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# MALAYSIA ECONOMIC MONITOR

## Brain Drain

April 2011

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THE WORLD BANK



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THE WORLD BANK

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## PREFACE

The partnership between the Government of Malaysia and the World Bank is centered on the policy objective of transforming Malaysia into a high-income economy. The *Malaysia Economic Monitor* series is a key pillar in this partnership and serves as a platform for public discussion, analysis, and the sharing of knowledge on the challenges facing Malaysia along its high-income journey.

This fourth issue of the *Malaysia Economic Monitor* is themed *Brain Drain*. The report reviews recent economic developments, updates the World Bank's view on the economic outlook, and analyzes—in the report's thematic section—how Malaysia can manage brain drain. The report is accompanied by an outreach effort to a wide audience of policymakers, private sector leaders, market participants, civil society, think tanks, journalists and the public at large. This report as well as the three previous ones—namely *Repositioning For Growth*, *Growth Through Innovation*, and *Inclusive Growth*—are available at [www.worldbank.org/my](http://www.worldbank.org/my).

This *Malaysia Economic Monitor* was prepared by Philip Schellekens (Task Team Leader), Vatcharin Sirimaneetham and Kiyoshi Taniguchi, with contributions from Thomas Farole, Yue Li, Frederico Gil Sander, Swarnim Wagle, and under the overall guidance of Annette Dixon, Vikram Nehru and Mathew Verghis. The thematic chapter benefited from input by Ximena Del Carpio, Sanket Mohapatra and Çağlar Özden. The team thanks Anna Elicano and Trinn Suwannapha for assistance in external relations and web production, Indra Irnawan for designing the cover and back, and Angkanee Luangpenthong and Piathida Poonprasit for program and administrative support.

This report also benefited from external input by Greg Foo and Johann Harnoss of the Kennedy School of Government at Harvard University, with whom the World Bank set up a project on brain drain and organized a study visit to Malaysia. In this connection, the report also benefited from a survey conducted on the Malaysian diaspora.

The *Malaysia Economic Monitor* further benefited from fruitful discussions, comments and information from the Prime Minister's Economic Council, Bank Negara Malaysia, Department of Statistics, Economic Planning Unit, Ministry of Finance, Ministry of Foreign Affairs, Ministry of Human Resources, National Economic Advisory Council, Performance Management and Delivery Unit, Talent Corporation, and numerous other government ministries and agencies. We are indebted to the Economic Planning Unit for their collaboration with the World Bank and in particular their assistance in the launch of this report.

We also thank representatives from Federation of Malaysian Manufacturers, Malaysian Institute of Economic Research and Malaysian International Chamber of Commerce and Industry, and several financial institutions for helpful discussions. We further appreciated the input by representatives and students from Institute of Southeast Asian Studies (Singapore), International Medical University, National University of Singapore, Nottingham University (Malaysia), Singapore Management University and University of Malaya. Last but not least, we thank the numerous members of the Malaysian diaspora who took the time to respond to the survey presented in this report.



# EXECUTIVE SUMMARY

## RECENT DEVELOPMENTS AND OUTLOOK

The Malaysian economy staged a strong recovery over the course of 2010, but the momentum of growth had progressively weakened over the year. The strong rebound was driven mainly by the domestic private sector, with some support from commodity exports towards year-end. Electronics underperformed, however, raising concerns about underlying competitiveness. Private consumption remained firm, despite flat sequential growth, amid favorable labor and credit market conditions. In line with domestic demand, growth in the services sector was sustained. Industrial production picked up on better performance in domestic-oriented industries, with capacity utilization at normal levels again.

Malaysia's positive growth performance was accompanied by a build-up in inflationary pressure and a surge in foreign capital inflows. While still benign, inflation rose on higher food and fuel prices amidst sharp increases in global commodity prices. Meanwhile, the continued inflow of foreign capital saw the recovery of foreign direct investment from its steep decline in 2009. Estimates suggest FDI continues to underperform, however, and Malaysia could tap into a large unrealized potential.

The economic rebound also paved the beginning for macroeconomic policy normalization. As the surge in interest rate-sensitive capital flows complicated the conduct of monetary policy, macro-prudential measures and the statutory reserve requirement were used instead of the overnight policy rate. Nevertheless, the overall monetary policy stance had remained accommodative to growth. On the fiscal front, efforts to consolidate the fiscal deficit proceeded as planned. Restraint on operating expenditure was the main contributor to the lower fiscal deficit—a key difference from previous fiscal consolidation episodes.

The near-term outlook is for growth to resume at pre-crisis pace, with domestic demand the main driver. Growth is expected at 5.3 percent for 2011 and 5.5 percent in 2012 as the global recovery becomes more broad-based and reform momentum picks up. While private consumption is expected to remain robust, fixed investment will likely benefit. Higher inflation is anticipated as cost-push inflation will likely translate into more widespread demand-pull pressure. Against these expectations, macroeconomic policies are likely to normalize further. The three key risks in the near term are: a weaker-than-expected global recovery, which would dampen growth momentum; a further strengthening of inflationary pressures, which may undermine consumer spending; and, weak fiscal consolidation, which may hurt policy credibility and would limit the ability to deal with future shocks.

Over the medium term, the implementation of structural reforms needs to be accelerated for Malaysia to successfully become a high income nation by 2020. While progress is being made with the Government Transformation Programme (GTP) and the projects under the Economic Transformation Programme (ETP) would help to boost economic growth, a more lasting impact would require more broad-based productivity and investment climate enhancements. These two factors are precisely what the New Economic Model (NEM) has set out to address, but limited headway has been made on this front. While investor sentiment has warmed up towards the project-based approach, skepticism abounds with respect to the NEM measures. The intensification of competition in the region provides a call for action. The recent increase as well as geographically concentrated nature of poverty in Malaysia adds further to this urgency.

## **BRAIN DRAIN**

Brain drain—the migration of talent across borders—touches the core of Malaysia’s aspiration to become a high-income nation. Human capital is the bedrock of the high-income economy. Sustained and skill-intensive growth will require talent going forward. For Malaysia to stand success in its journey to high income, it will need to develop, attract and retain talent. Brain drain does not appear to square with this objective: Malaysia needs talent, but talent seems to be leaving.

Brain drain has long been a subject of debate and controversy. Anecdotes are abundant, but few studies have documented the phenomenon in the Malaysian context—be it in terms of magnitude, impact or policy response. This Chapter attempts to fill these gaps by providing an updated estimate of the extent of brain drain, examining its economic impact and suggesting possible policy responses.

The analysis of brain drain is subject to a host of complications. Quantification is made difficult by data discrepancies in terms quality, availability, timeliness and cross-country comparability. Brain drain is a multi-faceted phenomenon that affects an economy in multiple ways and also transcends the narrow realm of economics. The findings of this Chapter should be interpreted with these caveats in mind.

### ***How Large Is Malaysia’s Brain Drain?***

The Malaysian diaspora is large and expanding. Our conservative estimate puts the worldwide diaspora at one million people in 2010. The actual number could be significantly larger depending on how many Malaysian-born are part of the nonresident population of Singapore—no data is available. The diaspora has grown rapidly: it almost quadrupled over the last three decades.

The diaspora is geographically concentrated and ethnically skewed. Singapore alone absorbs 57 percent of the entire diaspora, with most of the remainder residing in Australia, Brunei, United Kingdom and United States. Ethnic Chinese account for almost 90 percent of the Malaysian diaspora in Singapore; they are similarly overrepresented in the countries of the OECD.

About a third of all migration is brain drain. Malaysia’s rate of brain drain is elevated: the skilled diaspora is now three times larger than two decades ago. Migration has increasingly become the preserve of the skilled. Singapore absorbed most of the brain drain, both in terms of stock (54 percent in 2010) and increment (68 percent over the last decade). Over the last decade, the skilled diaspora in Singapore has grown at a yearly rate of 6 percent.

### ***What Is the Impact of Brain Drain?***

Malaysia’s brain drain is intense relative to a narrow skill base. One out of ten Malaysians with a tertiary degree migrated in 2000 to an OECD country—this is twice the world average and including Singapore would make this two out of ten. Brain drain is aggravated by a lack of compensating inflows. Malaysia is a major receiving country, but most immigrants are low-skill and the high-skill expatriate base has shrunk by a quarter since 2004. Many skilled migrants have spent their formative years overseas, which lowered the fiscal cost of migration but also the chances of return migration.

Brain drain need not trap a country into a vicious cycle of human capital flight and slow growth. Contrary to popular belief, brain drain brings also benefits. Some of these may not be immediately visible but over time they may turn detrimental brain drain into beneficial brain drain. The possibility of migration may promote skills formation domestically. The existence of a diaspora can be positive for the exchange of goods, capital and ideas.

The brain drain has not eroded the number of graduates available domestically. Universities have managed to replenish the outflows. But brain drain is likely to have reduced the quality of the human capital stock. Brain drain is prone to positive selection: the best and brightest typically leave first. Firms in Malaysia raise the quality of the skills base as a top concern. While brain drain is not the only factor affecting quality, it has likely been an important one.

### ***How Can Policies Address Brain Drain?***

Brain drain is a wave to be ridden, not a tide to be turned. Brain drain reflects the forces of globalization that make the world a smaller place. Brain drain is not unique to Malaysia and neither is it avoidable or to be avoided. The challenge for Malaysia, as for many other countries, is to embrace the global mobility of talent. As Malaysia needs talent, it will need to turn the brain drain to its advantage. It will need to reverse the deterioration in skill quality and expand the narrow skills base.

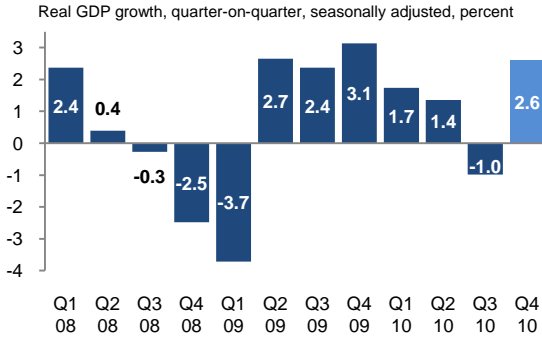
Brain drain is a symptom, not a problem in itself. Brain drain is the outcome of underlying factors. Individuals respond to incentives and disincentives—the push and pull factors that drive the migration decision. Identifying these constitutes the first step towards formulating policies. Key factors that motivate Malaysians to move abroad include differences in earnings potential, career prospects, quality of education and quality of life. Discontent with Malaysia's inclusiveness policies is a key factor too—particularly among the non-Bumiputeras who make up the bulk of the diaspora.

By boosting productivity and strengthening inclusiveness, Malaysia can address the brain drain comprehensively. Productivity improvement will require a revamp of the education system—to stimulate the supply of quality skills and raise productivity-linked wages. To raise the demand for these skills, productivity improvement will also require efforts to promote innovation and stimulate competition. Malaysia can also tackle the push factors of migration by updating its inclusiveness policies. Today over 90 percent of all inequality is a function of socio-economic differences within ethnic groups, rather than between them. Productivity and inclusiveness lie at the heart of Malaysia's transformation programs. Implementing these forcefully will go a long way towards turning the brain drain into a gain.

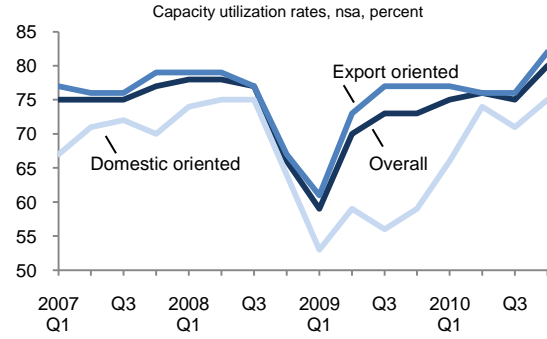
Targeted measures such as talent management and diaspora engagement complement, but cannot substitute for, comprehensive reforms. Malaysia will need to participate in the global competition for talent. Surveys of the Malaysian diaspora point to a strong sense of attachment to the motherland. If the enabling conditions are satisfied, talent management policies could play a pivotal role in promoting return migration. Malaysia can tap also into the global talent pool directly and broaden its expatriate base. The Talent Corporation is developing new initiatives and the Residence Pass and Returning Experts Programme are welcome first steps to ease the flow of skill across borders. In addition, Malaysia could also engage more deeply with the diaspora, creating diaspora trade councils, involving the diaspora in investment promotion missions, and even considering direct inputs from the diaspora into policymaking.

# THE MALAYSIAN ECONOMY IN PICTURES

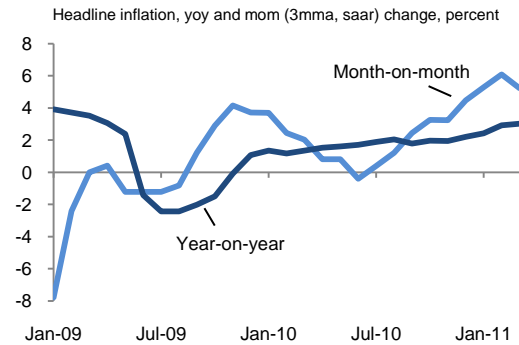
## After strong rebound, growth momentum slowed and then resumed



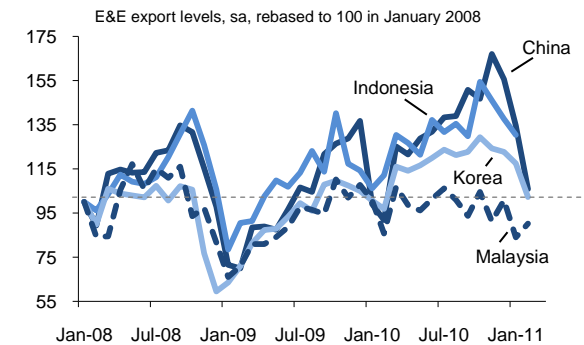
## Capacity utilization is back at its pre-crisis peak



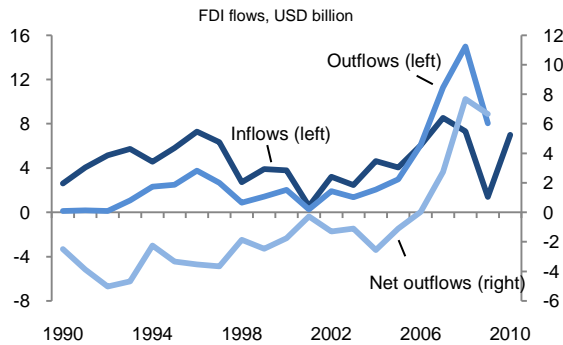
## Inflationary pressure is building



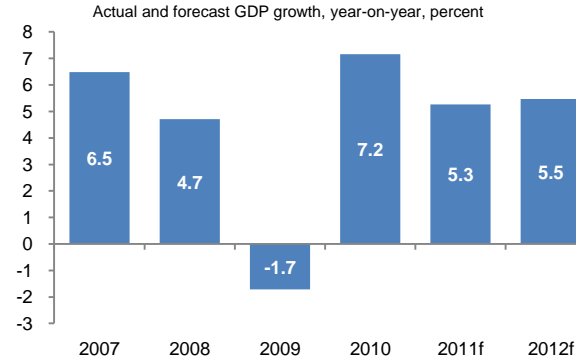
## Malaysia's electronics sector lagged the region, raising concerns about competitiveness



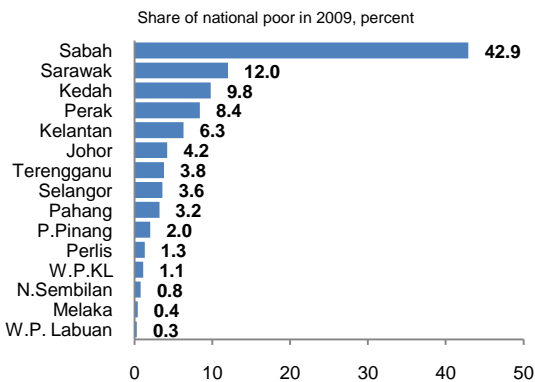
## Following plunge, FDI inflows resumed



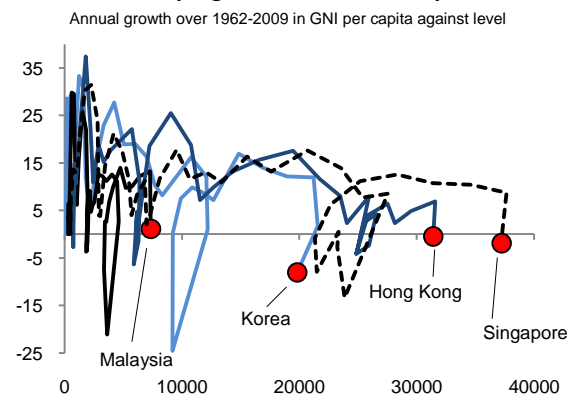
## Growth expected to resume at pre-crisis rates



## Poverty has recently increased and retains a strongly regional dimension

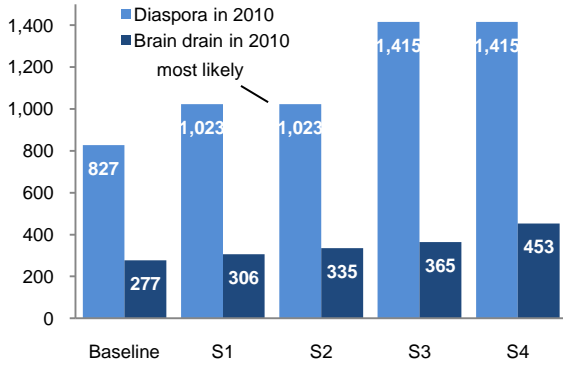


## Comprehensive implementation of reforms key to escaping middle-income trap



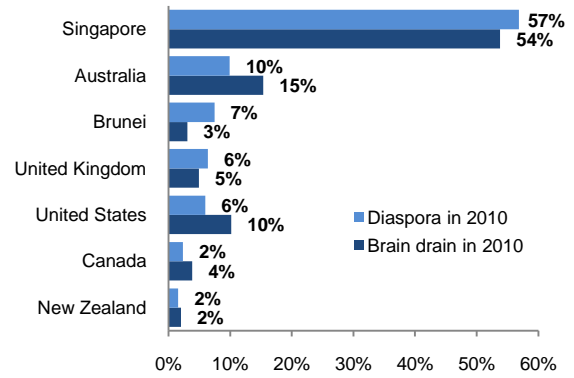
# THE BRAIN DRAIN CHALLENGE IN PICTURES

## The Malaysian diaspora in 2010 is estimated at 1 million, a third representing brain drain

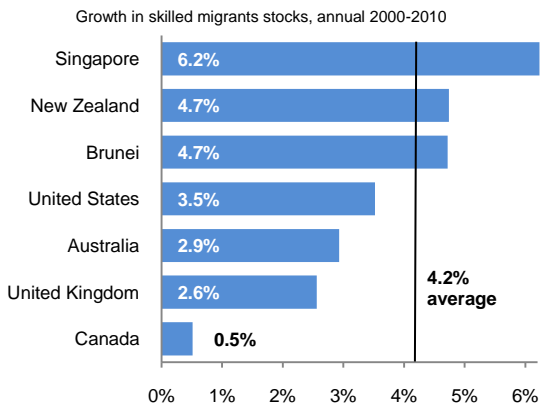


Note: S1-4 are scenarios accounting for uncertainty on nonresidents in Sgp.

