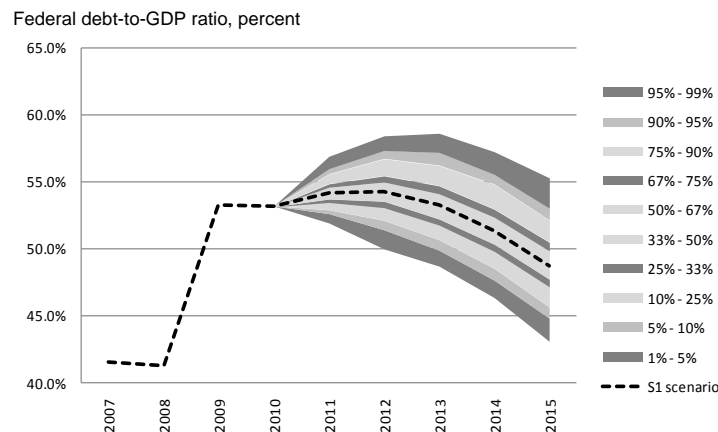
Table 11. Comparison between Production Sharing Contract and Risk Sharing Contract in Malaysia

Terms	Production Sharing Contract	Risk Sharing Contract
Production entitlement	Contractor shares production entitlement from cost recovery and oil and gas profit	100% production volume belongs to PETRONAS
Cost recovery/reimbursement	Contractor recovers the costs in kind up to specified percentage of production	PETRONAS reimburses contractor the cost in cash from the allocated revenue of the field
Contractor's profit	Contractor is entitled to a specified profit share from the remaining production after royalty and cost recovery	PETRONAS pays contractor an agreed fee for the service provided subject to actual performance. Upside potential exists depending on both production and capex performance
Contractor's tax	Under Petroleum Income Tax Act (38%)	Under Corporate Income Tax Act (25%)
Abandonment	Contractor pays abandonment and research levy	No levy for abandonment and research

Source: PETRONAS.

Another major risk to a decline in oil prices is the fiscal revenue. Should oil prices decline, this would have a direct impact on fiscal revenues, but also an indirect one if as a result of lower commodity prices the economy slows. As the spending on operating expenditure, including civil servants' salaries and supplies and services are largely pre-committed and difficult to adjust downwards, the fiscal deficit could worsen. One mitigating factor is that oil subsidies would fall due to the decline in prices as they did in 2009. However, oil-related expenditures are lower than oil-related revenues and therefore lower oil prices are a net negative for the Budget. A stochastic debt sustainability analysis in the November 2011 Malaysia Economic Monitor (World Bank 2011b) suggests that under very adverse circumstances with respect to oil price developments and domestic real output growth, by 2015 federal government debt could remain above 55 percent of GDP even under expenditure consolidation (Figure 109).

Figure 109. The debt-to-GDP ratio varies by 10 percentage points by 2015



Source: World Bank (2011b).

In summary, a significant and sustained decline in commodity prices could lead to twin deficits in the budget and current account, as well as a slowdown in growth as commodity-related investments are delayed. While the magnitude and length of such a decline is well beyond current expectations (as noted earlier, even a 30 percent decline in prices is unlikely to lead to a current account deficit), the risks should not be ignored and highlight the need to build additional buffers to insulate the economy from such a potential slowdown.

Well beyond 2012: potential impact of climate change

Climate change presents a threat to the plantation crops sector in Malaysia. While climate change is a complex issue requiring adaptation across a range of sectors, the following discussion will focus on specific adaptations for the plantations sector. Climate change could manifest as shifts in average climatic conditions (such as temperature and rainfall) seasonality (onset, end, and variability), geography (locations where certain climatic conditions can be found), and extreme weather events (intensity, regularity and location) (ICEM 2012). Using PRECIS and ECHAM4 climate models, SEA START's (2009) future climate projection for Southeast Asia indicates wetter rainy seasons and increase in inter-annual variability of weather patterns in mainland Southeast Asia. These shifts could have negative impacts on crop production, for example, higher temperatures could reduce crop yields and encourage pest proliferation. This climate variability creates risks in agriculture crop production, subsequently leading to supply instability, and eventually having an impact on export earnings.

For Malaysia, forecasts have been made using 14 Global Climate Models (GCMs) which show that the country could experience temperature changes up to 5 degrees Celsius and extreme variances in precipitation. The latest regional climate downscaling study (Tangang and Juneng, 2011, cited in Tangang et. al. 2012) indicates that, depending on the emission scenario, Malaysia could experience an increase in mean surface temperature as high as 3-5 degrees Celsius by the end of the 21st century. Meanwhile, Borkotoky et al. (2012) found that the climate has changed in Malaysia over the last 30 years i.e. temperature, rainfall and number of rainy days has experienced an upward trend, with relative humidity on a downward trend. The climate data they analyzed show that there has already been an increase in temperature of about one degree Celsius and an increase of 150 mm of rainfall over the past 30 years. Apart from the changes in mean temperature and precipitation, climate change is also associated with an increase in extreme weather events such as floods and droughts. Current knowledge on the intensity and frequency of future extreme events in Malaysia is still limited, thus requiring more research to inform policy making on adaptation.

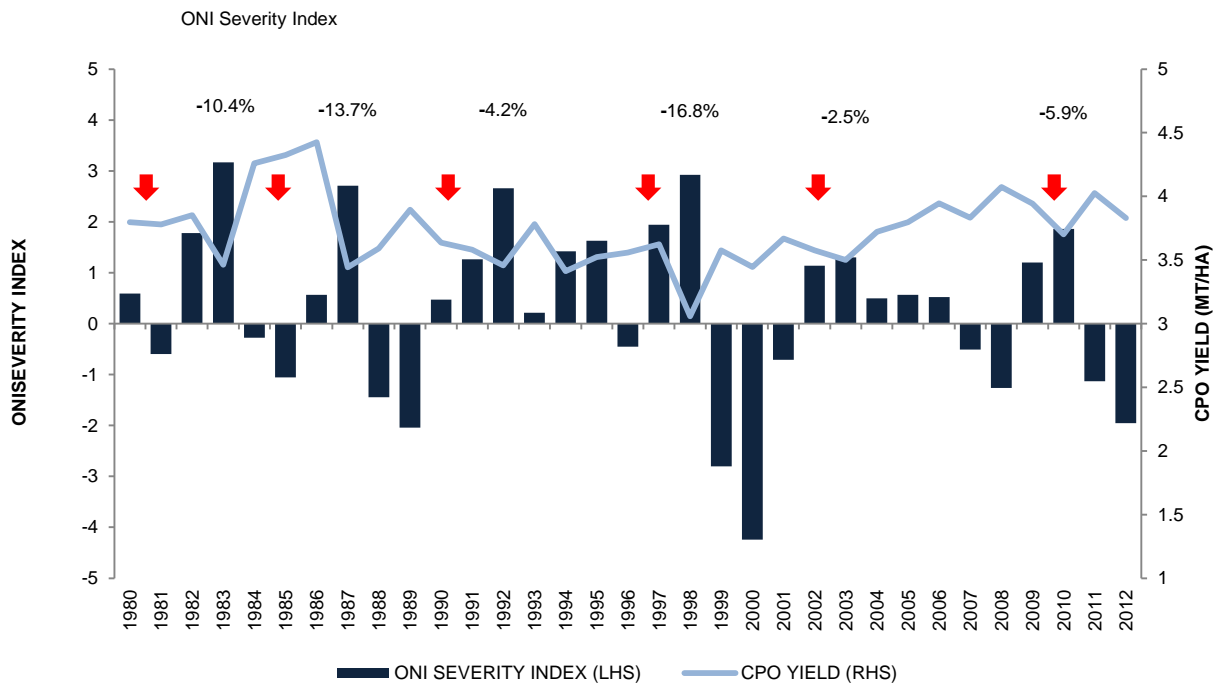
Climate change will have varying impacts on different crops in Malaysia. Studies presented in the Second National Communication to the UNFCCC found that a moderate change in average temperature, from 1- 2 degrees Celsius, would be good for fruit and oil palm production, but not for cocoa, rubber, and rice production (AIT-UNEP RRCAP 2011). An increase in floods and droughts would be negative for the agricultural sector in general. Rising sea levels could also affect agricultural production by forcing the abandoning of crops planted in low-lying areas such as paddy, corn, coconut and others.