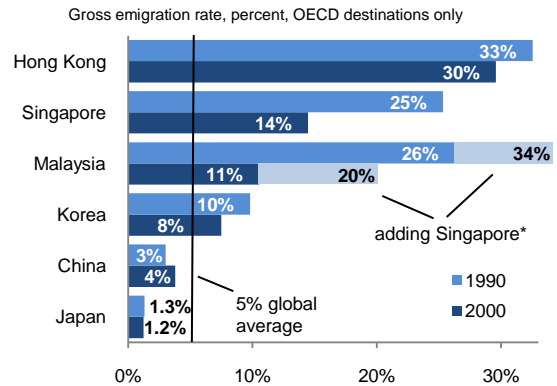
## The diaspora is geographically concentrated



## The pace of brain drain is elevated

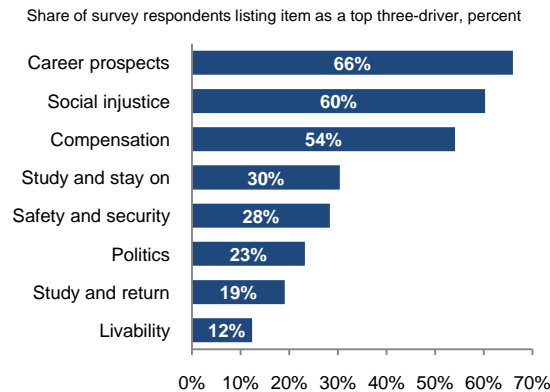


## Relative to narrow skill base, brain drain is intense

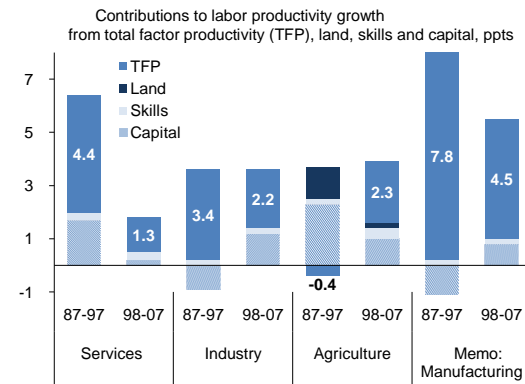


\* Adding Singapore resident diaspora. Other countries OECD only.

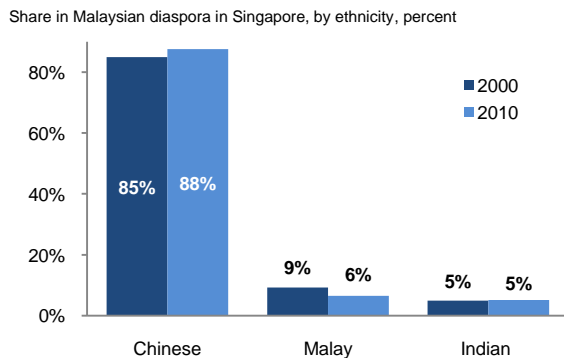
## Brain drain is a symptom driven by productivity and inclusiveness concerns



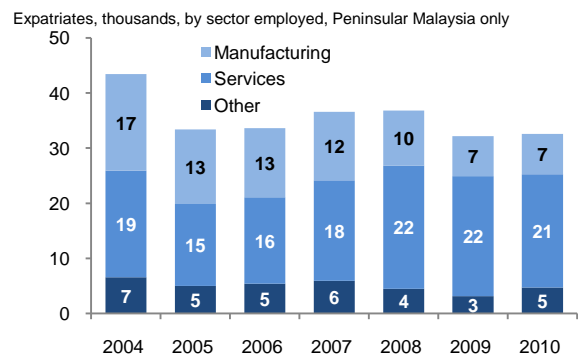
## Boosting productivity will require up-skilling through education and innovation policies



## Reducing the ethnic skew in the diaspora will require updating inclusiveness policies



## Targeted policies to tap into global talent and engage with the diaspora would complement







# 1. RECENT ECONOMIC DEVELOPMENTS

Recent economic developments in Malaysia reflected to a large extent the developments in the global economy during the review period. Malaysia recorded a strong recovery over 2010. However, following the rebound, momentum seemed to taper off and growth became jittery. Output first contracted and then rebounded, manufacturing performed inconsistently and consumer and business sentiment evolved in opposite directions. Recent indicators, however, are encouraging and suggest renewed momentum.

Inflationary pressures have built—even though they remain comparatively benign. While labor markets strengthened, real wage increases seem to have remained moderate for now. Yet, inflationary pressure seems to become more broad-based than before. Banking and financial conditions remained supportive of the real economy, with household debt rising against continued banking system strength. The current account surplus widened on commodity strength, masking a weakness in manufacturing export volumes, raising concerns about a possible erosion in competitiveness. Foreign direct inflows staged a remarkable cyclical come-back, but underperformed structurally.

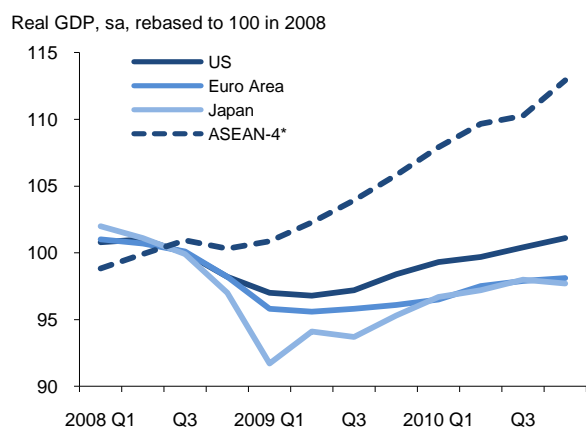
Policies were renormalized gradually. This reflected the still-uncertain and multi-speed global recovery. Fiscal consolidation reduced the federal government balance but not that of the consolidated public sector. Restraint on federal operating expenditures played an important role initially, but recent commodity price strength has put pressure on subsidy bills. Monetary policy was tightened to keep inflationary pressure in check but remained complicated by the global multi-speed growth environment and attendant capital inflows. Macro-prudential measures complemented traditional instruments to pre-emptively address potential pockets of vulnerability arising from credit growth.

## GLOBAL RECOVERY CONTINUED UNEVENLY

The global economic recovery continued at varying speeds in the second half of 2010. The unevenness in economic performance between the advanced and emerging economies persisted, despite some narrowing in their growth paths. Within the advanced economies, the pace of economic recovery began to diverge, particularly between the U.S. and the E.U. (Figure 1.1). In view of this multi-speed nature of the global recovery, macroeconomic policy stances also showed a marked geographical differentiation. As a result, liquidity flows, asset prices and exchange rates saw divergent developments.

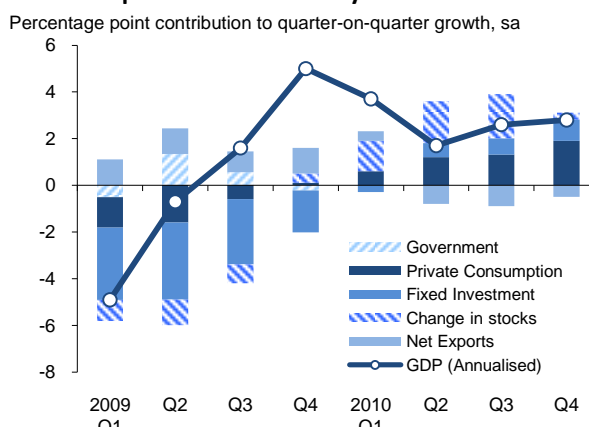
Advanced economies recovered more strongly than expected. U.S. growth picked up to 2.8 percent in 2010 (Figure 1.2). Macroeconomic policies remained expansionary, supported by additional quantitative easing (QE2) and tax relief introduced towards year-end. Encouraging signs of stronger private sector activity have emerged. Private consumption expenditure and non-residential fixed investment trended higher amidst rising consumer and business sentiments. Labor market conditions have meaningfully improved as the private sector recorded net job creation and the unemployment rate fell below nine percent in February 2011—the first time in 22 months. Meanwhile, the E.U. expanded by 1.7 percent, though this was driven largely by Germany (Figure 1.3). The German economy grew by 3.6 percent amid a strong export-led recovery with positive spillovers onto domestic demand. In the peripheral European economies, however, demand conditions remained weighed down by high

**Figure 1.1. The global economic recovery remained uneven**



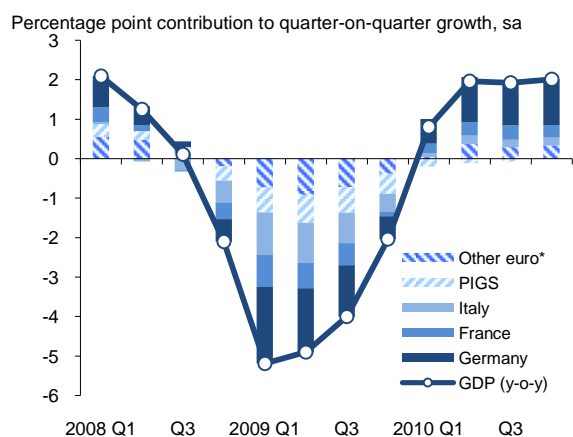
Source: Haver and World Bank staff calculations.  
\* ASEAN-4 refers to Indonesia, Philippines, Singapore and Thailand.

**Figure 1.2. The U.S. economy expanded in 2010 on increased private sector activity**



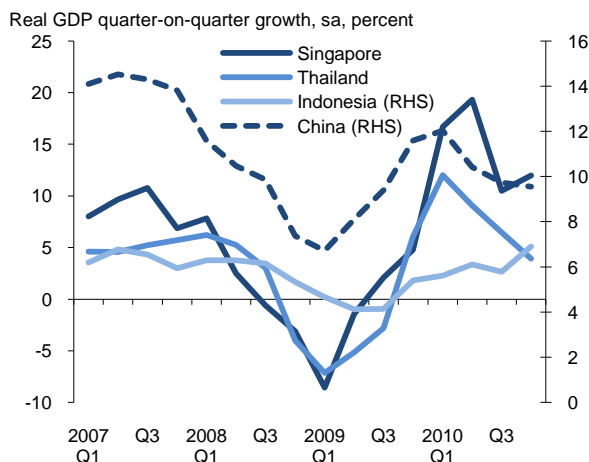
Source: Haver and World Bank staff calculations.

**Figure 1.3. Recovery within the Euro Area was uneven, with growth driven largely by Germany**



Source: National authorities and World Bank staff calculations.

**Figure 1.4. The emerging economies exhibited more sustainable growth rates after a V-shaped recovery**



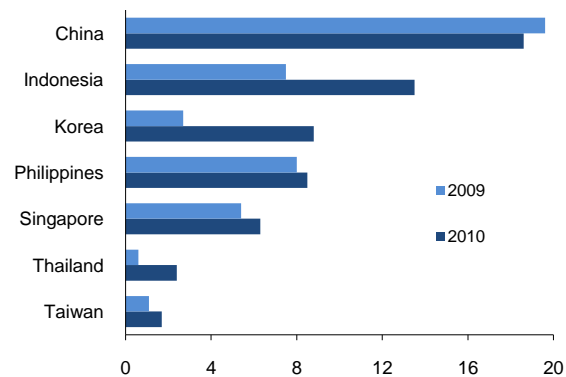
Source: Haver and World Bank staff calculations.

unemployment and dampened sentiment from the imposition of fiscal austerity measures. In Japan, prior to the recent calamity, growth experienced a robust rebound at 3.9 percent for 2010. The generally improving global environment helped stimulate Japanese exports and industrial production.

The emerging economies, in contrast, experienced some moderation of growth. This has reflected a transition towards a more sustainable pace after the sharp, V-shaped, post-crisis recovery (Figure 1.4). East Asia and Pacific region grew 9.2 percent in 2010. China grew by 10.3 percent, outpacing Japan to become the world's second largest economy after the U.S. This robustness was mainly private sector-led. Indeed, domestic demand remained resilient in spite of weaker external demand in the second half-year. This resumption and entrenched strength of private sector activity has allowed for the beginning of macroeconomic policy normalization. Yet, authorities have moved only gradually in withdrawing monetary and fiscal accommodation. Such gradualism has reflected the caution amidst concerns on, initially, the durability of global expansion and, later, the mounting challenges arising from capital inflows and inflationary pressures.

**Figure 1.5. Capital flows into the developing economies surged in 2010**

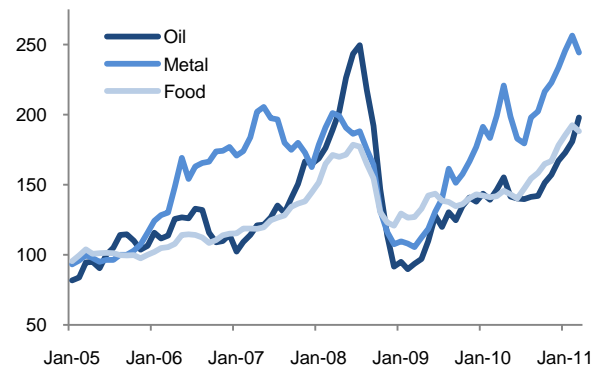
Portfolio investment, nsa, USD billion



Source: IMF and World Bank staff calculations

**Figure 1.6. Commodity prices rose to record highs in 2010, while the oil price trended towards its 2008 peak**

Commodity prices, sa, rebased to 100 in 2005



Source: IMF and World Bank staff calculations

Capital flows into the emerging economies surged to record highs in 2010. As global growth prospects remained uneven and interest rate differentials widened, investors shifted large amounts of capital from the advanced to the emerging economies in search for higher yields (Figure 1.5).<sup>1</sup> This trend was intensified by the increase in global liquidity from the quantitative easing in advanced economies. The surge in capital inflows led to strong appreciation of emerging market currencies, with heightened volatility in capital markets. In response, policymakers in the emerging economies were confronted with the need to strike a fine balance between preventing a build-up of financial imbalances that could potentially overheat and subsequently disrupt domestic asset markets, and preventing a rapid exchange rate adjustment that would, in the absence of accelerated productivity improvements, erode external competitiveness. In East Asia, a combination of measures to deter inflows and encourage outflows, together with exchange market intervention, was implemented.<sup>2</sup> This was reflected in the slower pace of currency appreciation since late 2010 and the accelerated accumulation of foreign exchange reserves.

Rising inflation, particularly from high fuel and commodity prices, has emerged as a key concern. Against increasing demand as the global recovery firmed up, oil prices have again exceeded USD100 a barrel and metal prices have reached record highs. Furthermore, adverse weather conditions have affected food production, raising prices to levels similar to their 2008 peaks (Figure 1.6). These upward pressures were exacerbated by turmoil in the Middle East. Although inflation has remained largely cost-pushed, concerns have arisen that inflationary pressure has become increasingly broad-based as wage demands react to higher inflationary expectations. Given that asset prices rose amid strong capital inflows, the conduct of monetary policy was further complicated. While a hike in interest rates would choke off second-round inflation effects, it would also further widen interest rate differentials, thereby attracting more interest rate-sensitive inflows. As such, monetary authorities throughout East Asia have opted for the implementation of macro-prudential measures, particularly with respect to real estate financing. In addition, the orderly exchange rate appreciation has facilitated some protection against importing inflation, though concerns on higher imported inflation, especially from China, still remain.

<sup>1</sup>This includes carry trade, where volatility in flows may have been further heightened by investors' expectation for central banks in the emerging economies to allow only gradual and orderly currency appreciation.

<sup>2</sup>For a detailed list of measures, refer to World Bank (2011a), page 127.

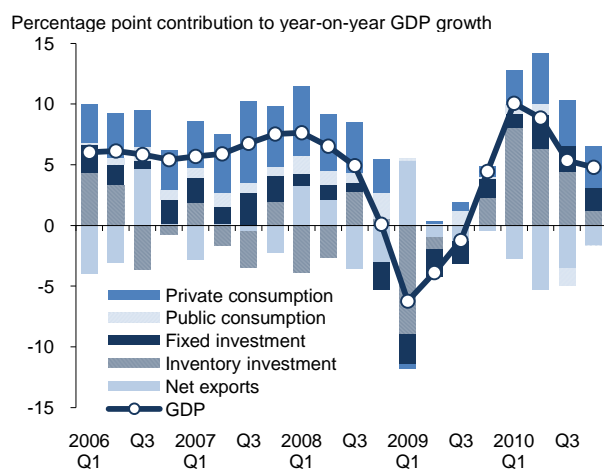
## STRONG RECOVERY IN MALAYSIA, BUT MOMENTUM VOLATILE

The Malaysian economy registered strong growth over the course of 2010. Heavily reliant on trade, the economy benefited from the turnaround in the external environment. However, following the rebound, the momentum of growth seemed to taper off and growth became jittery. Recent indicators however have provided some encouraging signals.

### Malaysian Economy Staged a Strong Recovery Over 2010

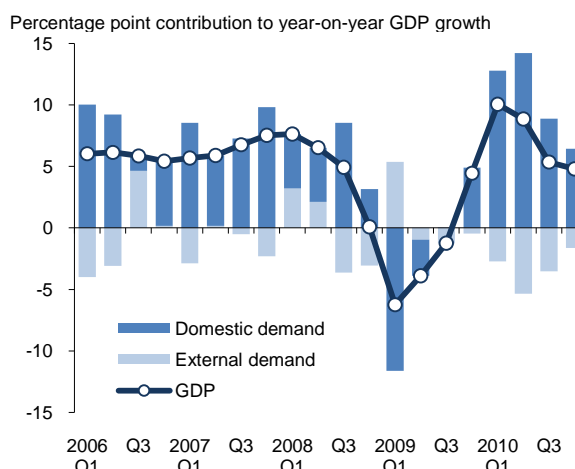
The Malaysian economy grew strongly over 2010, at a headline rate of 7.2 percent (Figure 1.7). Comparing the year as a whole with 2009, four aspects are noteworthy. First, the economy completed the rebound from the downturn in 2009, which produced a strong base effect following the contraction of 1.7 percent in the earlier year. Second, private consumption, which accounts for just over half of annual GDP, showed significant strength, growing at some 6.6 percent on the year before. This stands in stark contrast with public consumption, which remained flat due to fiscal consolidation. Third, the inventory cycle worked to the economy's favor, where rapid restocking followed earlier destocking. Fourth, while exports of goods and services grew strongly at close to 10 percent, import grew even more strongly at 14.7 percent, as private consumption and the demand for capital goods strengthened.

**Figure 1.7. The 2010 economy completed its rebound from the crisis**



Source: CEIC and World Bank staff calculations.

**Figure 1.8. External demand has been a drag for seven quarters since 2009**

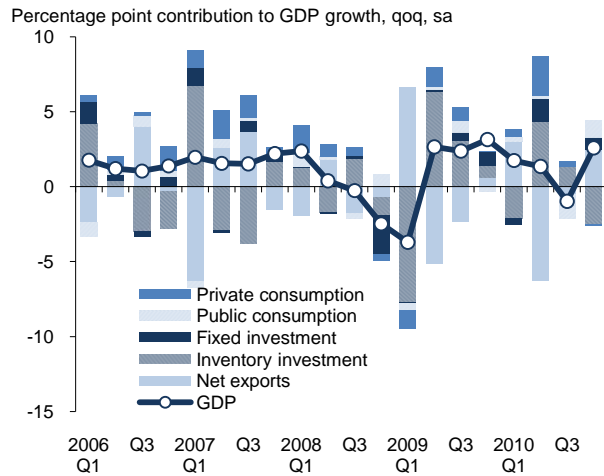


Source: CEIC and World Bank staff calculations.

The first half of 2010 seemed stronger than the second half—at least if one attaches importance to year-on-year numbers distorted by base effects. Growth decelerated from 9.4 percent to 5.1 percent from the first into the second half of 2010. Unsurprisingly, this pattern is also borne out in the quarterly profile, where growth progressively slowed to 4.8 percent into the last quarter.