For rubber, the temperature range conducive for plant growth is at a monthly mean of 25-28 degrees Celsius, beyond which there will be a decline in production. A more extreme variation in rainfall and relative humidity is also sub-optimal for rubber production. More rainy days means less latex from the trees, while also harming rubber plantations due to loss of tapping days and crop washouts. On the other hand, a decrease in relative humidity will create a drier environment, and along with more dry days, will lead to more uptake of water by the plants from the soil and cause water stress (Borkotoky et. al. *ibid.*). A study projected that Perak and Kelantan in the Northern area will experience on average of 120 mm. less per year in rainfall, and as much as 600 mm. less per year in Negeri Sembilan, while both areas will experience temperature rises in the range of 1–2.2 degrees Celsius (Malaysian Rubber Board 2009). With increased water stress caused by such changes in climatic conditions, the study also projected that the maturity period for rubber trees will be delayed up to four months in Kedah and Kelantan and up to six months in Negeri Sembilan, reducing production up to 18 percent in Kedah and Kelantan and 20 percent for Negeri Sembilan.

While Malaysia's climate conditions generally remain optimal for oil palm production, recent extreme weather phenomena have reduced yields. For optimum yield, the minimum rainfall required is around 1,500 mm per year (Basiron 2007), with mean maximum temperature ranging between 29-33 degrees Celsius and minimum temperature between 22 to 24°C (Corley and Tinker, 2003). However, excessive rainfall and in many cases associated floods, are detrimental to the crop as yield is significantly affected. There was a noticeable impact of El- Nino and La-Nina which negatively affected palm oil yields during 1982-1983 and 1997-1998 (Malaysian Meteorological Department 2009). It was reported that flood related problems in southern Malaysia had decreased the production of crude palm oil in the region to 1.1 million tons or a reduction of 26.3 percent in December 2006 (Mustafa Kamal 2007), and unusual weather patterns were similarly observed as a primary reason for the fall in palm oil production nationally by 3.3 percent to 17 million tons and Fresh Fruit Bunch (FFB) yield by 6.1 percent to 18 tons per hectare in 2010 (see Figure

110). Furthermore, although a high mean annual temperature that falls within the specified weather conditions required for the thriving of oil palm is favorable for higher fruit production,, should such high temperatures lead to drought conditions, it is estimated that 208,000 hectares of land or 12 percent of the present area would be considered as either marginal or unsuitable for oil palm cultivation (Zainal et. al. 2012).

Figure 110. Effects of El-Nino and La Nina on Malaysian palm oil yields



Source: US NOAA (National Oceanic and Atmospheric Administration) and MPOB.

As palm oil is the top agricultural commodity for Malaysia, the economic impact of climate change on the sector could be large. Zainal et al. (2012) estimated the potential economic impact of climate change on palm oil production in Malaysia. The study used a Ricardian model, which estimates total net revenue that accrues to farms per hectare of cultivated land depending on climate and other explanatory variables such as price and quantity of production, to estimate the marginal impact of temperature and rainfall variations on yield which affects revenue. The results show that climate change has a significant nonlinear impact on net revenue from palm oil in Malaysia. For every 1 degree Celsius increase in temperature, net revenue would decline by RM 40.55 per hectare, RM 48.69 per hectare and RM 37.61 per hectare for Peninsular Malaysia, Sabah and Sarawak, respectively. As for the impact of precipitation, the study found that every 1mm increase in rainfall would reduce net revenue by RM 4.59 for Sabah and RM1.40 Sarawak. However, net revenue for Peninsular Malaysia would increase by RM5.24. Meanwhile, by projecting future climate change using a regional climate modeling system (PRECIS), the palm oil industry is predicted to lose an average amount of RM 344.12 per hectare, RM 294.20 hectare and RM 105.62 per hectare for Peninsula, Sabah and Sarawak, respectively in the year 2099 if no mitigation and adaptation strategies for climate change are undertaken.

Modernizing policies for natural resource management

While Malaysia clearly remains a success story in natural resource management to this day, the trends analyzed in the previous sections and risks presented by the outlook for global commodity markets suggests some policy adjustments are required to ensure that Malaysia remains “commodity blessed.” Policy adjustments to enhance natural resource management going forward can be summarized into three areas: first, is to facilitate the savings of natural resource rents that cannot be productively absorbed in domestic produced capital. International experience has suggested that natural resource funds can play a helpful role, while savings can be obtained from the reform of distorting subsidies for fuel and gas that consume significant budgetary resources that currently must come from oil revenues. The second area, are policy adjustments needed to facilitate diversification in the real economy. This

requires increasing the fundamental absorptive capacity of the economy for new investments. In the case of private investments, absorptive capacity is linked to the need to continue the implementation of structural reforms that will create sustainable demand for additional investments. In the case of public investments, absorptive capacity is linked to public investment management. Finally, the prospect of climate change calls for policies to climate-proof Malaysia's agriculture industries.

Improving the balance between savings, consumption and investment of resource revenues

Strengthen the role of KWAN and reduce dependence of the budget on oil revenues

While PETRONAS has served the government well as a *de facto* oil fund, a natural evolution would be for the company to increasingly focus on its role as a commercial entity and regulator of the country's oil sector, leaving the oil fund role to a *de jure* oil fund. This is for two main reasons. First, moving to a resource fund model will facilitate the implementation of more transparent and predictable transfers of oil revenues to the government budget. This should be done via a fiscal rule that regulates withdrawals from the fund. Currently, while PITA (Petroleum Income Tax) represents a transparent transfer, it is not sufficiently predictable from the point of view of the government. On the other hand, over the past three years PETRONAS has been paying a steady dividend to the government, but this level may be difficult to sustain should oil prices decline. A rules-based model may facilitate savings of the nation's oil wealth. Second, given that PETRONAS investments are mainly in the oil and gas sector, national savings could be further diversified into different types of assets to reduce exposure to commodity price fluctuations on the national balance sheet.

Malaysia already has an oil fund, the *Kumpulan Wang Amanah Negara (National Trust Fund, KWAN)*. The KWAN was established in 1988, with an aim of ensuring optimum utilization of depleting natural resources and continuity in revenue streams for the country's future generation. Bank Negara Malaysia (BNM) is entrusted with the management and day-to-day administration of KWAN. A panel of trustees, which consists of a Chairman, Deputy Chairman from the Ministry of Finance, an officer from the Prime Minister's Department and two members with business or financial experience, are appointed by the Minister of Finance to oversee KWAN's governance aspect.

KWAN receives its capital from profit allocations by PETRONAS each financial year. Since the establishment of the Fund, PETRONAS has been the sole contributor, and until 2010 has been contributing RM100 million per annum. Beginning in 2011, the rules governing PETRONAS's contribution to Malaysia's National Heritage Fund (KWAN) have been modified to a new formula, with contributions to vary depending on the 'Weighted Average Realized Price' or WARP of oil for a given year:

- If WARP is less than USD70 per barrel, the contribution is RM100 million
- If WARP is between USD70 and USD100 per barrel, the contribution is RM500 million
- If WARP is more than USD100 per barrel, the contribution is RM1 billion

For 2011, as the WARP was above USD100 per barrel, PETRONAS contributed RM1 billion to KWAN, with the asset size of KWAN at RM4.8 billion (as of 31 December 2011). As at end 2012, the Fund's assets were about RM5.68 billion.