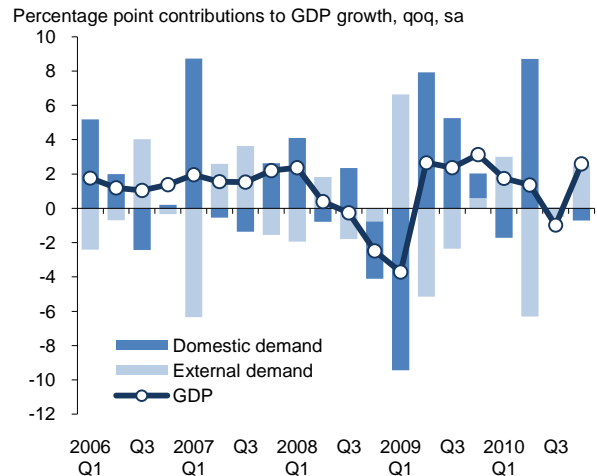
As the year passed, the growth contributions of domestic and external demand first diverged and then converged (Figure 1.8). Indeed, in the earlier part of the year, domestic demand saw its contribution to growth rising to close to 15 percentage points of overall growth, whereas the drag exerted by external demand was a third of that. After the second quarter, however, external demand staged a come-back, with the drag diminishing. This was accompanied by a smaller growth contribution from domestic demand, on a year-on-year basis.

**Figure 1.9. Expenditure components saw divergent patterns during the last two quarters of 2010**



Source: Haver and World Bank staff calculations.

**Figure 1.10. External demand picked up recently, with domestic demand flat**



Source: Haver and World Bank staff calculations.

### Following Rebound, Growth Became Jittery

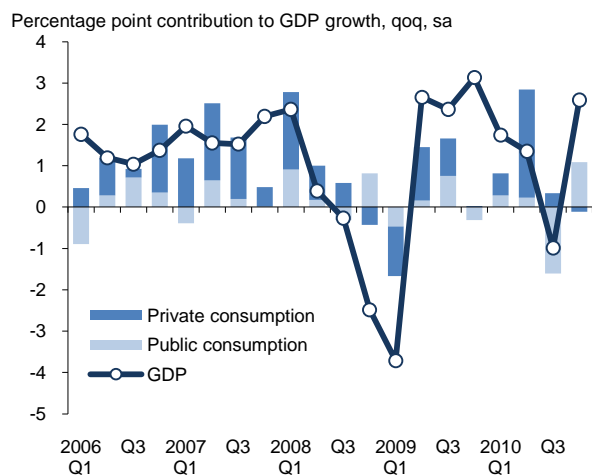
Turning now to the relevant metric of momentum—quarterly sequential growth adjusted for seasonality—a different picture emerges: the growth engine started to sputter. This represents a remarkable turn of events. As early as the second quarter of 2009, growth momentum accelerated significantly—consistent with the rest of the region that was also recovering from the crisis.<sup>3</sup> This was followed by a period of sustained rapid growth, which into 2010 had started to decelerate into a slower and more sustainable pace. Over the most recent quarters, however, growth momentum had become jittery.

### Growth Contracted and Then Rebounded

In the final two quarters of 2010, the Malaysian economy contracted at 1 percent and then rebounded at 2.6 percent (Figure 1.9 and Figure 1.10). Examining the expenditure components, several factors are key, but broadly speaking it appears that domestic demand had come to a virtual stand-still after a period of massive expansion, whereas external demand gradually solidified.

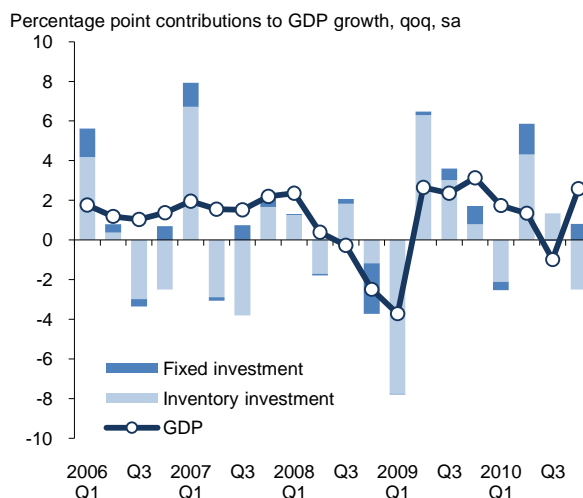
<sup>3</sup> Note here that, since year-on-year numbers do not incorporate recent information sufficiently quickly, such numbers are inherently unreliable in dating a recovery. At present the Department of Statistics does not publish seasonally adjusted statistics and, unfortunately, the coverage of Malaysia’s growth performance both inside and outside policy circles remains dominated by year-on-year numbers. For a discussion of the relative merits of using seasonally adjusted quarter-on-quarter data, see Box 1 in the previous issue of this report (World Bank, 2010b).

**Figure 1.11. Private consumption stayed flat, with public consumption initially falling and then rising**



Source: Haver and World Bank staff calculations.

**Figure 1.12. Fixed investment rose recently, with inventory stocks declining as exports picked up**



Source: Haver and World Bank staff calculations.

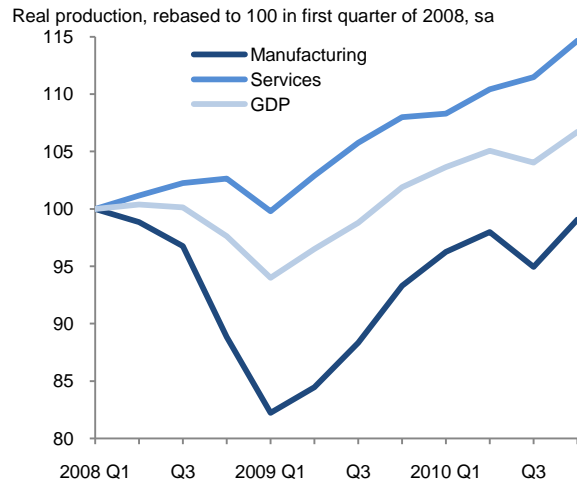
Considering the following expenditure components in turn:

- *Consumption* (Figure 1.11). Private consumption stalled following significant earlier growth. Public consumption saw more volatility, initially a significant decline of 1.6 percent and afterwards a reversal of 1.1 percent.
- *Investment* (Figure 1.12). Fixed investment, which in the quarterly statistics is not disaggregated into public and private, was flat in the third quarter and then saw a modest pick-up. Inventory investment, however, remained volatile as ever. Inventory accumulation continued in the third quarter, although at a much-reduced pace compared to the previous quarter. In the last quarter, inventories experienced significant decumulation.
- *Net exports* (Figure 1.9, previous page). External demand (exports less imports) initially exerted somewhat of a drag on growth momentum but then contributed positively. Given the tight integration of Malaysia's manufacturing sector into cross-border supply chains, exports, imports and inventories are closely intertwined. An unexpected surge in export orders tends to induce immediate inventory drawdowns as well as a more gradual pick-up in intermediate imports (and vice versa). These patterns seem to match the last quarter well, as exports outpaced imports and inventories collapsed. Box 1 below reviews Malaysia's economic performance from a regional perspective, and reveals that export recovery in other crisis-affected regional economies has outperformed that of Malaysia.

### **Unlike Services, Manufacturing Performed Inconsistently**

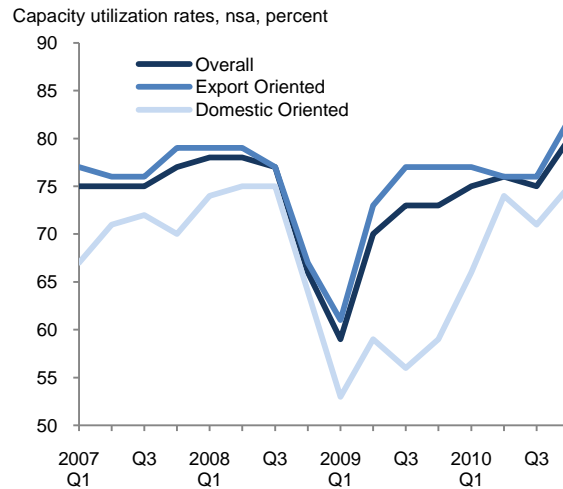
The economy's jittery performance over the last two quarters can be largely traced back to the manufacturing sector (Figure 1.13). Seasonally-adjusted production had over the last two years experienced a steady come-back, with production almost reaching the level of early 2008. Then, in the third quarter of 2010, this process was interrupted abruptly, although production bounced back in the next quarter.

**Figure 1.13. Manufacturing has shown less stable growth than services**



Source: Haver and World Bank staff calculations.

**Figure 1.14. Capacity utilization surpassed pre-crisis levels for export-oriented industries**



Source: CEIC and World Bank staff calculations.

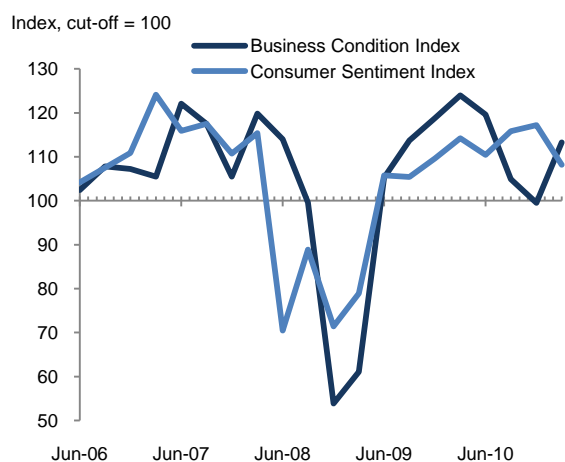
The services sector showed a much more consistent growth pattern, buoyed by rather resilient private consumption. The data suggests a very mild deterioration and subsequent acceleration in growth momentum over the last quarters. This likely reflects the fact that, while private consumption registered little sequential growth over the final two quarters of 2010, it did settle at a high level following the massive growth rate in the second quarter of close to 3 percent (not annualized).

The evolution of capacity utilization confirms the observed patterns of growth in the manufacturing sector (Figure 1.14). The economy-wide V-shape recovery following the crisis was associated with a dramatic rebound in capacity utilization, particularly among firms serving international markets. Domestic-oriented firms experienced a slower recovery process. Capacity utilization of export-oriented firms reached the customary level of 75-80 percent well ahead of domestic-oriented firms. Over the third quarter, however, both types of firms experienced a decline in capacity utilization, which was more than reversed in the fourth quarter as well as in recent months.

### ***Consumer and Business Sentiments Evolved in Opposite Directions***

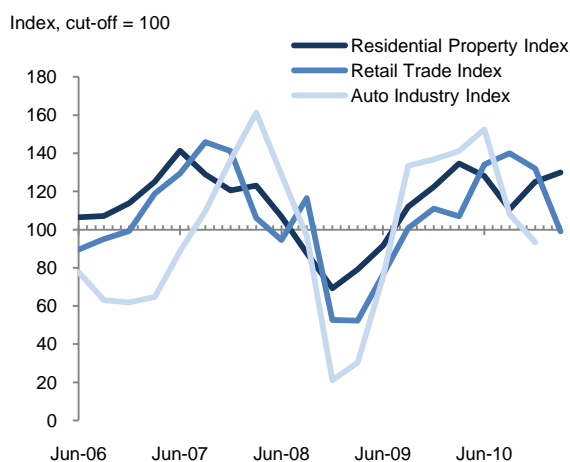
During the course of 2010, consumer sentiment experienced a steady improvement, whereas business sentiment registered a steep decline (Figure 1.15). The consumer sentiment index of the Malaysian Institute of Economic Research (MIER) reached a two-year high in the fourth quarter of 2010. Despite the stabilization of private consumption momentum, sentiment has continued to improve. This has been a result of a confluence of factors, including continued robustness in the job market, real income growth, and expansion of lending. However, the business condition index reflected more pessimistic views during the same period—in line with the general performance of particularly manufacturing. These mixed developments were also evident in other indices, such as the residential property, retail and auto industry indices (Figure 1.16).

**Figure 1.15. Consumer and business sentiments saw divergent patterns as of recently**



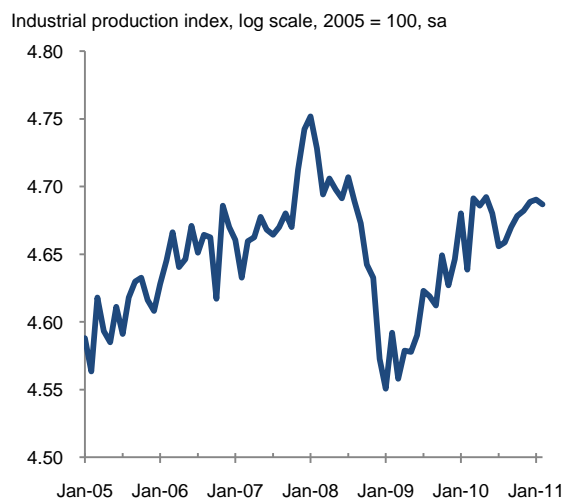
Source: MIER.

**Figure 1.16. Residential property and retail indices volatile, while auto industry index declining**



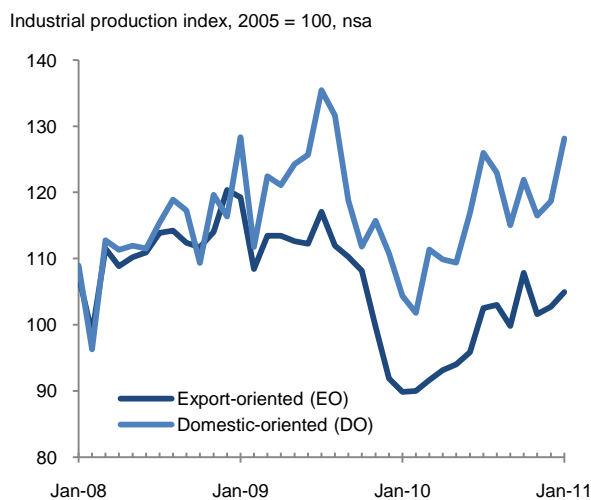
Source: MIER.  
Note: Auto industry index available until end 2010

**Figure 1.17. Industrial production index registered a recent uptick**



Source: Haver and World Bank staff calculations.

**Figure 1.18. Domestic-oriented production surged early 2011**



Source: CEIC and World Bank staff calculations.

### Good Momentum Indicated by Recent Data

The most recent observations of capacity utilization and industrial production point to continued strength in underlying momentum (Figure 1.17 and Figure 1.18). After a solid pickup in manufacturing activity late 2010 that continued into the early months of 2011, business sentiment clearly improved in the first quarter of this year (Figure 1.15). Consumer confidence on other hand weakened somewhat, possibly on rising concerns that inflation erodes real income, but the index value remains well above 100 indicating optimism.

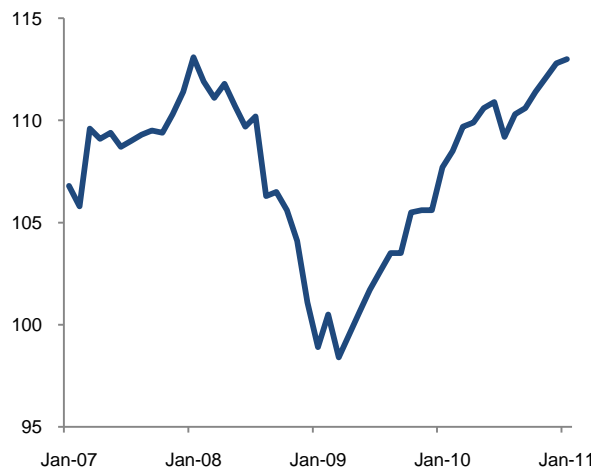


Following a strong and continuous recovery, industrial production registered significant volatility during most of 2010 and remained below pre-crisis heights. The most recent data points are positive, particularly for domestic-oriented industries which were buoyed by domestic consumption and a good performance in the construction sector. An improvement in manufacturing activities in February 2011 was in line with stronger-than-expected electronics shipments.

Coincident indicators provide further encouragement (Figure 1.19). The coincident index of the Department of Statistics captures, among others, developments in the manufacturing sector (employment, real wages and salaries and capacity utilization), real contributions to the Employees Provident Fund, and retail trade volume. After a temporary decline in mid-2010, the index rose steadily afterwards. Early 2011, the level was back at the pre-crisis level of January 2008.

**Figure 1.19. Coincident index continued to rise**

Coincident index, 2005=100



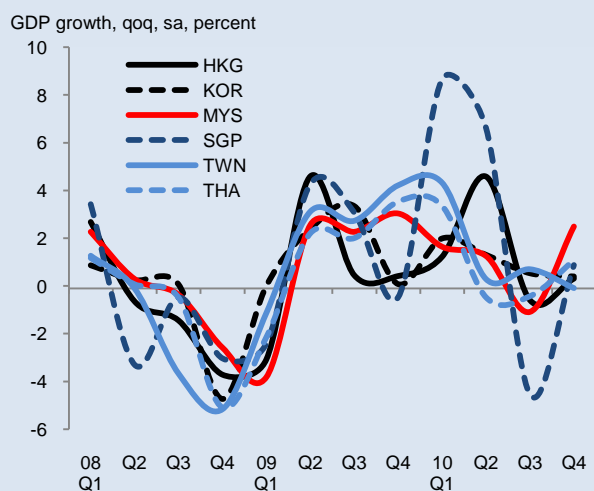
Source : CEIC.

## BOX 1. MALAYSIA'S ECONOMIC PERFORMANCE IN REGIONAL CONTEXT

Growth momentum among crisis-afflicted East Asian economies deteriorated mid-2010. Average sequential growth in the six economies that faced a recession during 2008-09 was negative at 0.8 percent in the third quarter of 2010—compared to a healthy 3 percent in the first half of that year (Figure 1.20). South Korea and Taiwan (China) managed to avoid the contraction, but Thailand suffered another recession mid-year. In all cases, slow external demand was the culprit.<sup>a</sup>

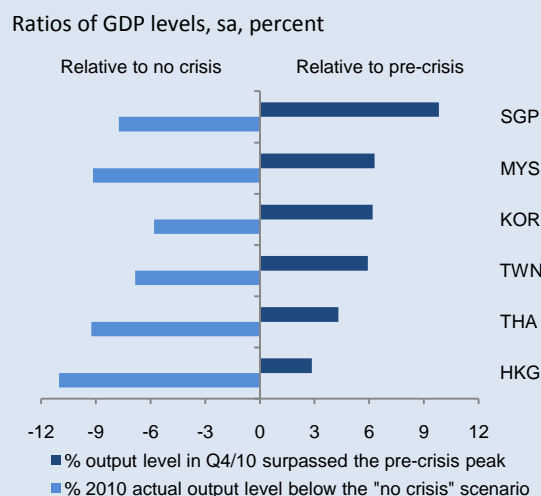
But, except for Hong Kong SAR, the export slump proved temporary and Malaysia grew the fastest end 2010. The rebound was modest but synchronized (with the standard deviation of sequential growth at the lowest level since late 2007). Malaysia's robust growth benefited buoyant commodity exports. Comparing current output levels with pre-crisis peaks, Singapore has made the most progress among the economies considered (Figure 1.21). Cumulative growth over 2010 stood at 12 percent for Singapore, compared to 4-6 percent for the other five economies. As a result, output exceeded pre-crisis output levels within a range from 3 to 10 percent.

**Figure 1.20. Crisis-affected economies faced sharp slowdowns in third quarter but rebounded afterwards**



Source: Haver and World Bank staff calculations.