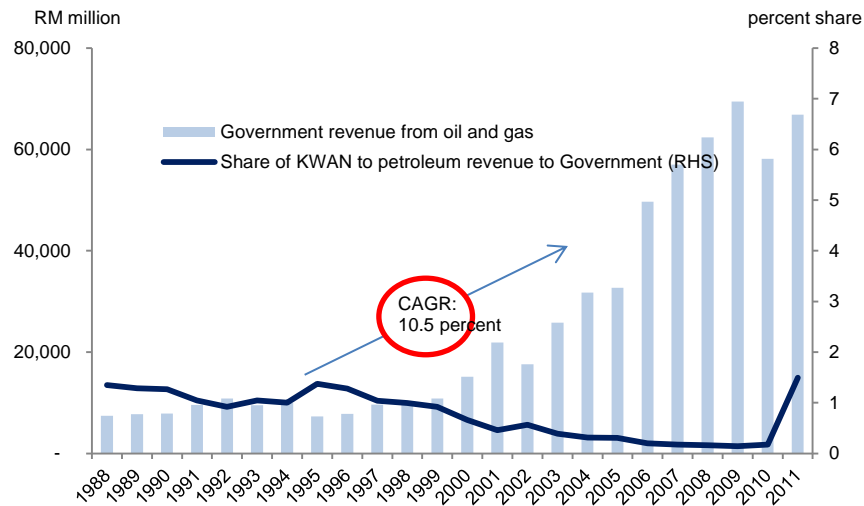
After a ten year expiry period from the date of the commencement of the KWAN Act, money from KWAN can be used in financing objectives as outlined in the First Schedule in Development Funds Act 1966 and in providing loans on concessionary terms to the Federal Government or State level Government. The following are objectives to which the Fund can be applied to:

- i. Development-related expenditure- The construction, improvement, and replacement of buildings and works, investments in other capital assets (including vehicles, vessels, rolling stock, machinery, instruments and equipment) under various socio-economic objectives
- ii. The development, conservation and exploitation agriculture and mining of minerals and other natural resources sectors
- iii. Payments of sums or grants and transfers

KWAN has remained small compared to overall oil revenues and PETRONAS' direct payments to the budget. Although the petroleum revenue has grown significantly, at a CAGR of 10.5 percent during this period, the percentage share of KWAN over the Government's petroleum revenue remained quite stagnant, within the 1 percent range (see Figure

111). KWAN's assets accounted for only 0.6 percent of nominal GDP in 2012. Since 1988-2012, the Government has raised approximately RM231 billion in petroleum income tax from oil and gas production, RM333 billion in dividends and RM51.7 billion in royalty payments. Had the Malaysian Government saved just 10 per cent of the nominal revenues received from the oil and gas industry from 1988 onwards into KWAN, the amount accumulated would be worth more than RM63.4 billion (simple estimation after adjusting for inflation at the average rate of 2.8 percent for the period of 1988-2012). This is almost 12 times the present fund size of KWAN.

Figure 111. Trend in government petroleum revenue and savings in KWAN



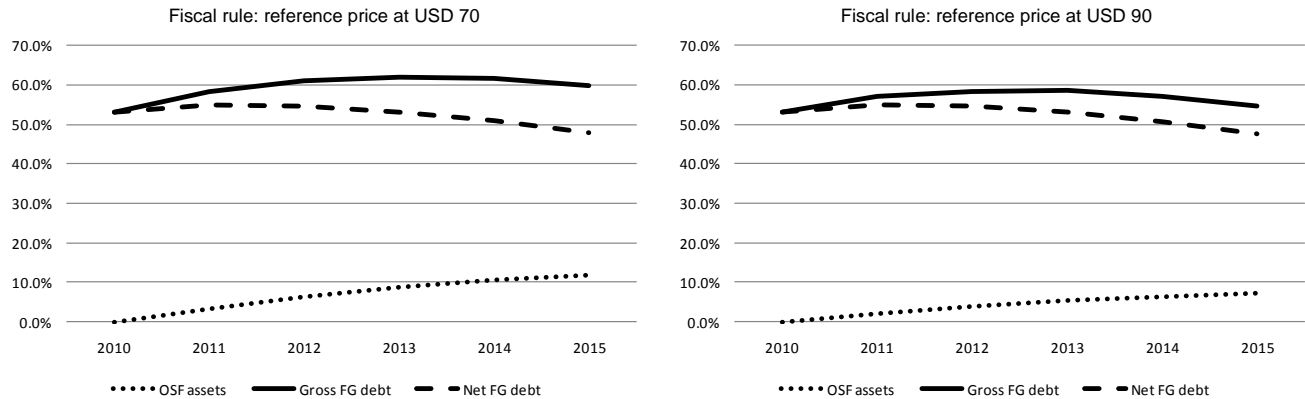
Source: Accountant General's Office, Malaysia

There is a case for clarifying and, perhaps, creating a distinct separation between the two entities: the Government managing the use of petroleum revenue through KWAN, and PETRONAS strictly overseeing the operational management of the oil and gas industry. As an example, this is how Norway's petroleum-based Norwegian Pension Fund is distinctly separate from the state oil company, Statoil. Thus, this separation may be considered as a policy tool that balances the overall outcome of continued value creation by PETRONAS through sustained investments, both for its domestic and foreign operations, while having sufficient savings for the Government to provide for the future generation, in terms of intergenerational equity. Although Norway's oil fund is probably the best known example of such institutions, Box 9 describes the oil fund in Timor Leste, which is also well regarded and provides relevant lessons with respect to the application of funds to domestic public investments. Moreover, this would promote further diversification from volatile commodity revenues, as PETRONAS necessarily re-invests its earnings in the oil and gas sector, while the KWAN would be able to invest in more diversified assets.

The motive for having an oil fund would have to be clarified. Countries have set up oil funds for three broad motives, namely stabilization, savings or precautionary funds. A stabilization fund essentially shields the economy in the face of price fluctuations, whereby funds are set aside during times when receipts are higher than the average expected receipts, to smooth government expenditures and supplement revenue when prices are below the average expected price. A savings fund stores wealth for future generations. Meanwhile, the precautionary savings is done to mitigate uncertain growth prospects and low absorptive capacity within the economy. The objectives are not mutually exclusive and in practice, many oil-exporting countries establish oil funds to achieve both savings and mitigate fiscal risks.

The fund should be guided by clear rules and be incorporated in the government's medium-term fiscal framework. One simple fiscal rule focused on contributions to the fund embodies the reference price approach, in which revenues beyond a certain cut-off price are transferred to the fund, similar to the rule KWAN is already observing. Figure 112 below offers an example for Malaysia at cut-off prices of USD 70 and USD 90/barrel. If the former fiscal rule would have been introduced in 2010, the accumulated funds in the fund would amount to more than 10 percent of GDP, with net federal debt totaling less than 50 percent of GDP.

Figure 112. An oil fund can be used to smooth resource-related revenues



Source: World Bank (2011b).

A popular rule focusing on withdrawals is the permanent income rule. This theoretical understanding of permanent income hypothesis is explored through a simple calculation. The constant stream of permanent income from oil and gas production is calculated using the following formula, with M referring to the annual income received from oil production, y as the number of years of investments, r as the real rate of return on investments and X as the real income received:

$$X = M \left[1 - \frac{1}{(1+r)^y} \right]$$

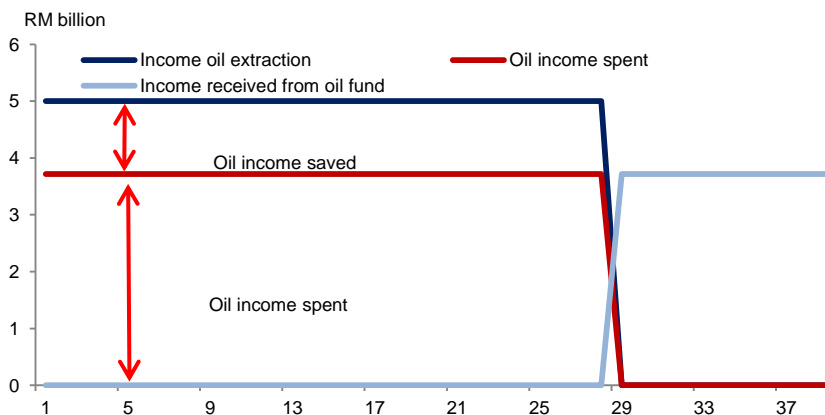
Equation (1)

As a simple exercise, assume that M is RM5 billion in petroleum revenue (in real prices) collected for 28 consecutive years of oil production, while the expected real rate of return (r) is 5 percent. In addition, assume that after year 28, the oil and gas reserves would have been exhausted. The estimated permanent income would be:

$$\text{RM5 billion} \left[1 - \frac{1}{(1+0.05)^{28}} \right] = \text{RM3.72 billion}$$

To obtain this, the Government would then need to invest RM1.28 billion into the resource fund (RM5 billion less RM3.72 billion). By doing so, this means that from the first year when oil and gas tax revenues are received, and in each subsequent year, the value of the principal and the returns generated would be sufficient to return a total RM3.72 billion. After the 28th year, income earned on the investments and the underlying principal would be sufficient to continue providing RM3.72 billion a year in revenue indefinitely (see Figure 113).

Figure 113. Permanent income analysis of an oil fund



Source: Authors

Through this simple exercise, it is clear that two items should be considered: namely the adequate long run income expected from the resource fund to ensure a path of sustainable consumption for the future generation; and the appropriate savings level to attain a desirable outcome.

As it stands, KWAN's intended purpose is to optimize the utilization of non-renewable resource through savings for future generations. This seems inconsistent with the mechanism allowed in the KWAN Act which allows KWAN to be utilized for development expenditure purposes or providing loans on concessional terms to the government. In fact, this allows for the flow of funds from KWAN to be used for short-term consumption purposes. The rules created in governing KWAN need to offer a balance between having flexibility to meet changing circumstances, yet not so much that it can easily be influenced by short-term priorities. In terms of oversight and control, KWAN's is mostly executive in nature, primarily through the panel of trustees led by the Minister of Finance, which is responsible in making decisions on payments and withdrawals, and thus is independent of the Parliament. From a theoretical perspective, this is a weak form of governance, given the reliance on a single executive branch for oversight. Although submission of ex-post accounts of KWAN is provided to the legislature and which allows for comments on decisions made earlier, this does not easily permit them to be reversed. With regards to transparency, preparing financial statements specifying the value and types of assets in KWAN would increase the accountability to the citizenry and relies on the oversight by the panel of trustees, which does not publish their reports publicly.

The transition from the current situation to an oil fund would have to be gradual as the government enhances non-oil tax collections and consolidates expenditure. This could be done by continued improvements in tax administration, broadening of the tax base through the implementation of a Goods and Services Tax (GST), and a reassessment of tax incentives based on rigorous impact evaluation that would see only effective tax incentives being kept. In addition to efforts on the revenue side to make up for the oil revenue that would now be saved rather than used in the budget, fiscal consolidation, especially through the reduction of environmentally unfriendly and distortionary fuel price subsidies, could also help achieve a higher level of savings.

Box 9. The Timor Leste Oil Fund

The design of Timor-Leste's Petroleum Fund (PF) is widely considered international best practice. Together with its fiscal guidelines, it is critical to managing Timor Leste's petroleum dependence. While not a large producer, Timor Leste is the second most petroleum dependent country in the World, after South Sudan. Petroleum constitutes 80 percent of the overall economy, petroleum revenues constitute 97 percent of all revenues, and 90 percent of public spending is financed by petroleum revenues.

The PF was established by the Petroleum Fund Law of 2005, and revised in 2011. With a design drawing from the Norwegian experience, it is intended to provide transparency and accountability on the use of public revenues, protect public finances from income volatility, and help strike the appropriate balance between current spending and savings for future generations.

Management: The Fund is an account with the Central Bank (BCTL) which has been designated the Operational Manager of the Petroleum Fund. External investment managers can be contracted to manage investments. The Petroleum Fund Law requires that all petroleum accruing to the government flow into the PF and are invested in financial assets abroad. At least 50 percent must be invested in investment grade bank deposits and debt instruments; up to 50 percent may be invested in equities in regulated financial markets; and up to 5 percent invested in other asset classes. The Petroleum Fund targets a 3 percent real return, which is the estimated sustainable income the government can draw down to finance the budget.

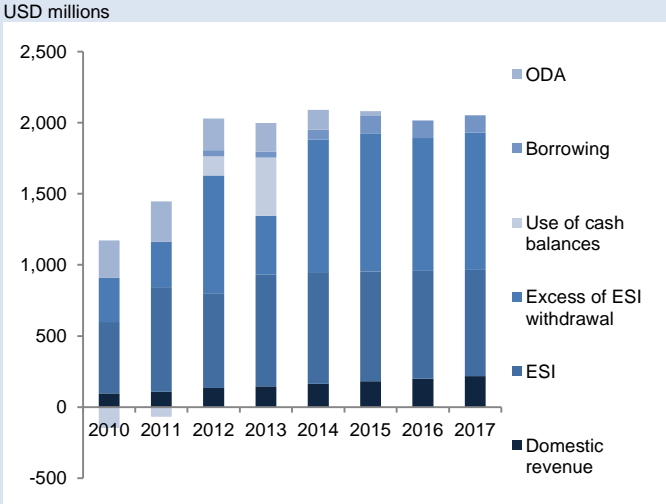
Investment strategy: In view of recent performance, fiscal sustainability, and based on advice received from the Investment Advisory Board (IAB), the Minister of Finance has given the Central Bank the mandate to progressively invest up to 20 percent of the Petroleum Fund in global equities by June 2012 as a first step, from 10 percent. As a second step, the Central Bank has been instructed to continue to invest progressively up to 40 percent in global equities over the two next years, starting from July 2012.

As of September 2012, 5 percent of the Fund was managed by Schroders and 18 percent by State Street Global Advisors. The remaining 77 percent of the Fund was invested in US Treasuries, of which 20 percent was managed by BIS and 57 percent was managed internally by BCTL. The equity portfolio of the Petroleum Fund is invested in 1,800 companies in 23 developed countries. The exposure to each company is required to be less than 3 percent.

Withdrawals: Transfers from the Fund can only be made to the state single treasury account. Transfers are contingent upon the government providing parliament with a report specifying the Estimated Sustainable Income (ESI), calculated each year as 3 percent of the sum of the Fund balance and the present value of expected future petroleum receipts. The ESI is certified by an independent auditor.

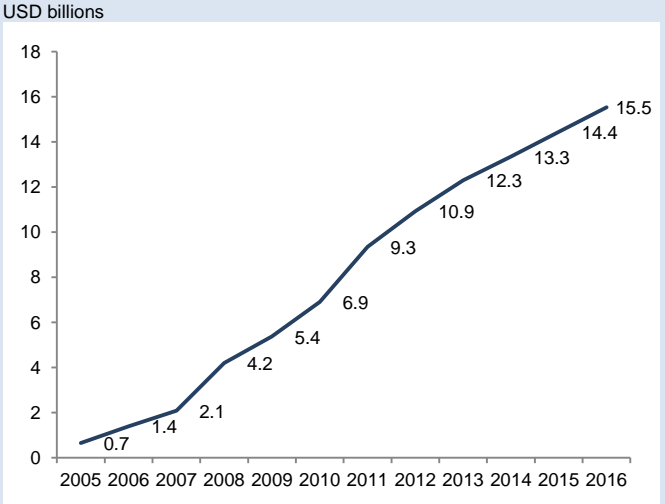
Savings: To preserve the real value of the country's petroleum wealth, withdrawals from the Fund are guided by the ESI. Withdrawing more than ESI requires the government to provide the Parliament with a detailed explanation of why it is in the long-term interests of the country, and also a report certified by the independent auditor estimating the impact on future ESI. In practice, the government has been withdrawing roughly twice ESI to finance pressing development needs through the budget (see Figure 114). However, parliament recently held the government to ESI (and unspent FY12 cash balances) when they approved the FY13 budget.

Figure 114. Budget Financing



Source: Timor Leste 2013 Budget Book

Figure 115. Petroleum fund balance



Source: Timor Leste 2013 Budget Book

Transparency: The governance structure is based on best practice "Santiago Principles". Revenues and transfers into the government budget are publicly disclosed. All petroleum revenue and investment income goes into the Fund. Withdrawals can only be used to finance expenditures of the state budget. The Central Bank publishes quarterly reports on the performance and activities of the Fund. The government submits an annual report with an audited financial statement. Details on revenue and composition of the investment portfolio are also fully disclosed.

Performance: The Petroleum Fund is currently valued at about USD11 billion (see Figure 115), or 10 times non-oil GDP and 2.5 times total GDP including oil. The balance has grown in value above expectations due to increasing oil prices. The present value of petroleum wealth including the Petroleum Fund is estimated at USD26 billion. The ESI is estimated to be about USD750 million. Since 2008, government spending has exceeded the ESI. ESI is estimated to fall by USD 6 million for every permanent one dollar drop in global oil prices.