**Figure 1.21. Current output levels are well below the levels that would have been without crisis**



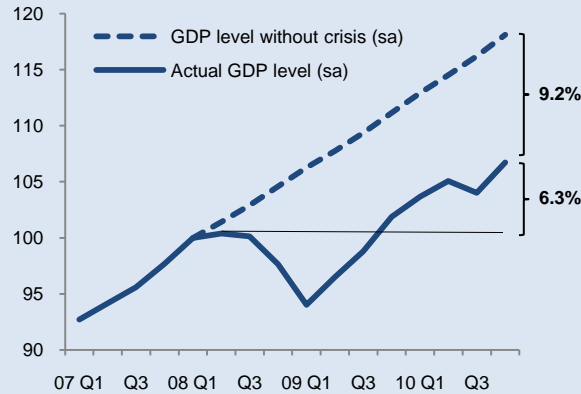
Source: Haver and World Bank staff calculations.

None of the countries made up for the crisis (Figure 1.21). Current output levels remain under what output could have been without the crisis, assuming sustained growth at 2002-07 rates. Malaysia in 2010 was some 9 percent below the 'no-crisis' level—roughly in line with regional averages. The third-quarter 'blip' interrupted momentum and widened the gap (Figure 1.22). Exports and fixed investment account for the gap most—they would have been 21 and 12 percent higher, respectively, if no crisis.

On the export side, Malaysia lagged behind others along the recovery path particularly in volumes (Figure 1.23 and Figure 1.24). As of January 2011, export volumes were only 17 percent above the January 2007 level. This compared to a mean of 35 percent in the other economies. It appears that machinery and transport equipment items were holding back the overall growth.<sup>b</sup>

**Figure 1.22. The third-quarter blip was a temporary setback in recovering lost output during the crisis**

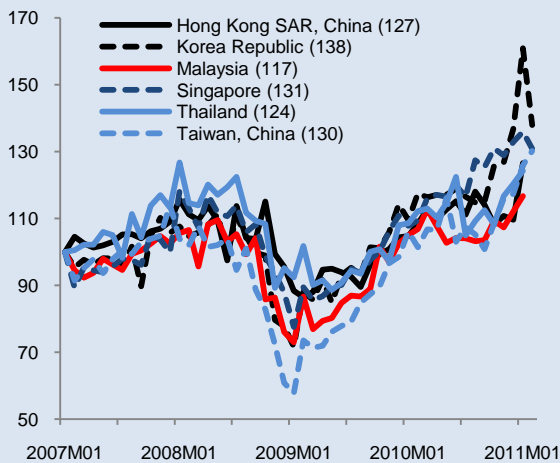
The actual and simulated GDP levels (sa) based on 'no-crisis' assumption. First quarter of 2008=100



Source: Haver and World Bank staff calculations.  
Note: No-crisis scenario assumed growth at 2002-07 rates.

**Figure 1.23. Recovery in Malaysia's export volume has generally been more subdued than others...**

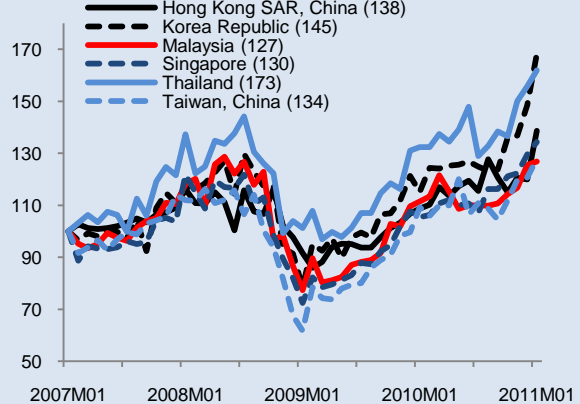
Goods export volume in USD, rebased to Jan 2007=100



Source: DECPG and World Bank staff calculations.  
Note: Export numbers of Jan 2011 relative to Jan 07 (=100) in brackets.

**Figure 1.24. ...which led to lagging export rebound though prices are more supportive recently**

Goods export value in USD, rebased to Jan 2007=100



Source: DECPG and World Bank staff calculations.  
Note: Export numbers of Jan 2011 relative to Jan 07 (=100) in brackets.

Export prices have been rather stable since mid-2009 for most economies, except in Thailand where prices rose remarkably (Figure 1.24). Malaysia has enjoyed supportive export prices throughout. Malaysia's sluggish export performance is therefore much more related to volumes than to prices.

**Notes:**

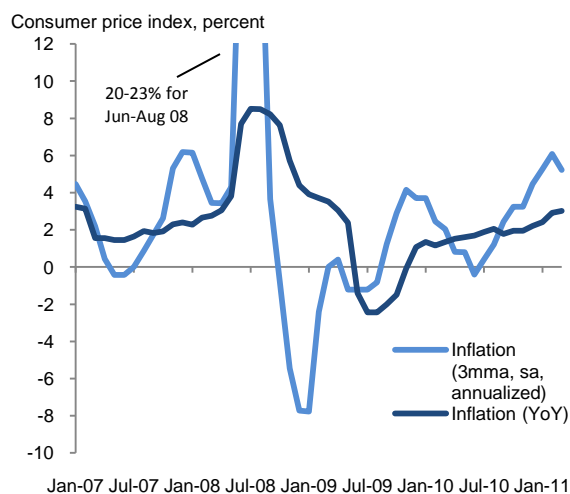
<sup>a</sup> The role of stocks subsided after the first quarter of 2009. But the inventories-to-GDP ratio of 3.6 percent in the second half of 2010 was still much higher than the pre-crisis trend of 1.4 percent during 2002-07.

<sup>b</sup> Seasonally-adjusted export volume of machinery and transport equipment in January 2011 was only 67 percent of the January 2008 level. After a rebound between early 2009 and early 2010, exports of these items softened steadily since April 2010. Other product groups such as inedible crude materials, mineral fuels and lubricants, chemicals, and miscellaneous manufactured articles have all surpassed their pre-crisis levels.

## INFLATION STILL BENIGN, BUT PRESSURE IS BUILDING

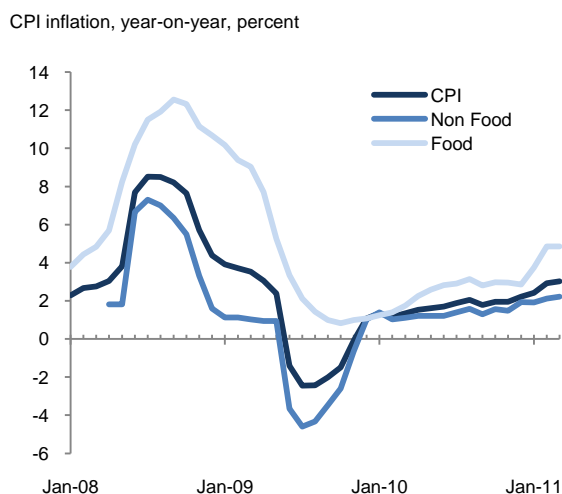
With underlying pressure building up, Malaysia's consumer price level rose more quickly during 2010, even though headline inflation remained benign relative to the rest of the region (Figure 1.25). Headline CPI inflation rose from 0.6 percent in 2009 to 1.7 percent in 2010, on the back of gradual increases in monthly inflation rates over time. A swifter increase was observed in the early months of 2011. CPI inflation (three-month moving average, seasonally-adjusted, annualized) reached 6.1 percent in February, the fastest pace in 30 months, and remained at high speed of 5.2 percent in March.

**Figure 1.25. Inflationary pressure has risen in recent months**



Source: CEIC, Haver and World Bank staff calculations.

**Figure 1.26. Food items have been a key driver of consumer price inflation**



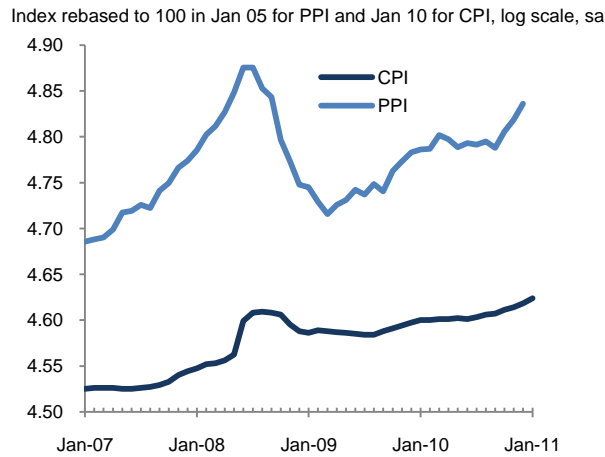
Source: CEIC and World Bank staff calculations.

With food and fuel items accounting for much of the overall increase, inflationary pressures can be considered as primarily cost-push. About 60 percent of headline inflation was contributed by food, non-alcoholic beverages, and transportation which are closely associated with global prices.<sup>4</sup> Given that the government subsidizes fuel products and essential food items, higher oil and commodity prices were not fully transmitted to the CPI. Compared to the rest of the region, the rise in inflation remains relatively benign (Box 2 below).

At the same time, there is a concern that demand-pull inflationary pressure is building, with firms currently operating close to full capacity (close to 80 percent, overall) and private consumption remaining at high levels. In addition, while core inflation has remained stable over time, this in part reflects the sizeable share of goods and services in the representative consumer's basket being subject to price administration and subsidization. Nonetheless, government's continuing efforts in the area of subsidy rationalization, particularly for gasoline and kerosene prices, are considered as an upside factor.

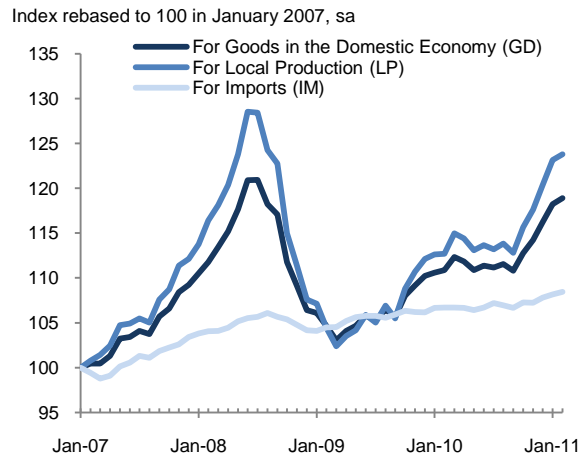
<sup>4</sup> Food items such as meats, eggs, fruits, vegetables and sugar registered more spectacular increases than others. Excessive rains in the past several months account for higher vegetable prices. Many food-related trade associations have signaled upward price adjustments after the Lunar New Year (early February) in response to higher prices of imported ingredients. Moreover, effective from 1<sup>st</sup> February, subsidies for all food factories that use over 500 tons of sugar per month are discontinued. This together explains acceleration in food inflation in Malaysia in February 2011, while other regional peers recorded slowdowns.

**Figure 1.27. Producer price inflation substantially exceeds consumer price inflation**



Source: CEIC and World Bank staff calculations.

**Figure 1.28. Higher global commodity prices pulled up producer prices**



Source: CEIC and World Bank staff calculations.

On a year-on-year basis, monthly food price inflation was a more important contributor than non-food price inflation (Figure 1.26). Although most food items in the CPI are domestically produced, international food price pressure would still affect the CPI. Among non-food items, transportation cost pushed up CPI, even though the increase in overall non-food price was moderate. Food items account for around 31 percent of Malaysia’s CPI basket, which is comparable to China and Thailand, lower than 36-47 percent in Indonesia, Vietnam, India and the Philippines, but remain much higher than South Korea and Singapore (ADB, 2011).

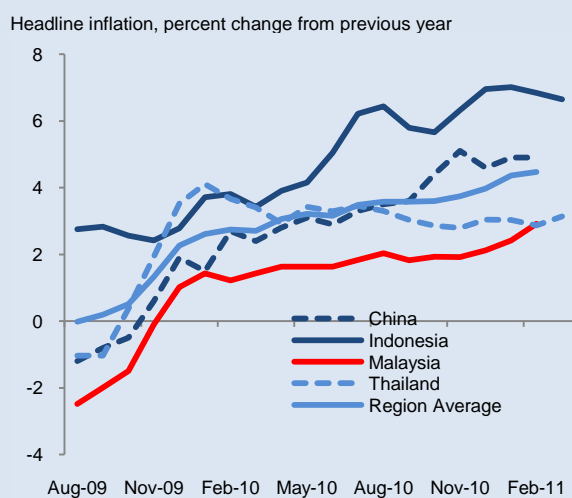
Producer prices grew much more quickly than consumer prices (Figure 1.27 and Figure 1.28). Producer price inflation registered 5.6 percent in 2010, compared to the 7.3 contraction in 2009. International oil and other commodity prices drove rising producer price inflation in recent months. Prices of inputs such as food, inedible crude materials, and animal and vegetable oils and fats jumped 7-44 percent year-on-year in January 2011.

## BOX 2. HOW DO PRICE DEVELOPMENTS COMPARE WITHIN THE REGION?

Consumer prices have been on the rise across the region and inflation has become a central concern for policy makers (Figure 1.29). There are a number of unusual difficulties in addressing the current challenge. First, both cost-push and demand-pull pressures are at work to varying degrees in different countries. Second, the standard medicine for inflation—higher interest rates—would do little against cost-push inflation, would attract capital inflows and would dent domestic demand at a time when external demand growth still has not returned to pre-crisis levels. Third, given the drawbacks of rising interest rates and generally healthy fiscal positions, at least compared to advanced economies, much of the recent increase in commodity prices has been absorbed by fiscal authorities through various subsidy schemes. This keeps inflation down temporarily, but feeds inflation expectations as global prices remain high and the cost of subsidies mount.

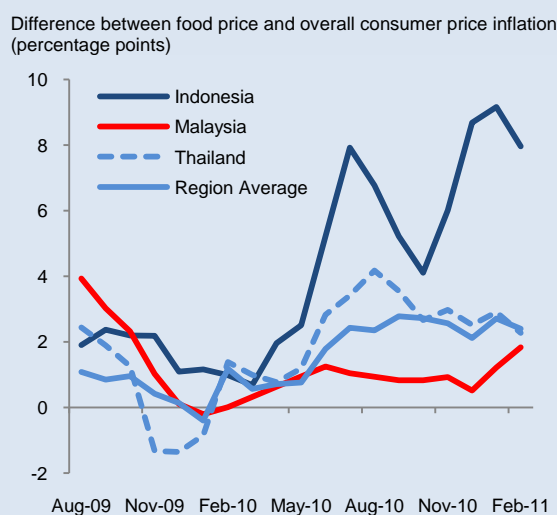
Sustained increases in global commodity prices have been a major driver of inflation (Figure 1.30 and Figure 1.31). Energy commodities have surged following the political turmoil in the Middle East and North Africa (MENA) and the earthquake in Japan, which is expected to replace nuclear capacity with fossil fuels. Notwithstanding some recent moderation, global food prices have surged since mid-2010, driving food price inflation to remain persistently above overall headline inflation over the past year. Wheat prices are up by 67 percent since the middle of 2010 and prospects are uncertain as a result of a drought in key wheat-growing provinces in China. Rice prices have been more contained, but with over 50 percent of global rice supplies coming from Thailand and Vietnam, the rice market remains highly exposed. As a result of the cost increases, producer prices have soared. Although some of the increase in commodity prices may be temporary, commodity prices have been on a rising trend over the past ten years due to a combination of rising demand from among fast-growing developing economies, especially China, and more frequent supply disruptions amid increasingly unpredictable weather patterns—a possible reflection of climate change. These underlying factors are likely to persist, suggesting the trend towards higher commodity prices is unlikely to be reversed.

**Figure 1.29. Inflation has been on the rise across East Asia**



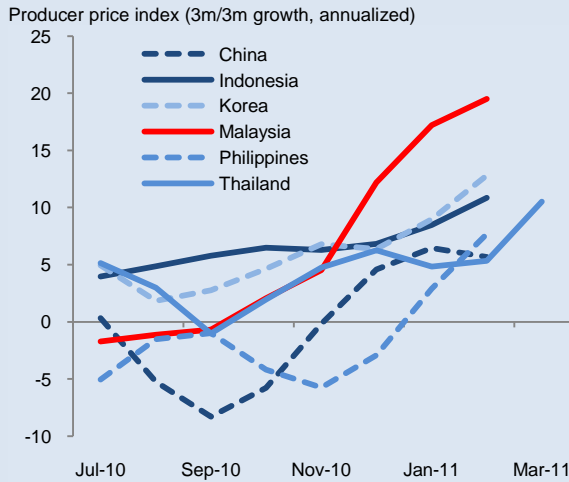
Source: CEIC.

**Figure 1.30. Food price inflation has been higher than overall CPI**



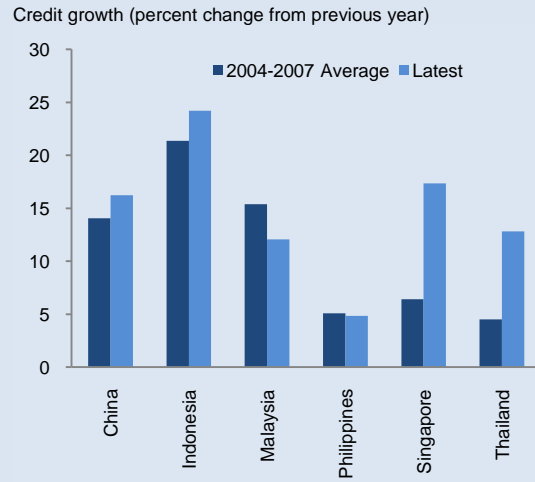
Source: CEIC.

**Figure 1.31. Producer prices have accelerated**



Source: CEIC, US Energy Information Administration.

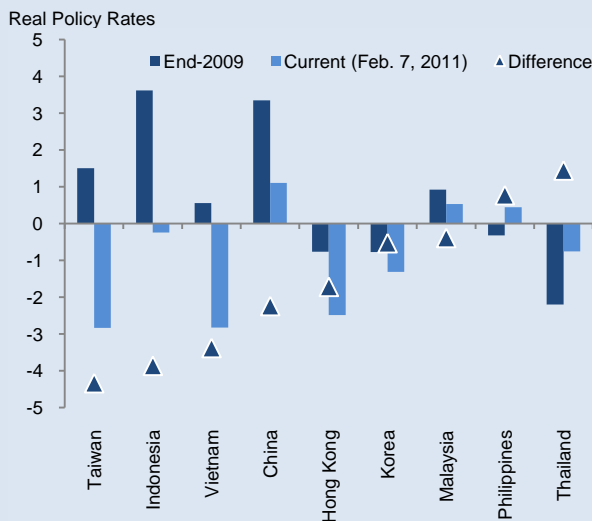
**Figure 1.32. Credit growth remains robust**



Source: CEIC.

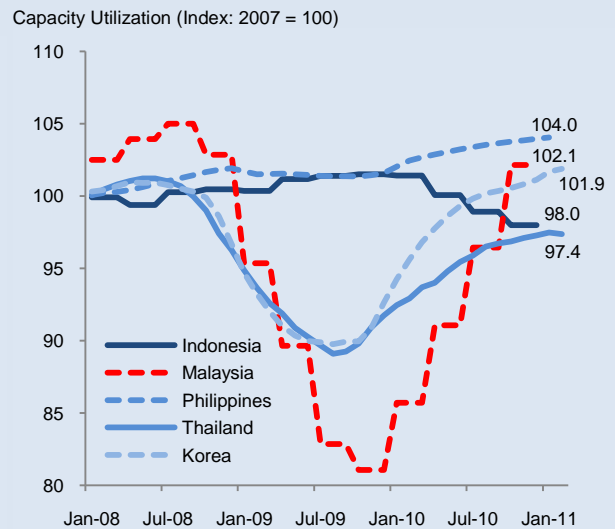
Despite the important role of cost-push factors, demand-pull factors are also at work in many economies, as output gaps close while monetary tightening remains subdued. Credit growth has been slowing down from very high levels in China, but remains above pre-crisis levels. Credit growth in Thailand, Singapore and Indonesia is also above pre-crisis levels and continues to accelerate (Figure 1.32). Meanwhile, policy rate hikes have lagged the increase in inflation, leading to *lower* real policy rates over the past year (Figure 1.33). In contrast with the delayed ‘normalization’ in monetary policy, real economic performance has ‘normalized’ in many countries and output gaps have closed in most countries in the region. Reflecting the closing of output gaps, capacity utilization of domestically-oriented industries has trended higher and in most cases exceeded pre-crisis levels (Figure 1.34).

**Figure 1.33. Most East Asian countries face lower real policy rates in 2011 than a year earlier**



Source: CEIC, US Energy Information Administration.

**Figure 1.34. Capacity utilization in domestically-oriented sectors is back above pre-crisis levels**

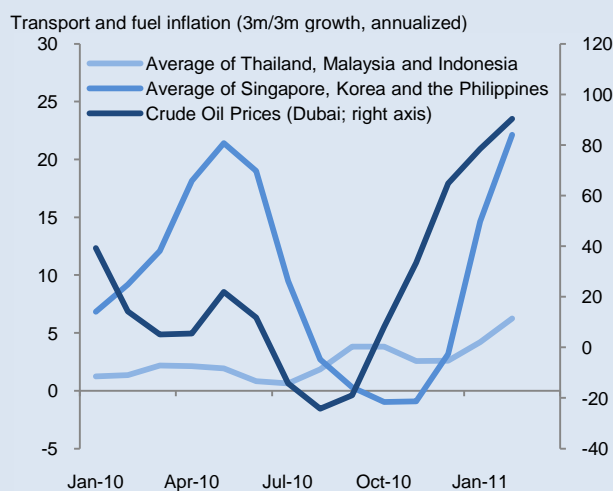


Source: Datastream, CEIC and World Bank Staff calculations.

The recovery of more open economies of Singapore, Malaysia and Thailand had relied relatively more on stimulus to domestic demand as the recovery of advanced economies—and consequently of external demand growth—remains incomplete. Related to the ongoing recovery of advanced economies, interest rates those countries remain at all-time lows. Consequently, monetary authorities in the region are reluctant to increase interest rate differentials as this would draw further capital inflows, which would put pressure on exchange rates. Low interest rates abroad would reduce the effectiveness monetary tightening at home, as foreign capital bids down yields on government bonds and banks can fund themselves overseas.

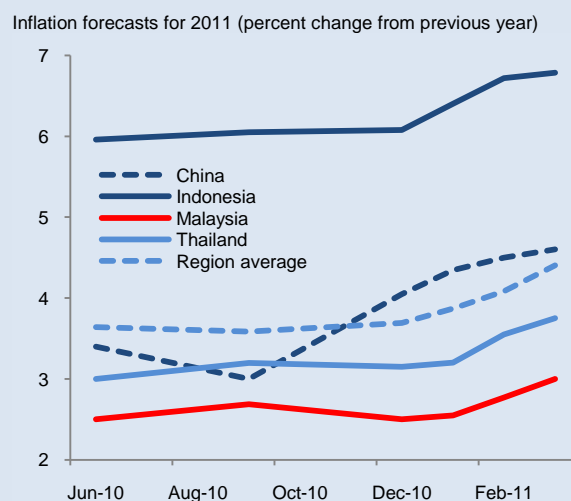
Many East Asian governments have responded to higher food and energy prices by using fiscal policy as a buffer to protect consumers and firms. Thailand extended diesel subsidies and will continue to cap prices on liquefied petroleum gas for household and transport use (55 percent of total usage). China responded to the recent drought in major wheat-producing provinces with direct subsidies to farmers. The Korean government froze electricity and gas prices during the first half of 2011 among other measures. Indonesian policymakers do not intend to raise electricity tariffs in 2011 and there are talks to delay a plan approved last year to reduce the use of subsidized fuel starting in April. Malaysia also subsidizes fuel prices, and there is a risk that the government may not raise domestic fuel prices further. As a result of subsidies, fuel and transportation prices in many countries have remained subdued (Figure 1.35). However, as global prices remain high, inflation expectations have increased on the expectation that price controls and subsidies will not be sustained throughout the year (Figure 1.36).

**Figure 1.35. Fuel and transportation prices have not followed global energy prices where subsidies exist**



Source: CEIC, US Energy Information Administration.

**Figure 1.36. Inflation expectations have been on the rise in 2011**



Source: Consensus Economics.

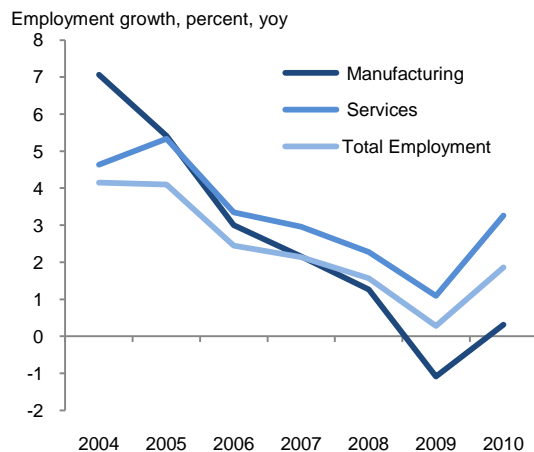


## LABOR MARKET CONDITIONS STRENGTHENING FURTHER

Malaysia's labor market continued to strengthen. Unemployment fell to pre-crisis lows. Employment grew strongly, although this growth exhibited some volatility, and real wages are trending upward supporting private consumption.

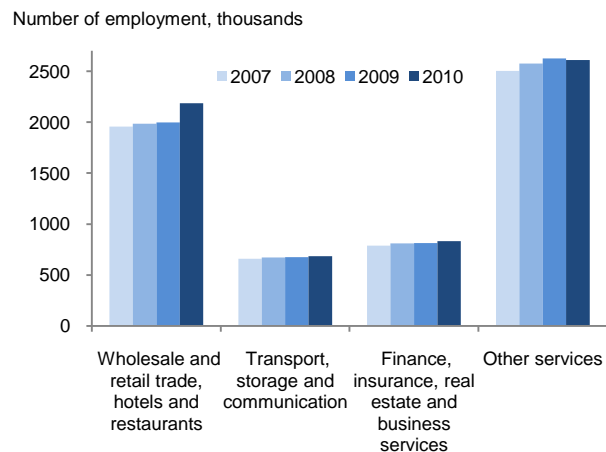
Employment growth rebounded strongly in 2010 (Figure 1.37 and Figure 1.38). This was particularly so for the services sector, which is a major job-creating sector in Malaysia and accounts for half of total employment. Services employment grew at 3.3 percent in 2010, which correlates with the sustained high levels of private consumption. Within the services sector, the wholesale and retail trade, hotels and restaurants subsector grew fastest at 9.4 percent. Manufacturing employment was much less buoyant however, reflecting the higher (and possibly increasing) capital intensity of the sector and the ambiguous developments experienced during the course of 2010.

**Figure 1.37. Services employment grew more strongly than manufacturing employment**



Source: CEIC and World Bank staff calculations.

**Figure 1.38. Jobs for the wholesale and retail trade, hotels and restaurant grew the fastest**

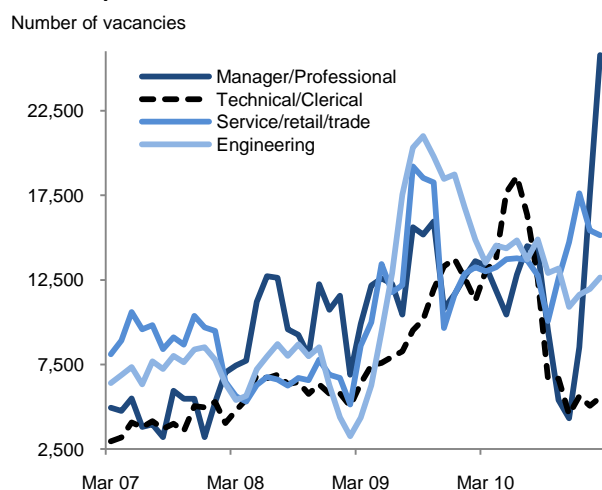


Source: CEIC.

Malaysia continued to register strong unmet demand for labor, particularly for low-skill work and technical and clerical jobs (Figure 1.39 and Figure 1.40).<sup>5</sup> Vacancies for managerial and professional jobs—of the high-skill variety—declined toward the end of 2010. Early 2011, managerial and professional jobs were in strong demand. Vacancies for low-skilled jobs were pronounced, but saw significant volatility. Since retrenchments were concentrated disproportionately on foreign low-skilled workers during the crisis, many of them dropped out of the labor force as they had to leave the country. Together with the government's attempts to lower the share of foreign workers in the economy, this meant that firms had difficulties filling vacancies when the economy embarked on the V-shaped recovery. It appears however that this process has played out fully in the meantime as vacancies have returned to more usual levels.

<sup>5</sup> The Manager/Professional category includes vacancies for legislators, senior officials, managers and professionals. The Technical/Clerical category captures vacancies for technicians, associate professionals and clerical workers. The Service/retail/trade category includes vacancies for services, shops, market sales, craft and related trades workers. The Engineering category consists of vacancies for plant and machinery operators and assemblers.

**Figure 1.39. Vacancies for technical and clerical work saw a rapid increase**



Source: CEIC and World Bank staff calculations.

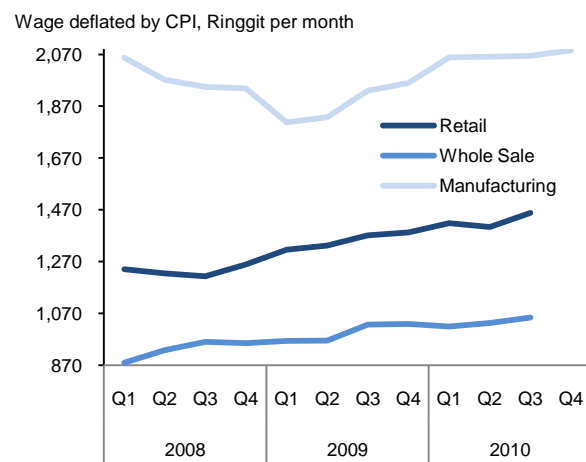
**Figure 1.40. Vacancies for low-skilled jobs have normalized after post-crisis shortages**



Source: CEIC and World Bank staff calculations.

Real wage growth remained modest (Figure 1.41). The manufacturing sector, which offers the highest wages in the chart below, registered virtually flat growth after a recent recovery in wage levels from the decrease during the crisis. While wages in the retail and wholesale services subsectors were more resilient to the global crisis than manufacturing wages, they are also much lower. Net-producing rural households are expected to have benefited from high commodity prices, especially palm oil and natural rubber.

**Figure 1.41. Real wages for retail and wholesale sectors improved**



Source: CEIC and World Bank staff calculations.

## BANKING AND FINANCIAL CONDITIONS SUPPORTIVE OF GROWTH

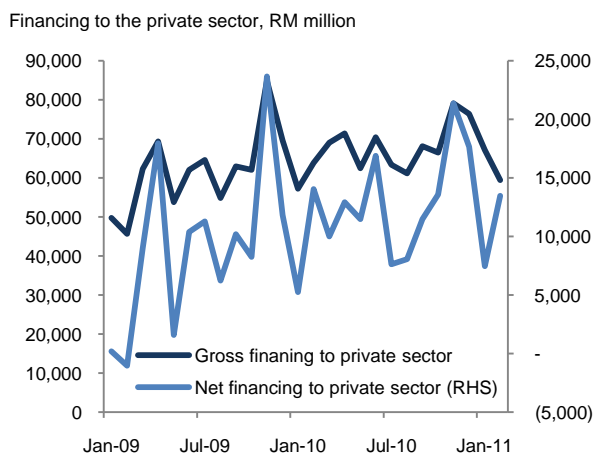
Malaysia’s financial system remained stable and conducive in intermediating financing and facilitating economic growth. The ample liquidity environment and accommodative cost of borrowing—in both the banking sector and the capital markets—supported higher demand for financing from the private sector. Meanwhile, banking sector fundamentals remained strong in spite of the rising external uncertainties and challenges.

### Strong Financing Demand Consistent with Economic Expansion

Liquidity remained ample in the Malaysian financial system. Private sector liquidity, as measured by broad money (M3), continued to grow at a stable pace of eight percent year-on-year in the second half of 2010, in line with the broad-based real economic expansion and the sustained inflow of foreign capital. Meanwhile, growth of narrow money (M1) averaged around 13 percent (yoy), with the exception of a one-off acceleration in January 2011 in view of the Chinese New Year festivity. Nevertheless, overly expansionary liquidity conditions were partially mitigated by the central bank’s efforts to sterilize some of the large foreign capital inflows.

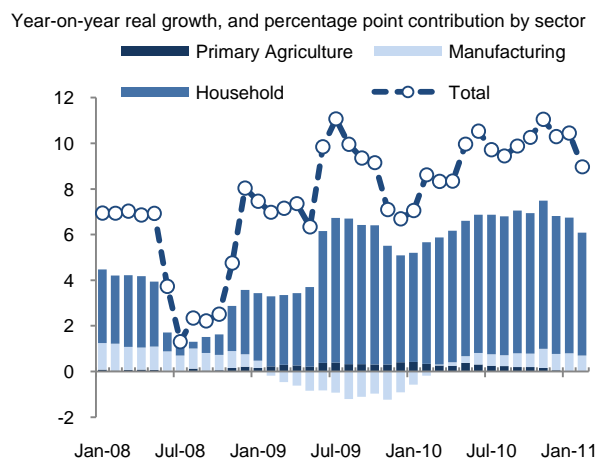
Ample financial system liquidity in turn supported higher demand for private sector financing. Both total gross financing and net financing to the private sector rose sharply to peak in November 2010, at RM79.1 billion and RM21.4 billion respectively. Despite a moderation in private financing since, both gross financing and net financing to the private sector have remained around their average pre-crisis levels (Figure 1.42). While financing needs were rose on the back of higher loan disbursements and increased issuances of private debt securities, Malaysia’s private sector continued to rely heavily on the banking sector. Indeed, more than 80 percent of total financing was raised through the banking system throughout 2010.

**Figure 1.42. Private sector financing grew strongly in second half of 2010, but moderated thereafter**

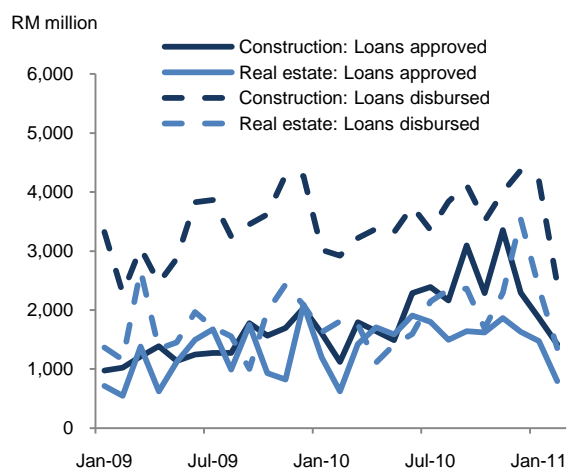


Source: BNM, CEIC and World Bank staff calculations

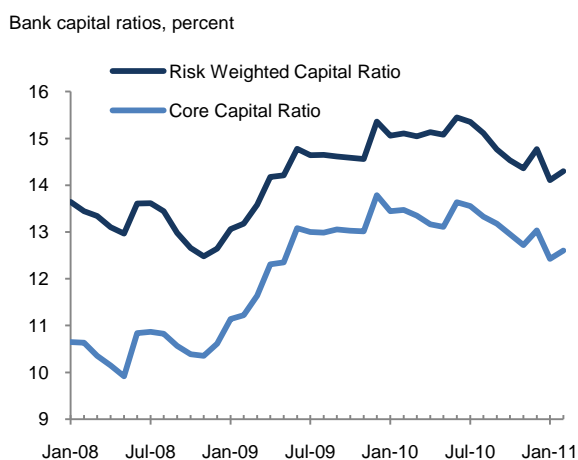
**Figure 1.43. Loan growth remained strong, driven mainly by the household sector**



Source: BNM, CEIC and World Bank staff calculations.

**Figure 1.44. Financing to construction and real estate slowed following macro-prudential measures**

Source: BNM, CEIC and World Bank staff calculations.

**Figure 1.45. Core capital ratios declined from a high base**

Source: BNM and CEIC.

In the banking sector, demand for financing was broad-based from both households and businesses amid accommodative borrowing costs. The value of total loans outstanding grew at an average monthly rate of 11.1 percent to RM899 billion in February 2011 (Figure 1.43). While both lending and deposits had risen in the banking sector, overall loan growth frequently outpaced overall deposit growth in the second half of 2010. Over the same period, both deposit and lending rates were relatively unchanged, in line with the overall monetary policy stance. The cost of borrowing continued to be supportive of economic growth given that both the base lending rate of 6.3 percent and the average lending rate of 5.1 percent as at February 2011 remained below pre-crisis levels.

Lending to households was a key source of loan growth, with households accounting the largest share of total banking system lending (55.5 percent). The value of total household loans outstanding rose steadily by a monthly average of 12 percent (yoy) to RM498 billion in February 2011. In line with robust private consumption activities, loan applications, approvals and disbursements all trended higher in the second half-year. While the purchase of residential property and passenger cars accounted for about 70 percent of total loans, the higher demand for financing was mainly for the purchase of residential property, personal use and the purchase of securities. However, sustained strong growth in household financing has given rise to concerns about the level of household indebtedness. In response, the central bank introduced macro-prudential measures focused primarily on housing loans and credit. Box 3 examines household debt developments in more detail.

Financing conditions to businesses also improved, with the exception of the construction and real estate sectors towards year-end. Overall lending to the business sector grew by about 11 percent (yoy) to RM400 billion in February 2011, with higher loan applications, approvals and disbursements. Financing was extended mainly to the finance, insurance and business services, as well as manufacturing sectors, largely as working capital and investment in non-residential property. In the construction and real estate sectors, however, the value of loan applications, approvals and disbursements has been on a decline since November 2010, following relatively strong growth since early on in the year (Figure 1.44). The timing of this slowdown coincides with the introduction of a loan-to-value cap of 70 percent for the third and subsequent house purchase, which was intended to mitigate excessive investment and speculative activities in selected locations of the residential property market.

**BOX 3. DOES RISING HOUSEHOLD INDEBTEDNESS POSE A RISK?**

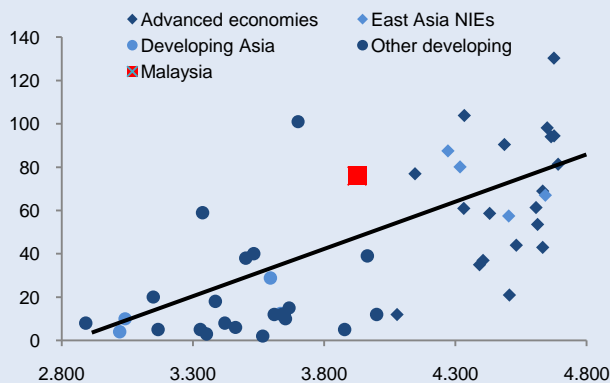
The rapid increase in household debt has raised a number of concerns. The annual increase of 11.4 percent in household debt during 2004-2010 lifted the debt-to-GDP ratio from 66.7 percent to 75.9 percent over the period. This rapid build-up took place against the backdrop of rising household income and wealth, changing demographics and a favorable interest rate environment. But at the same time the sustained strength of household borrowing on already elevated debt levels has led to concerns about the sustainability of robust private consumption, the effectiveness of monetary policy, and the vulnerabilities to financial stability.