Sources: IMF 2009 Country Report No. 09/220, Petroleum Reporting from the Central Bank of Timor Leste, and the Government's FY13 Budget Book 1

Reform fuel subsidies to target benefits to the needy

The case for the removal of fuel price subsidies has been extensively made. Fuel price subsidies are untargeted, channeling scarce public resources to both wealthy and poor individuals. As discussed earlier, they distort consumption incentives and lead to higher energy consumption, with attendant detrimental environmental implications. On the other hand, a Granger causality and cointegration analysis strongly suggest that Malaysia's growth would not be adversely affected by higher fuel prices (see Box 10), while BNM and others have estimated that the impact on inflation would be very limited. In other words, in theory, there are many benefits and few costs to removing fuel price subsidies.

But successfully reforming subsidies requires minding political economy considerations. According to IMF (2013 p. 1), one of the elements for successful subsidy reform is "an extensive communications strategy, supported by improvements in transparency, such as the dissemination of information on the magnitude of subsidies and the recording of subsidies in the budget." This is important to build consensus around the reform, as are compensatory transfers, but targeting of benefits is critical to maximize the fiscal savings. A further political economy consideration is the credibility of the instrument to be used to replace fuel subsidies, which are well known and accepted by the public. Finally, fuel should be de-politicized to the greatest possible extent by removing government discretion from pricing decisions.

Gradually replacing fuel price subsidies with more targeted transfers would further contribute to restoring the balance between savings and consumption of natural resource revenues. Malaysia should develop a targeted cash transfer system to facilitate the removal of subsidies for petrol, diesel and liquefied petroleum gas (LPG), and transitioning Malaysia away from unconditional, untargeted subsidy payments, as evidenced by the Automatic Price Mechanism (APM) scheme, to a conditional and targeted scheme.

The BR1M cash transfer scheme could be used as a starting point for the compensatory mechanism, but targeting of benefit payments should be substantially improved to ensure manageable fiscal costs. Currently, social assistance programs are fragmented between those that target very small groups for poverty eradication (such as the 1AZAM program) and those that target very large groups (such as the BR1M, which is likely to reach over 70 percent of households). In addition, measures to provide transfers to low income households should be inserted into a broader framework for modernizing social protection efforts towards a more comprehensive system. International experience suggests that such integration of social protection increases efficiency. A robust targeting mechanism would allow higher levels of benefits (with higher impact) to be adequately targeted at the neediest beneficiaries. For example, a program adequately targeted at only the bottom 40 percent of households, within the same budget as the BR1M could pay additional benefits of approximately RM600 to the bottom 20 percent of households, further increasing their welfare.

One option would be to link the BR1M directly to oil prices and frame it as a dividend similar to what is done in Alaska, while a robust targeting mechanism is put in place to provide supplementary, more graduated support to the bottom 40 percent of households. Reforming fuel subsidies requires providing transfers to a sufficiently large portion of the population to achieve political consensus for the reform, credibility that transfers will continue to offset the higher cost of living and fiscal sustainability such that "hedged" expenditures (which move in tandem with oil revenues) are not replaced with the same amount of invariable expenditures. One option to address these three objectives is to use the existing BR1M program, which already has a track record of two years, but link it explicitly to oil prices so that the government's budget is protected. Meanwhile, from the point of view of consumers, they would receive larger 'dividends' when the cost of food and fuel is higher, therefore the "hedge" works for them as well. As future rounds of subsidy cuts proceed, a robust targeting mechanism should be in place to supplement the BR1M for the bottom 40 percent of households. If the targeting mechanism also consolidates social protection programs, efficiency savings should supplement the savings from subsidy reductions.

The risks of providing flat benefits to a large share of the population were highlighted in the government's previous attempts at reducing fuel subsidies in 2008. At the time, subsidies were cut by 70 sen per liter (or about 40 percent) amid the sharp spike in crude oil prices to USD147 per barrel in May 2008. To mitigate this, the Government issued an 'oil rebate' of RM625 for every vehicle with an engine capacity of 2.0 liters and below. This choice to widen the

eligibility of the oil rebate to this group instead of restricting it to those who own vehicles of 1.3 liters capacity or lower, who tend to have a lower income arose precisely from the concern that achieving political support for subsidy reform among different income groups was critical to its success. However, the choice of a flat transfer proved costly, as the oil rebate cost RM4.5 billion and negated some of the surplus savings that could have been obtained from the increase in retail prices. Moreover, the government faced a credibility gap at the time, since the rebate did not have an established track record, unlike the fuel subsidies to which consumers had grown accustomed to. Nevertheless, Malaysia did save RM 7 billion from the subsidy rationalization exercise, and the savings could be used in the first stimulus package following the global financial crisis, implemented in early 2009.

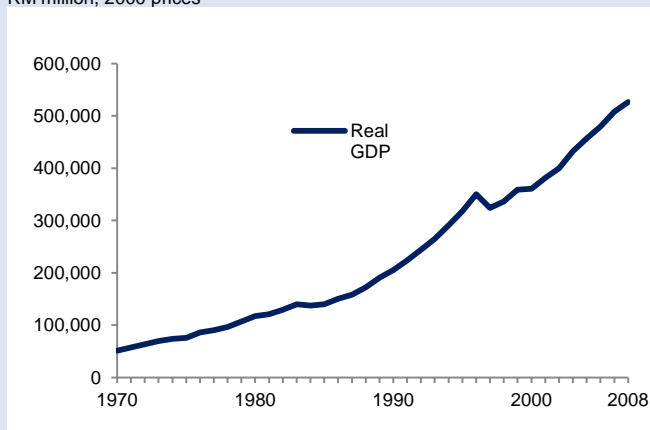
Box 10. Oil consumption and domestic fuel prices in Malaysia

There have been numerous studies in recent years examining the relationship between energy consumption and GDP. The seminal article on this topic was published by Kraft and Kraft (1978), who found evidence of causality running from GDP to energy consumption (EC) in the United States. Assuming that both variables are cointegrated, the Granger causality of EC and GDP run either unidirectional or bi-directional. The direction of causation between EC and economic growth is very important as it has significant policy implications. According to Asafu-Adjaye (2000), if there is a unidirectional Granger causality running from GDP to EC, this implies energy conservation policies can be adopted with minimal adverse impact on the economy. If, however, the causality runs from EC to GDP, a reduction in EC could lead to a fall in national income or employment. A bi-directional causality implies indeterminate impact of EC on GDP, and vice versa.

Subsequent studies have led to mixed findings, which are due to the inherent characteristics of the country under study. One main factor is the way the fuel is priced, either through purely market-determined system or subsidized by the government. The latter usually results in higher intensity of oil consumption compared to GDP, causing a distortion in prices which leads to demand to be higher than it actually should be. Other factors to consider are whether a country is a net importer or exporter of oil, as well as the period and the frequency of data. This box article examines the EC-GDP causal relationship for Malaysia. Between 1970 and 2008, there has been a 10-fold increase in GDP and a four-fold increase in oil consumption during the period (see Figure 116 and Figure 117).

Figure 116. Malaysia real GDP

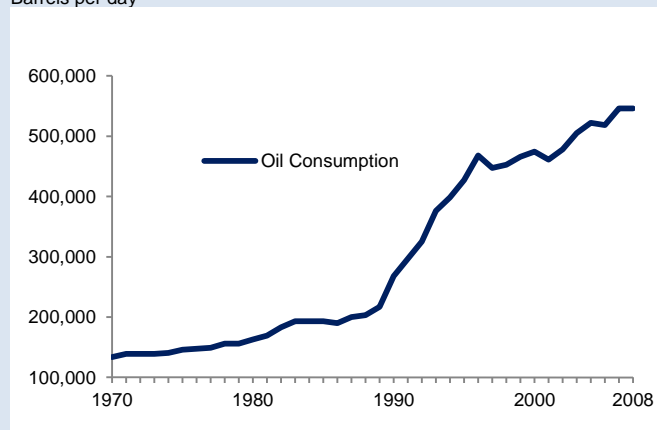
RM million, 2000 prices



Source: Department of Statistics, Malaysia

Figure 117. Oil consumption

Barrels per day



Source: US Energy Information Agency

A short-run Error Correction Model (ECM) was performed to establish cointegration, using estimates of disequilibrium (represented by the lagged residual RES_{t-1}) to obtain information about the speed of adjustment back to long-run equilibrium. This short-run model, by using the error correction term, provides information on how oil consumption adjusts in restoring the long-run equilibrium in response to disturbances. The model is as follows:

$$\Delta \log(EC)_t = \beta_2 \Delta \log(GDP)_t - (\theta)(\log EC_{t-1} - \alpha - \beta_1 \log GDP_{t-1}) + \varepsilon_t$$

This model shows how the long-run relationship estimated in the regression is kept in equilibrium. The penultimate two terms shows the influence of lagged residuals to the output, and θ denotes the speed of adjustment in response to a disequilibrium (commonly known as a 'shock'). The results of the ECM are shown in Table 12.

The error-correction term has a negative and significant coefficient, validating the long-run relation identified by the cointegration analysis. The speed of adjustment coefficient (represented by RES_{t-1} in Table 13) implies an approximately 15 percent adjustment in oil consumption in the following year in response to a shock. Furthermore, when compared to the long-run model, the short-run coefficient of the ECM reveals that Malaysian real GDP influences oil consumption more in the long-run. This can be attributed to the rigidity and persistence of oil consumption behavior in the short run for certain sectors, such as transportation.

Table 12. Results of the Short-run Error Correction Model (ECM)

Dependent variable is DLN(EC) 38 observation used for estimation from 1970 to 2008 (after adjusting for endpoints)				
Regressor	Coefficient	Standard Error	T-statistic	Prob
CONSTANT	0.003659	0.011454	0.319481	0.7513
DLN(GDP)	0.555596	0.163121	3.406043	0.0017
RES(-1)	-0.149404	0.057806	-2.584590	0.0141

R-square: 0.351949, Adjusted R-square: 0.314917, Durbin-Watson: 1.365152

Source: Authors

Having established the cointegration relationship, we will now estimate the long-run equation of the regression using the Auto Regressive Distributed Lag (ARDL) model. This is the dynamic model of the relationship between GDP and oil consumption in levels, using the lagged terms of both GDP and oil consumption (as suggested by the ECM).

$$\text{Log}(EC)_t = \alpha + \beta_1 \text{log}(GDP) + \beta_2 \text{log}(EC)_{t-1} + \beta_3 \text{log}(GDP)_{t-1} + \varepsilon_t$$

The results (see Table 13) show that every percentage point increase in Malaysian real GDP increases oil consumption growth by 0.63 percentage points, which while lower than the original long-run equation, is still higher than that in the short-run; thus, GDP is still found to influence oil consumption more in the long run. In addition, every percentage point increase in oil consumption in the previous year increases oil consumption by 0.85 percentage points. This confirms the rigidity and persistence of Malaysia's oil consumption behavior in the long run, which was seen earlier in the short run.

Table 13. Results of the Long-run Estimated (ARDL) Model Equation

Dependent variable is LN(EC) 38 observations used for estimation from 1970 to 2008 (after adjusting endpoints)				
Regressor	Coefficient	Standard Error	T-statistic	Prob
CONSTANT	-0.694132	0.221255	-3.137250	0.7513
LN(GDP)	0.628568	0.164503	3.820999	0.0017
LN(EC)(-1)	0.849657	0.056293	15.09347	0.0141
LN(GDP) (-1)	-0.502208	0.169149	-2.969024	0.0054

R-square: 0.995701, Adjusted R-square: 0.995321, Durbin-Watson: 1.527986

Source: Authors

Now that the presence of cointegration between LN(EC) and LN(GDP) has been established, this implies Granger causality in at least one direction. To determine the direction, a pairwise Granger causality (with a lag of 2, chosen as the data frequency is in annual) was performed on the two variables, with the results shown in Table 14:

Table 14. Results of the Pairwise Granger-causality Test

Sample: 1970 to 2008, Lag = 2 Observation: 37			
Null Hypothesis	F-statistic	Probability	Reject Null?
LNOILCON does not Granger cause LNGDP	0.011454	0.82479	NO
LNGDP does not Granger cause LNOILCON	0.163121	0.04316	YES

Source: Authors

The test shows that, at the 5 percent significance level for the joint F-statistic, the Granger causality is found to be uni-directional, with Malaysian real GDP Granger-causing oil consumption. Meanwhile, oil consumption does not Granger-cause Malaysian real GDP. Thus, this finding indicates that any effort at energy conservation would have only a minimal impact on economic growth, as oil consumption is used at a far greater level than is optimal.

The implications of this finding should help policymakers in the future, in terms of efforts to boost energy efficiency that have become increasingly important for policymakers, especially in light of the present era of high oil prices. The results of the cointegration analysis showed that Malaysia can increase energy efficiency without negatively affecting economic growth in Malaysia. This is a major finding especially in view of rising oil subsidies.

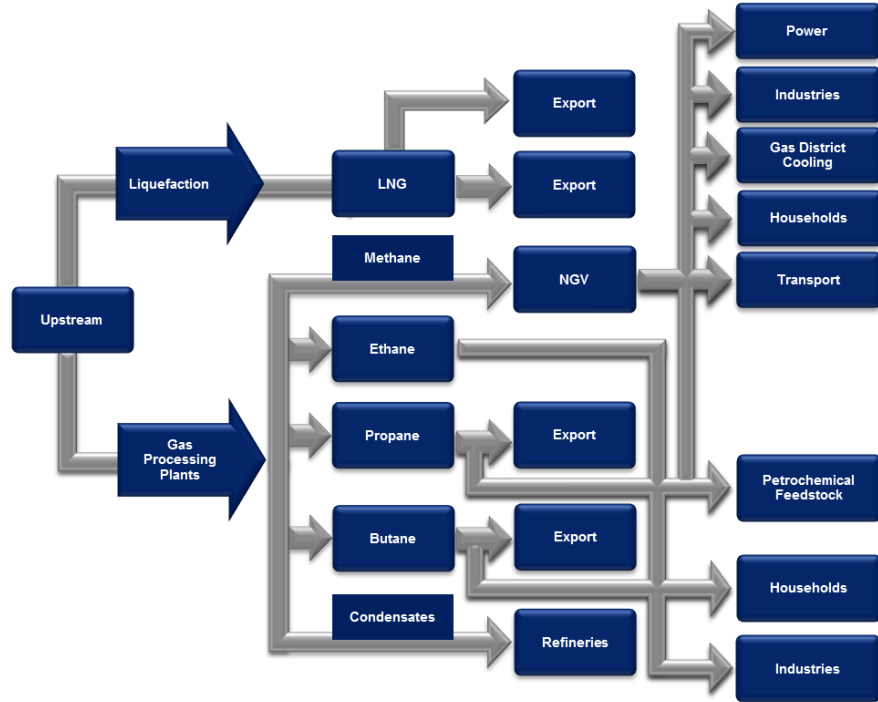
Source: Authors

Comprehensive reform of gas pricing

The rationale for reforming gas pricing is similar to that of fuel. Robert Solow (1974) postulated the backstop resources theory, which states that as a heavily used limited resource becomes expensive, alternative resources will become cheap by comparison, therefore making the alternatives economically viable options. This theory was proven over the course of modern human history, from the widespread use of coal to power the achievements during the Industrial Revolution, to oil at the turn of the 20th century, nuclear from the 1960s and natural gas in the 1970s. The latter was exactly what happened in Malaysia, after gas was discovered in vast quantities in the late 1970s, both in offshore Peninsular Malaysia and offshore Sarawak in east Malaysia. Farsighted policymakers then decided on the policy to use the natural gas extracted from offshore Peninsular Malaysia for the use within Peninsular Malaysia and distribute it through a piped gas network called the Peninsular Gas Utilisation Pipeline (PGU), spanning 2,500 kilometers across Peninsular Malaysia, and was completed in 1993. The gas from Sarawak, on the other hand, was exported in the form of liquefied natural gas (LNG) to nearby East Asian countries, as a new source of export revenue (see Figure 118).