**Malaysia’s household debt-to-GDP level is high given its development stage**

The comparison of Malaysia with selected advanced and developing economies suggests that the level of household debt exceeds what is typical for Malaysia’s current level of income. It appears to be in line with the levels observed in East Asia’s Newly Industrialized Economies (NIEs) and surpasses the levels seen in developing Asian countries by a large margin. Still, compared to advanced economies, the level is still low (Figure 1.46).

**Figure 1.46. Malaysia’s household debt-to-GDP level is comparable to the East Asia NIEs**

Household debt-GDP (2010), percent and log GDP per capita (2010)



Source: National authorities and World Bank staff calculations.

Selected countries	Debt-GDP ratio
Advanced economies	94.2
<i>Japan</i>	130.0
<i>US</i>	94.5
East Asia NIEs	73.0
<i>Hong Kong</i>	57.4
<i>Korea</i>	80.1
<i>Singapore</i>	67.0
<i>Taiwan</i>	87.5
Developing economies	31.7
<i>China</i>	12.0
<i>Indonesia</i>	12.4
<i>Thailand</i>	28.8

**Pockets of vulnerability are being addressed pre-emptively**

Strong financial buffers in the aggregate mitigate concerns about the level of household debt coverage, as measured by the ratio of total household financial assets to total household debt, has consistently exceeded twice the debt level, registering at 238 percent in 2010. With more than 60 percent of financial assets held liquid—primarily in the form of bank deposits—liquid financial assets alone exceed total debt by approximately 1.5 times. Despite an increasing debt service ratio, non-performing loans (NPL) in the household sector have been a downward trend, from an already low base, to 3.1 percent in 2010.<sup>a</sup> Malaysia’s robust consumption growth is therefore unlikely to reflect excessive borrowing.

However, aggregates may mask underlying pockets of potential vulnerability—which are being addressed pre-emptively and through financial education programs.

- *Purchase of residential property:* The rise in speculative activity in selected locations within and surrounding urban areas has made home ownership increasingly less affordable for the average Malaysian.<sup>b</sup> Such concerns have arisen amid incidents of financing applications for multiple residential units in a single development project from a single borrower. To promote a stable and sustainable property market without affecting genuine home owners, a loan-to-value ratio of 70 percent for third and subsequent house financing facilities was introduced November 2010.
- *Credit card debt:* Difficulties in managing credit card debt have risen, especially among those aged 30-40 and in the lower income groups. Although the number of cards in circulation has declined with the new government service tax in 2010<sup>c</sup>, outstanding balances have continued to rise at its historical average of about 15 percent. Of concern, approximately half of credit card holders have revolving balances, with more than half of them earning below RM36,000 in annual income. In response, the central bank has tightened measures relating to the distribution of credit cards and introduced minimum standards on business conduct in retail financing.<sup>d</sup>
- *Loans for personal use:* Personal financing has risen significantly in recent years through development financial institutions, cooperatives and building societies. Outstanding personal financing now accounts for 14.6 percent of total household debt, up from just 8.3 percent in 2004. Nearly 80 percent of total personal financing was granted under salary deductions, where robust credit and affordability assessments are not utilized. In view of this, the central bank has increased surveillance on the lending activities of non-bank entities and strengthened its supervisory oversight on the robustness of risk underwriting and management practices.

*Notes:*

<sup>a</sup> Household NPLs was 8.5 percent in 2004.

<sup>b</sup> The purchase of residential property already made up 45.3 percent of household borrowing in 2010.

<sup>c</sup> As of early 2010, a yearly service tax applies of RM50 for each principal credit card (RM25 for extra cards).

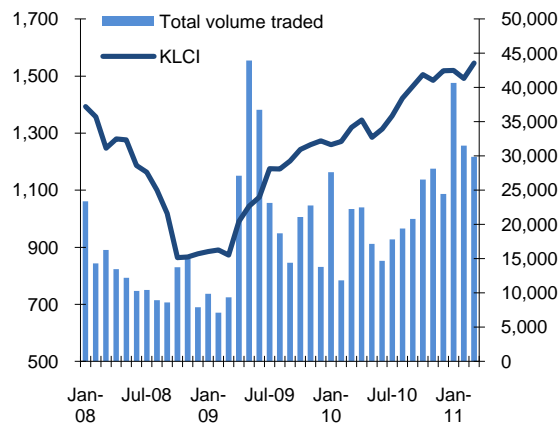
<sup>d</sup> On the demand side: (1) the minimum income eligibility criterion for credit card applications has been raised from RM18,000 to RM24,000; and (2) the number of credit card ownership and the aggregate credit limit for those with an annual income of RM36,000 and below has been limited.

## Banking Sector Health Remained Robust

The Malaysian banking sector remained well-capitalized, with improved profitability in 2010. The strong level of capitalization was supported by the high quality of capital (mainly common equity and reserves). While both the aggregate risk-weighted capital ratio and core capital ratio trended downwards to 14.3 percent and 12.6 percent as at February 2011, they remained well above regulatory minimum levels and Basel III standards (Figure 1.45). Loan loss coverage was sustained at 90.5 percent in February 2011, with the level of net impaired loans stable at 2.3 percent of net loans. In addition, notwithstanding the expansion of Malaysian banking groups beyond national borders, the direct and indirect adverse spillovers from the fiscal and banking developments in Europe and geopolitical tensions in the Middle East were negligible. Overall profitability of the banking sector recorded higher in 2010, with a return on equity of 16.5 percent and increase in pre-tax profits of 34 percent.

**Figure 1.47. Equity prices generally trended higher on positive investor sentiment**

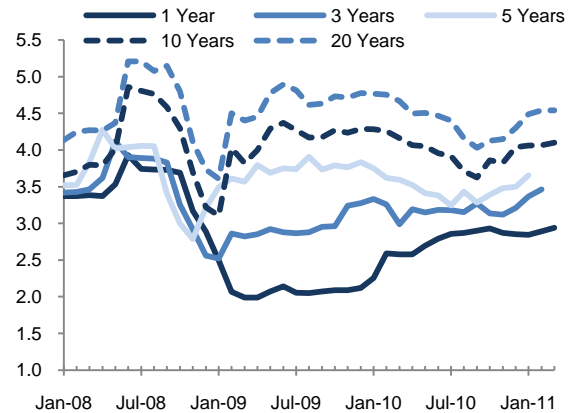
KLCI index, and total volume traded, million units



Source: CEIC.

**Figure 1.48. Longer-term yields drifted upwards on expectation of higher government borrowing in 2011**

Nominal yields of government bonds, percent



Source: CEIC.

### Capital Markets Bolstered by Favorable Investor Sentiment

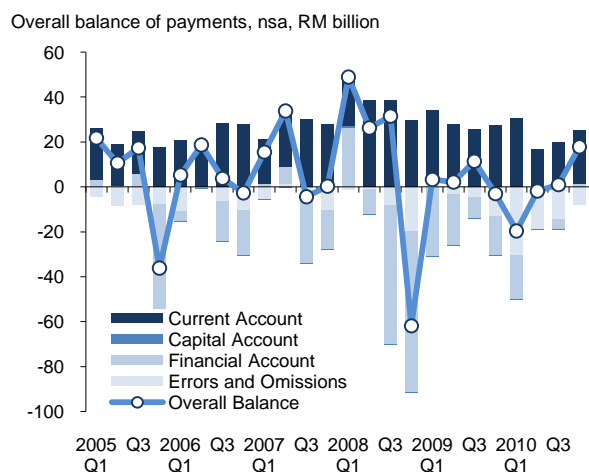
Malaysia's financial asset prices continued to strengthen in the second half of 2010, supported mainly by increased non-resident purchases. The equity market had risen on expectations of a firmer ringgit amidst positive reception to the further liberalization of foreign exchange administration rules (Figure 1.47).<sup>6</sup> The expectation and eventual implementation of quantitative easing by the advanced economies had also amplified equity prices further. Meanwhile in the bond market, there has been a clear upward drift in long-term yields following the announcement of Budget 2011 on expectations of higher government borrowings (Figure 1.48). Rising global inflationary expectations associated with higher fuel and commodity prices have further contributed to the higher yields. Short-term yields, however, have been largely unaffected amid perceptions of low maturity risks associated with short-term debt securities. Overall, the relatively flat benchmark yield curve helped to keep the borrowing costs in the debt market low, thereby facilitating a conducive environment for corporate debt financing.

<sup>6</sup> Bank Negara Malaysia announced the liberalization of three foreign exchange administration rules in August 2010, namely that: (1) the ringgit can be used as a currency of settlement for international trade between residents and non-residents; (2) residents companies are allowed to obtain any amount of foreign currency loans from non-resident, non-bank-related companies; and (3) limits on anticipatory hedging for current account transactions by residents with licensed on-shore banks are to be abolished.

## BALANCE OF PAYMENTS SHOWING DIVERGENT PATTERNS

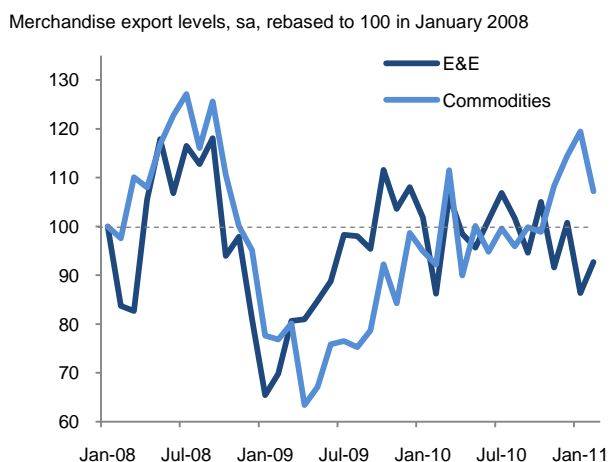
Malaysia's balance of payments strengthened into a surplus in the second half of 2010. A marginal net inflow of RM1 billion was recorded in the third quarter, and it widened further to RM17.8 billion in the fourth quarter (Figure 1.49). The balance of payments position improved on account of a wider current account surplus and a narrowing in the financial account deficit, which eventually registered a surplus. In particular, commodity exports performed well, buoyed by rising commodity prices. Meanwhile, strong inflows of foreign capital, given the abundance of global liquidity amid the multi-speed global recovery, drove the turnaround in the financial account.

**Figure 1.49. Overall balance of payments turned around to record a surplus in the second half of 2010**



Source: CEIC.

**Figure 1.50. The export performances of E&E and commodities were uneven and diverged**



Source: CEIC and World Bank staff calculations.

The current account surplus widened as higher commodity exports outweighed weakness in manufacturing exports. While a larger goods surplus contributed to the wider current account surplus of 11.8 percent of GDP by the fourth quarter of 2010, a divergence in the growth paths of commodity and manufacturing exports had clearly emerged (Figure 1.50). Commodity export growth had remained robust in line with strong regional demand and high commodity prices. But, manufacturing exports had slowed, reflecting subdued external demand for electronics and electrical products (E&E). This moderation in Malaysia's E&E industry is in part cyclical reflecting the global E&E cycle.

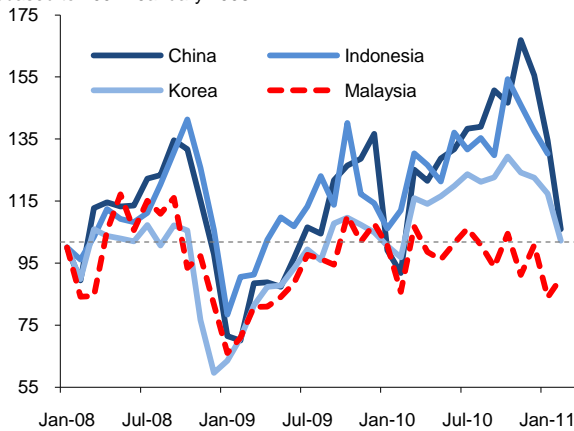
However, the possibility of the weak manufacturing export performance being a reflection of a gradual loss in Malaysia's structural competitiveness needs to be considered as well. In the second quarter of 2010, Malaysia's manufacturing trade surplus declined sharply to approximately a quarter of its value, and has yet to recover. A closer inspection reveals that the Malaysian E&E industry has generally been underperforming its regional peers post-crisis (as discussed earlier in Box 1 on regional developments). While overall E&E exports in the East Asian region have far exceeded their pre-crisis levels, this is not the case for Malaysia (Figure 1.51). The electronics equipment and parts subsector has been the main impediment to a better recovery in Malaysia's overall E&E industry (Figure 1.52).<sup>7</sup>

<sup>7</sup> The potential structural weakness in Malaysia's E&E industry is unlikely to be broad-based, but limited to certain subsectors. Semiconductors and consumer electrical products have continued to perform relatively well.



**Figure 1.51. Recovery of Malaysia's E&E industry lags behind the region**

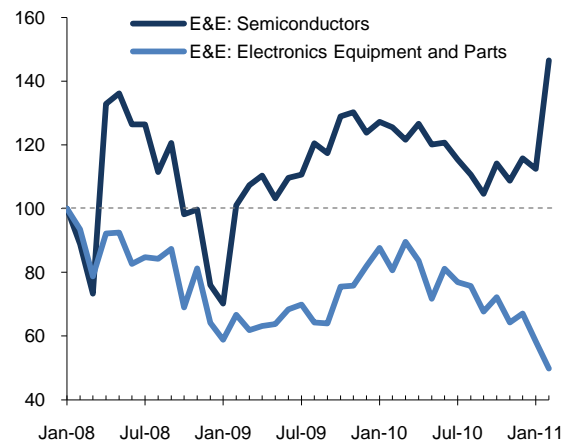
Regional comparison of E&E export levels, sa, rebased to 100 in January 2008



Source: CEIC and World Bank staff calculations.

**Figure 1.52. But, weakness in Malaysia's E&E industry unlikely to be broad-based across all subsectors**

E&E export levels, sa, rebased to 100 in January 2008



Source: CEIC.

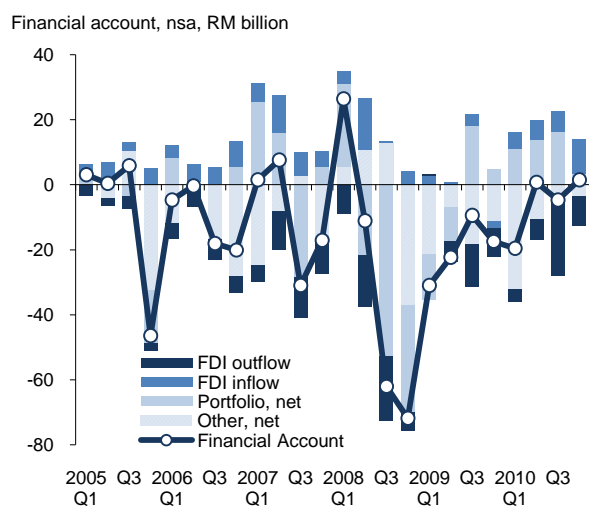
The turnaround in Malaysia's financial account was due mainly to higher foreign capital inflows, most notably in direct investment. Both the financial account and net direct investment had turned around to register a net inflow of RM1.5 billion in the fourth quarter (Figure 1.53). The improvement in net direct investment is reflective of two distinct trends: a broad-based strengthening in foreign direct investment (FDI) and continued strength in direct investment abroad (DIA) by Malaysian companies (Figure 1.54). The net inflow of FDI grew almost 4.5 times to RM27.7 billion in 2010, after declining by nearly 80 percent to RM5.0 billion in 2009.<sup>8</sup> Meanwhile, Malaysian companies continued to increase their presence abroad, especially in ASEAN, to better tap into the rapidly growing regional markets. The net outflow of DIA remained large at RM42.6 billion in 2010, with an unusually large spike in the third quarter due to a one-off strategic acquisition by a Malaysian company.

The encouraging pick-up in FDI into Malaysia can in part be attributable to the global FDI recovery as global sentiment and risk appetite revived.<sup>9</sup> However, it is also, to some extent, a reflection of the achievement of Malaysia's Economic Transformation Programme (ETP), particularly in raising awareness on the availability of ready-to-invest projects such as Malaysia's Entry Point Projects. Whether the improvement in FDI will be sustained remains to be seen. This will in large part depend the implementation of reforms to Malaysia's operating environment and investment climate, particularly in promoting competition and enhancing liberalization and deregulation. These efforts would be highly welcome since, as Box 4 demonstrates the untapped potential for FDI is likely to be large.

<sup>8</sup> The net FDI of RM27.7 billion recorded in 2010 is equivalent to 3.6 percent of GDP. The increase in 2010 has returned net FDI to a level comparable to the 2006-08 average of RM25.3 billion (or 3.9 percent of GDP).

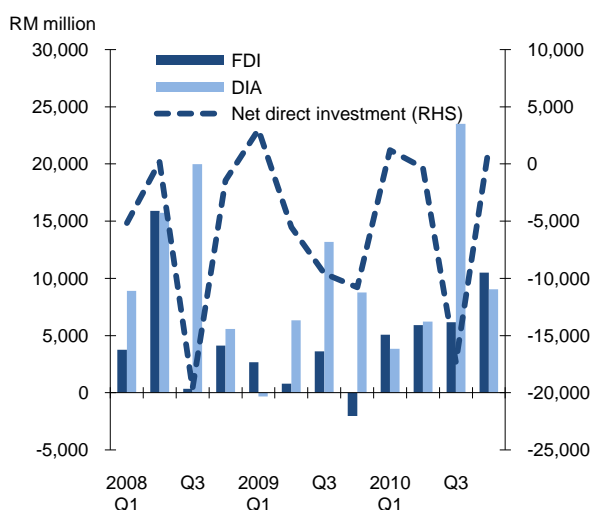
<sup>9</sup> According to IMF (2011), gross capital flows to several emerging economies in 2010 were at least 150 percent of their respective means during 2000-07. These economies include Malaysia, Indonesia, Thailand, Brazil, Columbia, Mexico, India and Poland. Malaysia is the only country within this group in which the risk of overheating economy is relatively low and the local currency value is still lower than what medium-term fundamentals suggest.

**Figure 1.53. The financial account strengthened to register a marginal surplus in fourth quarter of 2010**



Source: CEIC.

**Figure 1.54. Net direct investment strengthened on higher FDI inflows amid continued large DIA outflows**



Source: CEIC.

The surge of portfolio investments into Malaysia gradually gave way to large and volatile shifts in two-way flows by year-end. While a net inflow of RM16.3 billion was recorded in the third quarter, it declined to just RM3.5 billion in the fourth quarter. However, given the higher foreign participation in Malaysia's capital markets, it is likely that inflows of foreign capital had remained large amid increasing capital outflows (Figure 1.55). Such outflow of capital would be in line with the better-than-expected economic recovery in the advanced economies. Furthermore, a larger proportion of portfolio investments were short-term and possibly more speculative in nature in the second half-year, as reflected by the higher increase in non-resident holdings of Bank Negara Malaysia Notes relative to Malaysian Government Securities.<sup>10</sup> This trend of large and volatile two-way shifts in short-term capital flows is also, to some extent, reflected in the decline in errors and omissions, which recorded net outflow of just RM7.6 billion in the fourth quarter from RM30.5 billion in the first.<sup>11</sup>

<sup>10</sup> Between June 2010 and February 2011, the non-resident holdings of Bank Negara Malaysia Notes rose by RM21.6 billion, while the non-resident holdings of Malaysia Government Securities increased by RM20.4 billion.