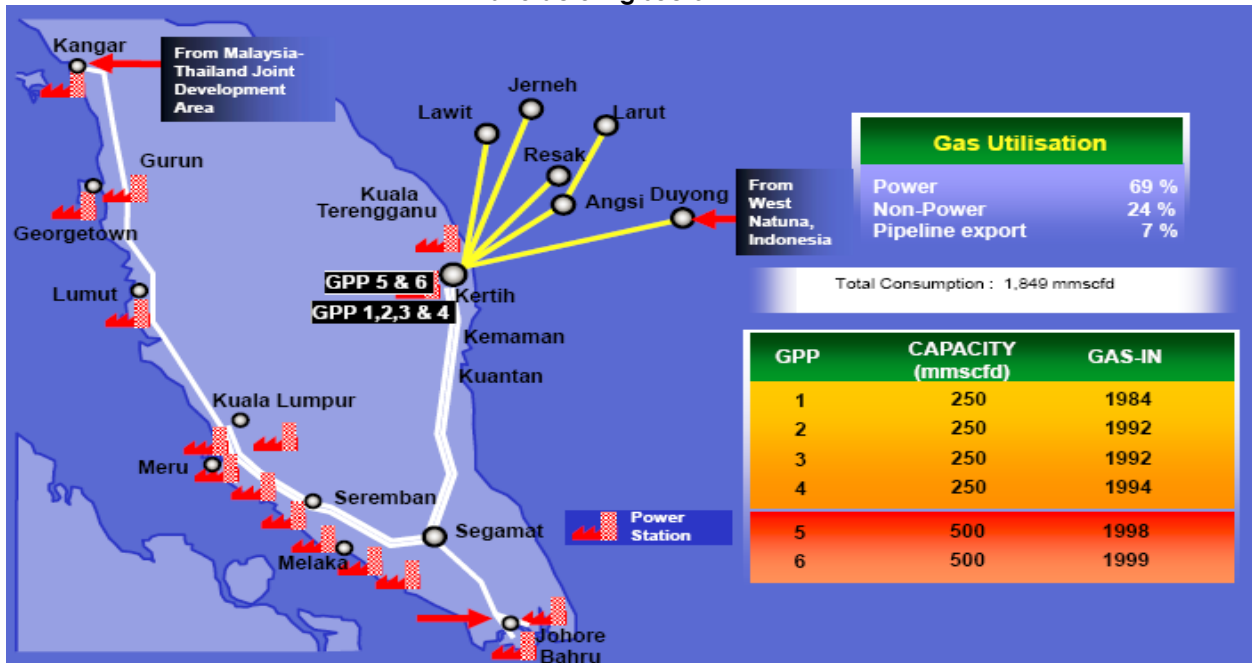
This gas pipeline network (see Figure 119) was instrumental in providing a cost-effective, clean source of energy for both manufacturing and gas-powered electricity generation, of which the latter expanded greatly after 1995. As a result, not only did Malaysia use the natural gas to bolster the growth of the economy as a whole rather than selling the gas for a one-off payment that dissipates quickly out of the economy, it also managed to diversify the energy mix of the economy, which was heavily reliant on crude oil for the manufacturing sector and electricity generation in 1980 (88 percent). From 7.4 percent, the share of gas use in the economy rose to 38.5 percent, while oil share was reduced to about 50 percent in 2005, according to data from the Energy Commission.

Figure 118. Natural gas infrastructure, supporting domestic and export markets



Source: PETRONAS

Figure 119. The PGU gas pipeline in Peninsular Malaysia supports electricity generation and the manufacturing sector



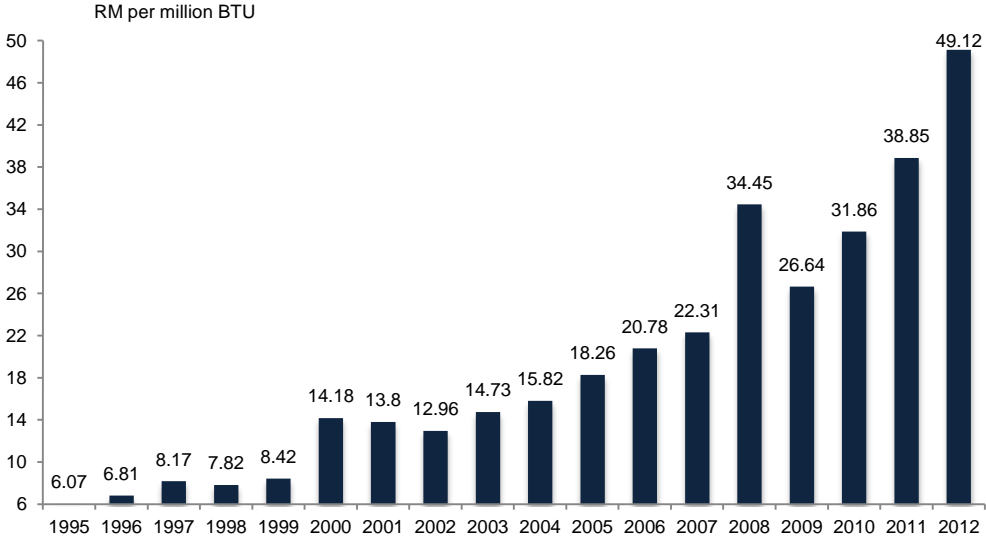
Source: PETRONAS

Using the natural gas discovered in the early 1980s to diversify the energy mix away from oil for the manufacturing sector and the production of electricity had been integral to the high growth of the economy in the 1980s and early 1990s. The growth in electricity generation has closely followed that of the growth in Malaysia's economy. The demand for electricity grew at such a rapid pace that the nation's electricity utility company, Tenaga Nasional

Berhad (TNB), solely responsible for power generation, transmission and distribution, was having trouble keeping up with demand. This culminated in two incidences of major power failures across Peninsular Malaysia in 1994 and 1996, which disrupted economic activity and caused the Government to issue licenses to privately-owned power producers (known collectively as independent power producers or IPPs) to generate electricity and sell it to TNB, who retains the exclusive right to transmit and distribute electricity to consumers.

With the setting up of the IPPs, the demand for natural gas rose at a strong pace, as an overwhelming number of IPPs use natural gas as fuel to generate electricity. The reason for this reliance on natural gas is two-fold. First, the existence of the gas pipeline mentioned earlier ensures a reliable supply of natural gas to power plants operated by both the IPPs, as well as TNB. Second, and arguably the most important factor, since 1997, the Government has set the price of natural gas that are sold to both the IPPs and TNB, as well as manufacturing sector, at a fixed rate of, respectively RM6.40 per million British Thermal Unit (BTU) and RM10.70 per million BTU. While this price was close to market prices in the late 1990s (see Figure 120), prices have risen exponentially in line with oil prices, especially as the LNG price sold to East Asian countries are linked to oil prices. As a result, in 2012, the market price of Malaysian LNG was at RM49.12 per million BTU, which is far higher than the RM10.70 - RM13.70 per million BTU that the IPPs and TNB are currently paying, and RM16.07 per million BTU that is paid by the manufacturing sector.²¹

Figure 120. Malaysia LNG Export (Market) Price, 1993-2012



Source: Department of Statistics, Malaysia.

Malaysia has to face the gas pricing issue soon as it has already begun to import LNG through the LEKAS regasification terminal in Malacca. Unless a new pricing system is put in place, PETRONAS runs the risk of paying a direct subsidy (as opposed to foregoing income) by selling at a lower price from the market price at which it is purchased. According to a research report by Maybank²² in October 2012, Gas Malaysia, the monopoly retail arm that acts as the final seller of gas to manufacturers, agreed on a plan with PETRONAS of a two-tiered pricing mechanism, with one tier based on the existing price for gas sourced within Peninsular Malaysia, and another, higher price, based on the additional gas sourced through the imported LNG (see Table 15). "Gas Malaysia's purchase price of LNG will be based on PETRONAS' Bintulu export price less a discount, which should work out to be 3 times the subsidized gas price" (Maybank 2012).

²¹ The costs incurred by PETRONAS under this scheme are detailed in Table 7.
²² Chew Hann, Wong, Maybank IB Research, October 8, 2012, "Gas Malaysia: Smooth Operator"

Table 15. Natural gas supply arrangement to Gas Malaysia from PETRONAS

Maximum volume of gas supply contracted by PETRONAS per day that will be subjected to :	1 Jan 2013 - 31 Dec 2013		1 Jan 2014 - 31 Jul 2014		1 Aug 2014 - 31 Dec 2014		1 Jan 2015 - 31 Dec 2022	
	GJ/day	mmscfd	GJ/day	mmscfd	GJ/day	mmscfd	GJ/day	mmscfd
Government regulated price	414,721	382	414,721	382	325,697	300	325,697	300
LNG plus price (i.e. market rate)	43,426	40	75,996	70	165,020	152	208,446	192
TOTAL	458,147	422	490,717	452	490,717	452	534,143	492

Source: Maybank IB Research.

If implemented, this will represent a first, tentative step toward a market-based gas pricing system in Malaysia, though PETRONAS will still suffer the lost revenue from the sale of its natural gas extracted from Malaysia. As such, the full effect of a market-based gas price will not be seen for many years, perhaps only when the imported LNG begin to constitute a majority of all natural gas used in Malaysia.

Perhaps, by then the backstop resource theory will cause Malaysia to switch to another cheaper source of energy.

The electricity power sector has decided to move on from gas to another source, which is not quite cheaper, cleaner (or newer) than gas: coal. All the new power plants currently being built in Peninsular Malaysia, such as the Janamanjung, Tanjung Bin and Prai plants, are designed to run solely on coal. As such, the era of gas pricing restructuring has already been anticipated by many stakeholders in the country, and this portends a more market-oriented management of gas resources in the near future.

Energizing a new wave of economic diversification

Accelerating structural reforms to promote growth of high value-added manufacturing and services

The ability of the economy to diversify to non-commodity sectors depends on building the appropriate underlying assets—especially human and institutional capital. Private investments will take place by taking advantage of the economy's underlying assets, which determine national comparative advantage. Comparative advantage, for the most part, is not static. Rather, as argued by Costinot (2009), some elements of comparative advantage—namely human and institutional capital—can be built and expanded through policy action. In that respect, continued progress on Malaysia's key structural challenges—competitions and capabilities—will be critical to diversifying the economy and reducing its dependence on natural assets. While the Government has made meaningful progress on the delivery of public services under the Government Transformation Programme (GTP), there is ample room to accelerate implementation of the Strategic Reform Initiatives (SRIs) under the Economic Transformation Programme (ETP) that are tasked with addressing structural challenges.

Tradable services sectors represent a promising area that Malaysia can emphasize for diversification away from primary or processed commodities. Malaysia could consider extending its successful experience in building an externally-competitive manufacturing sector to modern services (professional services, information technology, health, education, and financial services), which are increasingly traded and tradable due to improvements in technology. Malaysia's successful experience included openness to foreign investment and external orientation, are the same principles that could be followed in the services sectors. However, in the case of services, it will be critical to ensure that the fundamentals of the economy are in place, especially the adequate supply of skills. Firms providing modern services require English language, problem-solving, and management skills that could be offered both in vocational schools and directly to entrepreneurs. In addition, the regulatory framework with respect to both local and foreign investors is important to create adequate competition and incentives for seeking export markets. Finally, the government could consider more direct support to modern service exporters, but in this case it will be essential that they face the test of global markets.

Enhancing public investment management

Natural resource rents can be productively converted into public infrastructure, but this requires sound public investment management systems. As noted by IMF (2012), “Bolstering public investment management capacity is critical to ensure that scaled-up spending will yield the expected growth benefits. Project proposals should be carefully appraised and the capacity for project implementation strengthened, including by improved procurement practices. These reforms should be implemented in the context of wider public financial management reforms that provide a credible medium-term orientation to the budget (Rajaram et. al. 2010).”

Public investment in Malaysia is guided by the five-year Malaysia plans. The five-year Malaysia Plans provide strategic guidance for identification of projects. The plans identify broad national thrusts and national key results and specific commitments under those thrusts. Projects are justified broadly under those thrusts and key results, and included in the five-year plans. Project proposals are then subjected to review and appraisal. The Economic Planning Unit in the Prime Minister’s department, which is responsible for preparing the Malaysia Plans is also responsible for the capital (development) budget.

Important improvements in public investment management were launched with the 10th Malaysia Plan. The 10th Malaysia Plan introduced value-management analysis for projects worth RM 50 million or more, and life-cycle cost evaluation for procurement. Value-management is a cost optimization analysis, though the value-management review also looks at how to improve project functionality. Ministries and agencies implementing projects costing less than RM50 million have also been encouraged to conduct similar analyses.

To further improve public investment management, Malaysia should consider introducing modern cost-benefit analysis (CBA) into the system as the primary decision criterion in project selection. The increasing need for environmental impact assessments (EIA) in order to formulate sound climate change policies reinforces the need for robust CBA techniques. CBA should be done (for projects above an appropriate threshold cost) based on projected cost and benefit flows in both financial and economic terms, so that corresponding net present values can be calculated. Projects should then be ranked by NPVs, with the most promising ones subjected to a thorough EIA. Sensitivity and stochastic risk analysis performed as part of the CBA should be used to indicate to which parameters projects were most sensitive, and could thus be used to refine estimates of particular parameters as needed.

Policies for environmental conservation and climate change adaptation

A policy framework and adaptation measures need to be put in place to alleviate the potential negative impacts of climate change. Key adaptation measures to be considered include 1) establishing cultivar breeding programs to develop new varieties with high Water Use Efficiency (WUE) traits and drought and high temperature tolerance; 2) improving drainage systems to regulate water table depth and prevent floods; 3) establishing sufficient irrigation facilities in water-stressed regions. For the rubber sector, technology to enhance Low Intensity Tapping Systems (LITS) is available, yet additional resources will be required to disperse the technology and build capacity of workers (UNDP Assessment). Through policy instruments, the Government could promote sustainable land use planning, new credit schemes for adaptation investments, and uptake of agricultural insurance, all of which could contribute to improving resilience of the plantation crops sector to climate change.

Conclusions

Malaysia is a clear success story in managing its natural resource wealth and converting it to produced and other non-exhaustible capital, ensuring that future generations benefit from the country’s endowment. While recent trends have raised some concerns, Malaysia has much to teach to other countries about natural resource management.

First, **an adequate institutional and governance structure for natural resource management is needed.** In practice, PETRONAS has been able to balance its dual roles as a public and commercial entity, and in the process it has accumulated significant assets, even taking into account the large transfers it has made to the federal budget. While the specific form of institutional and governance structure may not be appropriate in all circumstances, the importance of carefully taking this into account cannot be overstated.

Second, **commodity sectors can support poverty reduction when the right strategy is followed**. In particular, FELDA's success included the recognition that settlements had to be competitive and be managed effectively so as to make profits in order for the settlers to fully benefit. The export orientation of the palm oil sector was critical to its competitiveness, as effective management was easily measured by the bottom-line.

Finally, **active government policies towards diversification played a role**—as a package if not every one of its components. While active industrial policies may have led to excessive expansion of basic refining capacity in palm oil or to an automotive industry that still struggles to become internationally competitive, policies in the oil and gas sector, as well as in the broader manufacturing sector were more successful and perhaps brought some positive externalities in terms of an improved business environment to all firms. One concrete example has been the internationalization of PETRONAS, which was later followed with some success by other large GLCs such as Axiata and CIMB.

These lessons also can be (and in some case have been) re-applied to Malaysia to address some of the concerns raised by recent trends following the commodity price boom. While PETRONAS governance structure has in practice served the country well—as PETRONAS itself has argued for—**a natural evolution would be for the company to be increasingly focused on its role as a commercial entity and a somewhat independent regulator of the country's oil sector, leaving the role of *de facto* oil fund to the *de jure* oil fund (KWAN)**.

Second, **export-orientation and inclusivity remain important criteria for sectoral policy**. This is especially true of the services sectors, which hold much potential provided they can be exposed to greater external competition, and that the underlying assets of globally competitive services sectors are put in place—namely high volumes of quality human capital required for knowledge-intensive services. Services sectors have large employment potential, and as they have become increasingly tradable, high potential for productivity growth as well.

The lesson that comes from the government's experiments in industrial policy is the **need to perform rigorous evaluation of the experiments**, so that lessons can be adequately drawn. For example, having a rigorous investigation of the effectiveness of various tax incentives across different industries, and then comparing the benefits with the costs in foregone revenues, would provide important lessons, to Malaysia and other countries, of the appropriate role for fiscal incentives in horizontal diversification.

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