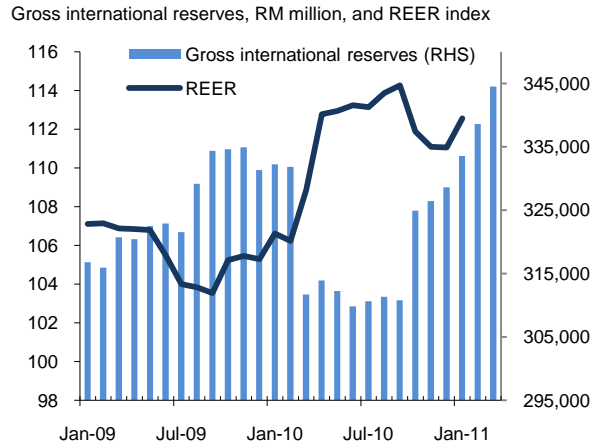
<sup>11</sup> Although quite high, Malaysia errors and omissions (E&O) are still lower than the international guideline. E&O partly reflect the unrecorded financial flows through informal channels. The authorities are working on an action plan and new legal framework on money changing and remittances.

**Figure 1.55. Portfolio inflows remained large as foreign debt holdings rose**



Source: Haver.

**Figure 1.56. International reserves continued to rise amid a strengthening real effective exchange rate**



Source: CEIC.

Bank Negara Malaysia continued to accumulate international reserves amid intermittent pressures for real exchange rate appreciation. The international reserves of the central bank amounted to RM344.5 billion or USD113.8 billion as at end-March 2011. This level of reserves is sufficient to finance 8.4 months of retained imports and is 4.3 times the short-term external debt. Meanwhile, Malaysia’s real effective exchange rate (REER) had sharply appreciated by 10.3 percent by September 2010 from a year ago. While the sharp appreciation was driven largely by the strong surge in capital inflows—a trend common to East Asia, Malaysia’s lead in normalizing monetary policy, coupled with additional liberalization in foreign exchange administration rules, had contributed to a stronger currency appreciation relative to the region. The strengthening of the ringgit was, however, interrupted by a steep sequential depreciation of 2.1 percent in October 2010, which was sustained to year-end. This sudden turnaround could potentially have been supported by some central bank intervention. Nevertheless, the ringgit REER resumed its sharp pace of appreciation in early 2011 (Figure 1.56).

## BOX 4. FOREIGN DIRECT INVESTMENT IN MALAYSIA: A REGIONAL PERSPECTIVE

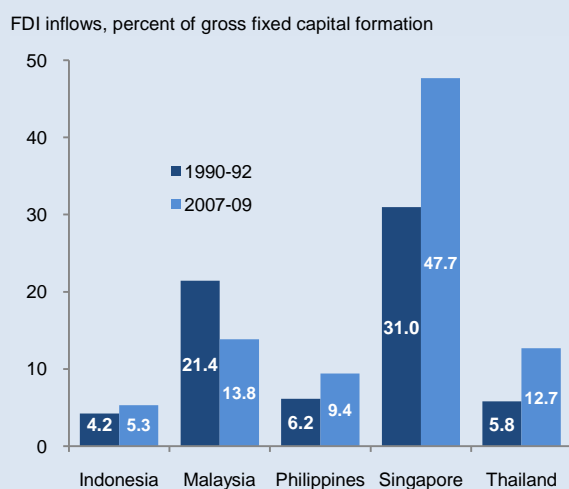
### *Developments in foreign direct investment: cyclical or structural?*

The five largest economies of the Association for Southeast Asian Nations—Indonesia, Malaysia, Philippines, Singapore, and Thailand (ASEAN-5)—are major destinations of inward FDI. Until the mid-1990s, ASEAN-5 received around 7 percent of global FDI inflows. For Malaysia, FDI played a major role in its export-led industrialization, with multinational firms attracted by the country's location, political stability, reliable infrastructure, low cost labor, and fiscal incentives (World Bank, 2009b).

Like all countries, Malaysia suffered a collapse in FDI during the recent global economic crisis, with 2009 FDI inflows at only around 17 percent of their 2007 level.<sup>a</sup> Precipitous drops from previous highs, however, are not unique for FDI flows. Malaysia and other ASEAN countries saw inward FDI fall in a similar manner after the Asian financial crisis of 1997, and again in 2000-01. The latest projections for 2010 from UNCTAD show that FDI inflow into Malaysia will have risen back to the 2008 level (in the region of USD7 billion). If this projection holds, Malaysia would have suffered the steepest drop in FDI in 2008-09 among ASEAN-5, but also 'recovered' most rapidly in 2010.<sup>b</sup>

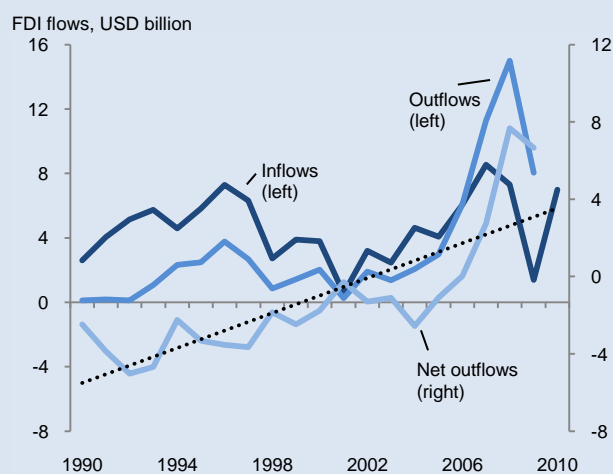
Underlying the characteristic ups and downs in annual FDI flows, however, is a medium-term trend in Malaysia that is of concern. As shown in Figure 1.57, Malaysia is the only country among the ASEAN-5 where FDI inflows as a share of gross fixed capital formation has seen a decline, from 21.4 percent in 1990-92 to 13.8 percent in 2007-09. In terms of FDI stock relative to GDP, Malaysia's performance has been flat over the past 8 years, in sharp contrast to Singapore and Thailand where relative FDI stock has increased this decade. Furthermore, after 2005-06, FDI outflows from Malaysia have surpassed FDI inflows (Figure 1.58). This suggests that Malaysian investors are turning to markets abroad for higher private returns, indicating that the home economy may face structural impediments. Such regional expansion may also arise from limited domestic market size and increasing dynamism of regional peers.

**Figure 1.57. FDI inflows into Malaysia dropped in recent years unlike regional peers**



Source: UNCTAD and World Bank staff calculations.

**Figure 1.58. Following plunge, FDI inflows rebounded**



Note: The dotted line represented linear trend of net flows.  
Source: UNCTAD and World Bank staff calculations.

Malaysia is also subject to broader shifts in trade and FDI regionally. The rise of China-centered global production networks has affected Malaysia's overall attractiveness as a location for efficiency-seeking (vertical) FDI.<sup>c</sup> Indeed, evidence that Malaysia's performance in FDI appears to be driven by a reluctance of MNCs (in line with Malaysian private investors) to invest in the manufacturing sector adds credence to the argument that the Malaysian economy may be caught in a 'middle income trap', increasingly less able to compete with China and others in low-cost production but without sufficient innovation and skills to upgrade to higher levels of specialization.<sup>d</sup> But does the 'middle income trap' argument really explain the recent FDI trends we observe in Malaysia—i.e., to what degree do cyclical or structural determinants explain these recent trends? And if structural factors are important, to what degree are these really long-term structural in nature or policy-induced factors that can be addressed in the short-to-medium term? The answer to these questions has important implications on the policy levers that can be pulled to attract further foreign, and indeed domestic, investment to facilitate ongoing growth and structural transformation in the economy.

### ***Investment policy, skills and innovation are key determinants of FDI***

We run a fixed-effects regression by controlling for average differences across the 5 ASEAN countries in the observable and time-invariant, unobservable country-specific characteristics using a panel data over 15 years. Because FDI flows are highly volatile year-on-year, they are grouped into 3-year periods from 1995-97 to 2007-09.<sup>e</sup> OECD countries have historically accounted for an overwhelming share of FDI into developing countries. For a richer analysis than what could be obtained from aggregate FDI inflows, we use bilateral FDI from each OECD source country to the 5 ASEAN host countries, controlling for the bilateral aspects of each observation with gravity variables: distance, history of colonialism, and whether two countries share a common language. Because no ASEAN country is contiguous with an OECD country, the 'border' effect is redundant.

There are two sets of major regressors: variables that are more controllable by policymakers and those that are not. The 'policy' variables capture, i) quality of FDI-related regulations and institutions, ii) skills and innovation, iii) wages, and iv) infrastructure. Policy restrictions on cross-border investment are captured by the Heritage Foundation's indicator on Investment Freedom.<sup>f</sup> Quality of governance and institutions are an averaged index of five sub-indicators from the World Governance Indicators on the rule of law, regulatory quality, government effectiveness, control of corruption, and political stability. Skills/innovation are measured by the percentage of population with completed secondary education (Barro and Lee 2010) and the number of patent applications by residents (WIPO), scaled by population. Infrastructure is proxied by energy use per capita (kg of oil equivalent). Data on average monthly wages is from the EIU.

Variables that are used as control variables are 'cyclical' in nature and not immediately under the control of policymakers: host country GDP (reflecting economic size) and its lagged economic growth rate (countries that grow fast now can expect to attract more FDI in the next period). Other variables include source country GDP and its growth rate, trade-to-GDP ratio (to measure an economy's openness), share of parts and components in exports (to account for the heavy presence of vertical FDI and product fragmentation in East Asia), and the share of services in the economy (to capture the fact that an increasing share of FDI is into services). Both FDI flows and FDI stock are regressed on a common set of explanatory variables to assess their importance in accounting for FDI into ASEAN-5.

**Table 1.1. Regression Results for the ASEAN-5<sup>8</sup>**

	(1)	(2)
	FDI Flows	FDI Stock
Investment Policy	3.5477*	9.8693
	(1.4006)	(9.2149)
Percent of population (15+) with completed secondary education	3.8760	21.2981
	(9.6002)	(29.3746)
Number of patent applications (per 1 million people)	1.8852***	20.5700***
	(0.2688)	(2.7613)
Energy use per capita (log of kg of oil equivalent)	-130.6238	-411.3260
	(112.9511)	(790.0057)
Quality of institutions and governance	6.2069	-24.3490
	(9.1767)	(72.5240)
Trade openness	4.6617***	30.5670***
	(0.5834)	(2.1289)
Lagged growth rate	-4.3493*	59.1435
	(1.6431)	(37.0599)
Monthly wages (log)	-73.4809	41.5859
	(50.8401)	(767.5315)
Growth of source country	-16.8094	42.9869
	(22.1703)	(36.4037)
GDP of host country (log)	502.4445*	1299.3606
	(196.5450)	(1380.0240)
GDP of source country (log)	-228.7248	-4821.6286*
	(164.9460)	(1982.7689)
Share of parts and components in exports	-2.5038	6.3438
	(3.0158)	(10.5104)
Share of services in GDP	9.8417	135.6799***
	(4.9946)	(11.9000)
Bilateral distance (log)	577.3449	6548.8630
	(373.1621)	(4098.2971)
Common ethnic language	429.2293	5452.7166
	(540.4855)	(4637.2389)
Colony	-658.8847	-3522.4538
	(488.2108)	(3420.8281)
Countries' dummy	Yes	Yes
Period dummy	Yes	Yes
<i>N</i>	489	483
<i>R</i> <sup>2</sup>	0.35	0.50

Standard errors in parentheses, clustered by host country; \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

In Table 1.1, the indicator of investment freedom is a significant determinant of FDI inflows (not net flows). A ten point improvement in a country's score is associated with an increase in FDI flow by over USD35.5 million, on average, from each of the 24 OECD countries that consistently report FDI outflows into ASEAN. The (normalized) number of patent applications by residents, an indicator of research and innovation-related activities, is seen to significantly affect both FDI inflow and FDI inward stock. All else equal, higher wages can be expected to deter efficiency-seeking FDI, particularly in an environment where productivity improvements are lagging: in Table 1.1, however, it is not statistically

significant. Completion rates for secondary education, the quality of governance, and the quality of infrastructure (proxied by energy use) also do not show up as significant. As expected, some variables are more important for FDI stock than FDI flows.

Openness to trade, which reflects the degree of competition and facilitation of cross-border movement of goods, is a significant determinant of both FDI flows and FDI stock. GDP of host countries, an indicator of market size, also attracts FDI. Perhaps reflecting the fact that an increasing share of FDI is in services (or that services facilitate manufacturing exports and, therefore, vertical FDI) an economy with increasing value-addition derived from the services sector attracts more FDI. In Malaysia, investment climate surveys show that manufacturing firms consider the supply of business support services inadequate and perceive it to be a binding constraint. Surprisingly, (logged) GDP of source countries is not significant, as is none of the gravity variables. From this regression analysis, two factors stand out as those that are important and can be influenced in the short-to-medium run by policymakers: *investment policy, and skills and innovation*.

***To realize FDI potential, improvements are necessary in investment policy, innovation and skills***

From Table 1.1, only those variables that are significant below the 10 percent level in explaining either FDI inflows or inward FDI stock are retained for the purpose of predicting FDI. We regress a new model only with these significant variables (e.g., investment policy, patents, trade orientation, GDP and lagged economic growth rate of host country, GDP of source country, and the share of services). Then, the average values of explanatory variables for Malaysia during 2007-09 are computed and multiplied by the regression coefficients obtained from the new model. Together with coefficients on the time dummy for 2007-09 and the country dummy for Malaysia, the linear combination of regression coefficients and mean regressor values predicts FDI inflows for Malaysia. This is then contrasted with the actual FDI inflow during the same period.

Table 1.2 shows that the regression model predicts an average FDI inflow into Malaysia from (24) OECD countries to be USD5.5 billion. This is much higher than the actual FDI inflow of USD3.8 billion from these countries. Thus, based on the average performance of Malaysia and its peers in the region during 2007-09, Malaysia appears to have attracted less FDI than expected from OECD countries. No country in ASEAN-5 has been immune to the ‘cyclical’ fluctuations in FDI, especially around the crisis years of 1997-98, 2000-01, and 2008. All of them have suffered a dip and then rebounded. Neither the GDP of FDI source countries nor their growth rates—both major sources of cyclicity in FDI flows—come out as a positively significant determinant of the variation in FDI inflows into ASEAN-5. In contrast, in the model that captures average effects of variables like policies, innovation, institutions, and infrastructure over time, Malaysia underperforms. This points to structural shortcomings over the medium to long term, and points to structural rather than cyclical factors. The model predicts that FDI could weaken further if weaknesses in investment policy environment and innovation persist.

Similarly, actual stock of FDI is much lower than predicted for 2007-09. Because FDI stock reflects the existing value of capital (net of debt) from past investments, it is surprising given Malaysia’s success in the earlier period in attracting FDI that the stock is still much lower than what a linear regression model would predict.

**Table 1.2. Actual versus predicted FDI in Malaysia from OECD countries, 2007-09 (USD billion)**

	Scenario 1 (Mean values)		Scenario 2 (Slight improvement)	Scenario 3 (Best practice)
	Actual FDI	Predicted FDI	Predicted FDI	Predicted FDI
FDI inflow	3.8	5.5	7.1	15.3
FDI inward stock	34.9	79.7	86.4	140.4

However, the model suggests that with additional reforms, Malaysia can attract more FDI, as shown in Scenario 2. Here, the values for the two variables—investment policy and patent applications by residents (per one million people) are increased to 50 and 40 from their mean values of 40 and 27, respectively (Malaysia's education achievement is already the highest in ASEAN-5, so that is not adjusted). At these slightly improved values, the predicted FDI inflow is USD7.15 billion, a sizeable gain over the actual flow. Prediction for FDI stock, too, rises to nearly USD87 billion.

In Scenario 3, Malaysian values are increased to the levels of the regional best performer—Singapore. The investment score is raised from 40 to 80 and the patent score is raised from 27 to 155. All other explanatory variables are kept at their mean values. This, as expected, predicts FDI flows that are substantially higher than at present. At the best practice values, FDI inflows into Malaysia increase by more than five times to over USD15 billion, and FDI stock rises four-fold to over USD140 billion. These best-case predictions are comparable to what Singapore received from OECD countries during 2007-09 (FDI inflow of USD18.2 billion and an FDI inward stock of USD187.5 billion).

The overall narrative that emerges is that Malaysia did spectacularly well in attracting FDI from the 1970s until the 1990s, which helped propel it from a low-income to a successful, middle-income economy. This was accompanied by rising wages and improved infrastructure, among a host of other development benefits. But the skill base of the workforce and the innovation of firms does not appear to have undergone as rapid an upgrade, and the investment policy regime is not as open as in comparable economies in the region. The results show that with further structural reforms in the FDI policy regime and innovation-related activities, Malaysia has the potential to do much better in attracting FDI in the future.

*Notes:*

<sup>a</sup> Note, however, that Malaysia experienced a record inflow of FDI of USD8.5 billion in 2007

<sup>b</sup> See UNCTAD (2011).

<sup>c</sup> Most FDI can be grouped into being either market-seeking (horizontal FDI) or efficiency-seeking (vertical FDI). The former is guided by the present or potential market size of the host country and its neighbors, and the latter is influenced by wages, quality of infrastructure, taxes, and other micro-incentives.

<sup>d</sup> Such as, testing and design rather than mere assembly, say, of integrated circuits. In this regard, the electronics hub of Penang has been more successful than Selangor and Johor Bahru (Athukorala and Woo 2011).

<sup>e</sup> 2009 was an unusually bad year for FDI in the aftermath of the global financial crisis, but 2007 was a peak year. Three-year averages are therefore appropriate for the purpose of predicting medium-term trends in FDI.

<sup>f</sup> Countries are scored on whether they discriminate against foreign investors, risks against expropriation, transparency and bureaucracy, equity restrictions, currency controls, etc.

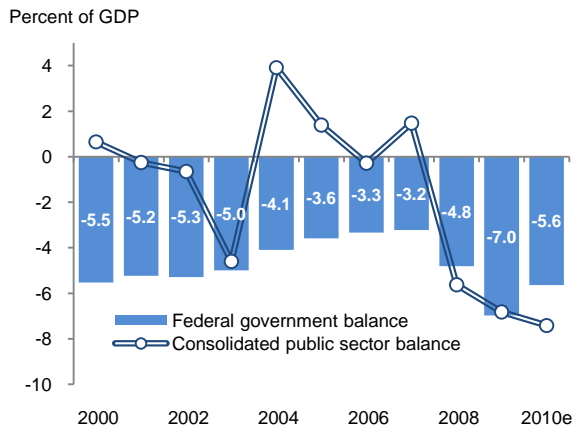
<sup>g</sup> Panel regression with cross-section consisting of 5 ASEAN host countries and 24 OECD source countries for FDI flows and 23 OECD source countries for FDI stock. Time covers five 3-yearly periods, from 1995-97 to 2007-09.



**MONETARY AND FISCAL POLICIES RENORMALIZING**

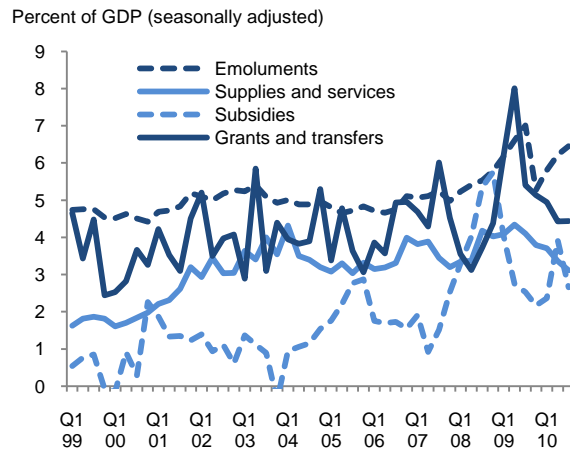
During the course of 2010, monetary and fiscal policies continued to be gradually renormalized. As domestic private sector strengthened, fiscal and monetary policies continued to unwind in the second half of 2010 from being unusually accommodative during 2008-09. However, the support was not withdrawn completely and, by and large, both the stance of both fiscal and monetary policy has remained accommodative. The fiscal balance relative to GDP, the policy interest rate, and the statutory reserve requirement all have not yet returned to their pre-crisis levels. Given the still-uncertain and multi-speed global economic recovery, the gradualism observed in the normalization of policies reflects in part an appropriate degree of caution. This is related to Malaysia’s public sector making up for an important share of economic activity—both directly and indirectly. In addition, the impact of policy rate hikes and subsidy cuts on sentiment must be considered as well.

**Figure 1.59. Fiscal consolidation advanced in 2010 for the federal government but not public sector**



Source: CEIC, BNM and World Bank staff calculations.

**Figure 1.60. Recent decreases in grants/transfers and supplies/services reflect the return to historical levels**



Source: CEIC and World Bank staff calculations.

Fiscal consolidation in 2010 reduced the federal government balance but not that of the consolidated public sector. Fiscal consolidation was ongoing before the global economic crisis struck in 2008. Federal government deficits decreased to 3.2 percent of GDP in 2007 from 5.3 percent in 2002 (Figure 1.59). But the need for fiscal stimulus during the crisis interrupted the process. Fiscal consolidation resumed in 2010 and the deficit reached the government target of 5.6 percent of GDP. But the consolidated public sector account yields a different picture. After posting a surplus on average during 2004-07, the overall balance turned into large and increasing deficits since 2008. This is principally accounted for by a decline in the current surplus of and the increase in development spending by non-financial public enterprises.

Unlike previous episodes of fiscal consolidation, operating expenditure cuts appear to have played a major role in 2010. Operating spending restraint contributed 0.7 percentage points out of 1.3 percentage points saving. Unlike development spending, output and revenue growth also contributed positively at 0.8 and 0.1 percentage points, respectively. This pattern diverted from the historical trend where revenue growth was the key driver and operating spending has previously always been a drag (see Box 5). In 2010, operating spending such as supplies/services, grants/transfers to state governments, and assets acquisition experienced the largest cut-backs. Yet, even while this appears to

represent a fast pace of consolidation, this largely reflects a return to historical levels (Figure 1.60).<sup>12</sup> Meanwhile, the share of subsidies in GDP retreated noticeably in 2009 but regained somewhat in 2010.<sup>13</sup>

Fiscal policy adjustment has focused thus far both on boosting revenues and cutting expenditures. On the expenditure side, price subsidies on fuel (RON95 petrol, Diesel and LPG) and sugar were cut in July and December 2010.<sup>14</sup> There is a plan to adjust regulated fuel prices every six months. To strengthen government procurement, projects worth exceeding RM50 million are now required to undergo value management analysis and life-cycle cost evaluation, while the coverage of the centralized procurement system is also being expanded. Redeployment of civil service staff is also adopted. On the revenue side, the services tax was increased from 5 to 6 percent in January 2011, and was as well broadened to include paid television broadcasting services. Last year, the government reintroduced the property gains tax, raised excise duties on cigarettes, and initiated credit card taxes. Actions to enhance non-tax revenues, such as privatization and monetization of government assets<sup>15</sup>, are also in the pipeline.<sup>16</sup>

Turning to monetary policy, the overnight policy rate saw adjustments on the path of normalization while the statutory reserve requirement is also raised. After a three-step increase of 75 basis points between March and July 2010, the overnight policy rate (OPR) has since leveled off at 2.75 percent. This is still 0.75 percentage points below the pre-crisis level, providing continued support to economic growth. To manage ample liquidity in the financial markets, Bank Negara Malaysia lifted—for the first time since the crisis started—the statutory reserve requirement (SRR), from one to two percent in mid-March 2011 compared to a pre-crisis level of four percent.<sup>17</sup> In comparison with the OPR, SRR has much lower sterilization cost and also more limited unintended, economy-wide impacts on macroeconomic balances that OPR has (see below).

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<sup>12</sup> The share of these two items in GDP (seasonally-adjusted) each dropped by 0.7 percentage points in the first three quarters of 2010, far exceeding all other spending categories. In fact, their consolidation began since the third quarter of 2009, when total retrenchment amounted to 4.8 percent of GDP in the five quarters that followed.

<sup>13</sup> The total subsidy bill for 2010 was RM14.2 billion. This was mainly for petrol, diesel and LPG (RM9.6 billion), flour (RM888 million), cooking oil (RM828 million), sugar (RM708 million) and rice (RM288 million).

<sup>14</sup> Prices of these energy items are between 5.5 and 8.6 percent higher after the adjustments. RON97 petrol prices are now under the managed floating system, which saw the price rise by 12.2 percent in 2010. Sugar prices spiked 48.8 percent after three adjustments last year although the government is still absorbing 40 sen/kg. The cuts in July are estimated to save around RM750 million and another RM1.2 billion from the December round.

<sup>15</sup> Government-linked companies are steadily divesting their non-core holdings such as parcels of Government land. The disposal of Pos Malaysia is in its final stage for example.

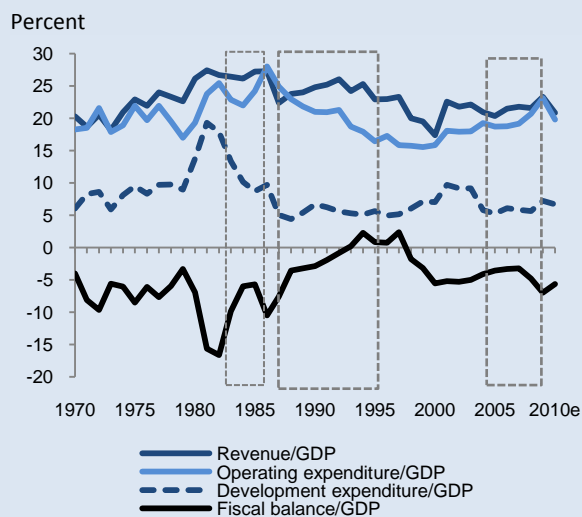
<sup>16</sup> The positive contribution by revenue growth to fiscal consolidation in 2010 was limited because some of these schemes have just started. Many earlier initiatives generated only modest incomes with possibly some lagging effects. The small contribution was also driven by subdued oil revenue last year.

<sup>17</sup> According to the CIMB (2011a), a one-percent increase in SRR will absorb around RM4.9 billion excess liquidity from the banking system. Excess liquidity at end-February 2011 is estimated at close to RM239 billion.

## BOX 5. FISCAL CONSOLIDATION IN MALAYSIA: A HISTORICAL PERSPECTIVE

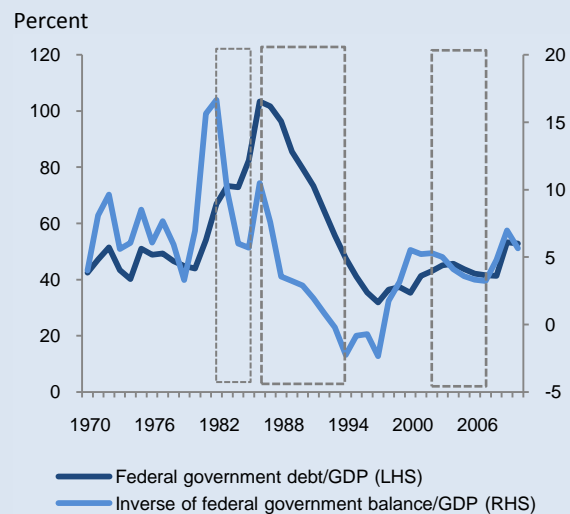
Malaysia has recorded three episodes of fiscal consolidation in recent history. These episodes were between 1983-85, 1987-94 and 2003-07 when the federal government balance-to-GDP ratio improved continuously for at least three consecutive years (Figure 1.61). As the chart depicts, the length and the magnitude of fiscal adjustments in these periods varied considerably. For example, the first episode only lasted for three years but the average yearly improvement in fiscal balance was up to 3.7 percent of GDP, relative to only 1.6 and 0.4 percent of GDP in the two lengthier periods that followed, respectively. Sustained fiscal consolidation can reduce government indebtedness noticeably. During the second episode, federal government debt plunged from a record high of 103 percent of GDP in 1986 to 48 percent in 1994 (Figure 1.62).<sup>a</sup>

**Figure 1.61. Malaysia experienced three episodes of fiscal consolidation in the recent history**



Source: CEIC and World Bank staff calculations.

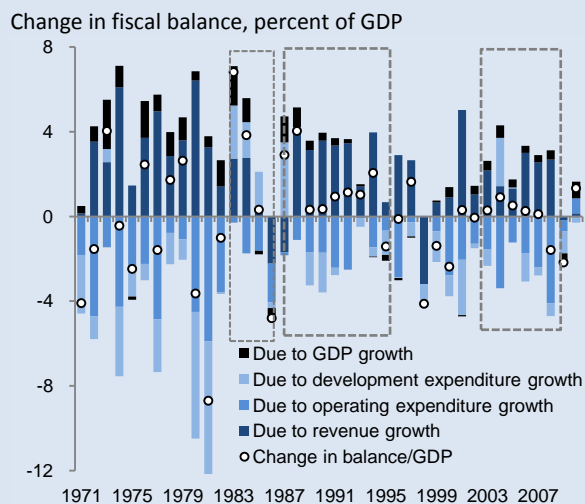
**Figure 1.62. Improved fiscal balances have generally been associated with less debt burden**



Source: CEIC and World Bank staff calculations.

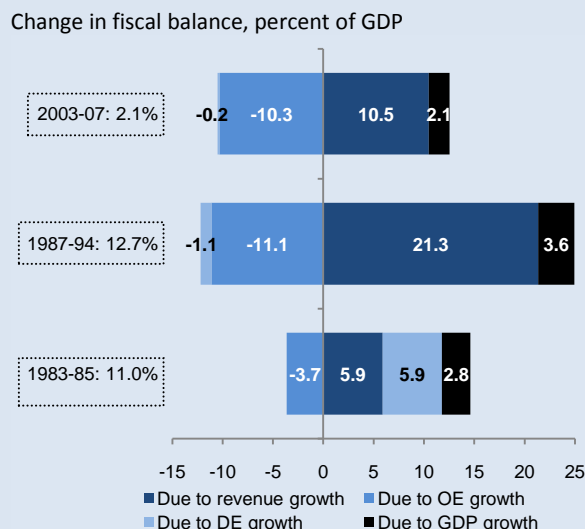
Fiscal consolidation was in the past mainly driven by buoyant revenue growth. Changes in the fiscal balance-to-GDP ratio are influenced by changes in government revenue, operating expenditure (OE), development expenditure (DE), and nominal GDP level. A simple decomposition exercise<sup>b</sup> indicates that OE was nearly always contributing negatively to changes in fiscal balance. It grew continuously since 1971 except in 1998 and 2010 only (Figure 1.63). DE was also typically a drag although in the 1983-85 episode, its positive contribution was sizeable (Figure 1.64).<sup>c</sup> Overall, history reveals that revenue growth, and GDP growth to a lesser extent, were vital in regaining fiscal discipline. Revenue growth accounted for 0.5-5.0 times of the changes in fiscal balances during the three consolidation episodes. But revenue growth was beyond oil revenue windfalls. A 146-percent rise in global oil prices during 2003-07 boosted revenue growth and supported the consolidation during that period but oil prices were either falling or growing only modestly in the other two episodes.<sup>d</sup>

**Figure 1.63. Expenditures contributed negatively to changes in fiscal balance in most years...**



Source: CEIC and World Bank staff calculations.

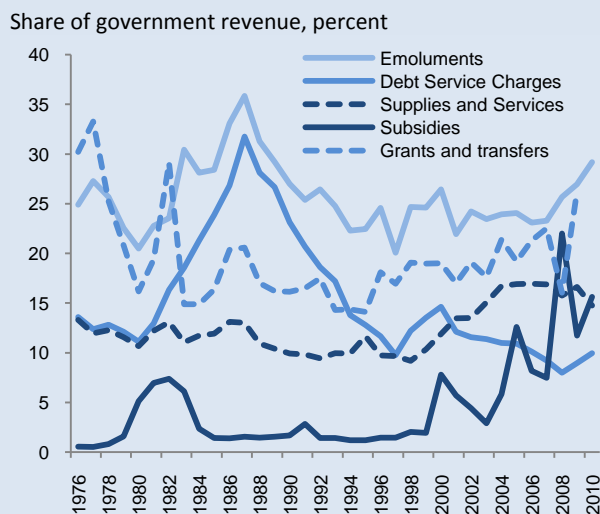
**Figure 1.64. ...so fiscal consolidation was possible when revenue expanded robustly**



Source: CEIC and World Bank staff calculations.

Operating expenditure-driven fiscal consolidation in 2010 was thus unprecedented but whether this would continue remains a question. Based on Budget 2011 estimates, the historical pattern of fiscal consolidation in Malaysia likely resumes this year. Out of the targeted 0.2 percentage point of GDP improvement in the fiscal balance in 2011, revenue and nominal GDP growth is set to contribute 0.7 and 0.5 percentage points respectively. OE, which is projected to rise again by seven percent in 2011 after a three-percent decline in 2010, tends to contribute negatively and sizably.

**Figure 1.65. Subsidies, supplies/services and grants/transfers have expanded since late 1990s**



Source: CEIC and World Bank staff calculations.

Along with boosting revenue, restraining rising operating expenditures is key for fiscal consolidation. The relative size of OE in GDP rose steadily in the past decade. The gap between revenue and OE shares in GDP shrank to 0.7 percentage points during 2008-10 from 2.6-3.6 percentage points during the three consolidation episodes (Figure 1.61 above). So an increasing share of DE has to be financed by borrowing. Meanwhile, the composition of OE appears to have shifted since the late 1990s. Supplies and services, subsidies, and grants and transfers have taken up higher portions of government revenue (Figure 1.65). The similar trend is observed for emoluments since the mid-2000s. An increase in subsidies is the most noticeable. If all subsidies were cut, the average fiscal deficit during 2008-10 would have been only 2.1 percent of GDP as opposed to the actual 5.8 percent (and 4.0 percent if subsidies were cut by half). The ongoing subsidy rationalization program appears vital for the government to achieve the target deficits of 3-4 percent of GDP in the medium term.

*Notes:*

<sup>a</sup> The federal government debt level dropped further to a record low of 32 percent in 1997 as fiscal surplus that started in 1993 lasted until 1997.

<sup>b</sup> This exercise simply seeks to explain annual changes in the fiscal balance. It does not suggest that OE and DE must always be kept at the low levels. Expansionary fiscal policy in response to external shocks, for example, is generally viewed as appropriate. But over the long run, fiscal discipline should be observed to maintain macroeconomic stability.

<sup>c</sup> Development expenditures dropped 14-16 percent during this period. Its share in GDP decreased sharply from 18 percent in 1982 to less than nine percent in 1985.

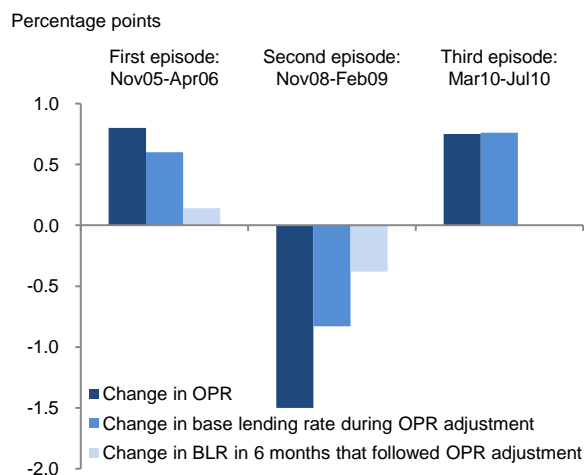
<sup>d</sup> This implies that negative contributions by OE during these periods were also due to non-subsidy OE items.

The recent policy rate tightening exhibited an immediate and full pass-through to the lending rate. An increase in OPR of 0.75 percentage points during March and July 2010 translated into a 0.76 percentage point-rise in the base lending rate during the same period. The adjustment came with no lag: the lending rate registered no further change in the six months that followed (Figure 1.66). The pass-through of this adjustment was more much immediate and complete than the previous two episodes observed between November 2005-April 2006 and November 2008-February 2009.<sup>18</sup> If this pattern persists in the next quarters, then the impact of future policy rate unwinding on borrowing costs, and thus fixed investment and private consumption, would be full and contemporaneous.

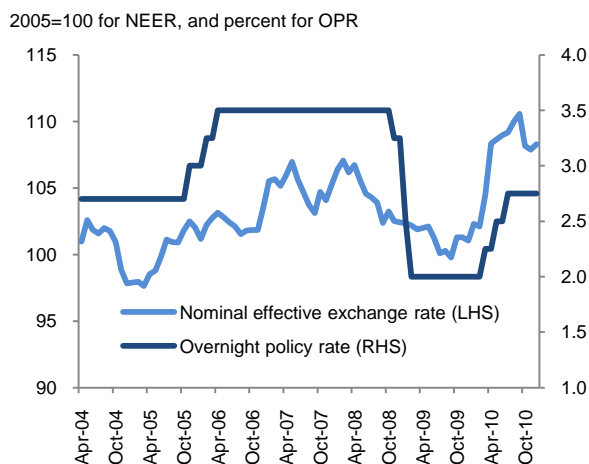
Earlier withdrawals of monetary stimulus appeared to have helped lower inflationary expectations. Partly underpinned by the rapid and full transmission of the policy rate, policy rate hikes between March and July 2010 coincided with lower Consensus Economics' maximum inflation forecasts for 2010, from 3.3 percent surveyed in February 2010 to 2.8 percent in August. The means also went down from 2.2 to 1.9 percent. But of course lower inflationary expectations were also influenced by a gradual increase in CPI inflation during that period and by expected growth slowdown in the second half of 2010.

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<sup>18</sup> The OPR edged up 0.8 percent points in the first episode. During this adjustment period, the base lending rate increased 75 percent of the change in OPR, and another 18 percent in the six months that followed. So the total pass-through was 93 percent. In the second episode, the total pass-through fell to only 80 percent.

**Figure 1.66. The recent OPR tightening transmitted immediately and fully to the lending rate**

Source: CEIC and World Bank staff calculations.

**Figure 1.67. Higher OPR has been associated with stronger Malaysia ringgit**

Source: CEIC and World Bank staff calculations.

The conduct of monetary policy remains complicated in the context of the global multi-speed growth environment. Given wide interest rate and growth prospect differentials, raising OPR to curb inflation would further attract capital inflows into Malaysia with upward pressures on the value of the ringgit value and asset prices (Figure 1.67). Higher inflation itself attracts more capital inflows as investors anticipated a policy rate rise. Market expectations on the willingness of the BNM to allow the currency to appreciate further will also have an important impact on investment decisions and capital flows. In this regard, while the ringgit's strong performance has helped to limit imported inflation, exporters of products with low import content are suffering the most. Commodity exporters would also have suffered from the rise of the ringgit, were it not for the significant appreciation of global commodity prices. Consultations with market participants nevertheless suggest that the central bank has balanced these trade-offs well.

The Bank Negara Malaysia has also taken a number of macro-prudential measures. In November 2010, the maximum loan-to-value (LTV) ratio for property purchases was set at 70 percent for borrowers who wish to finance a third property or more. This precautionary measure is considered modest relative to other regional peers that witnessed much steeper increases in property prices.<sup>19</sup> In March 2011, to avoid household debt build-up and maintain prudent financial management, the central bank raised the minimum income eligibility for new credit card holders to RM24,000 per year. In addition, the maximum number of credit cards holdings was limited to two cards, with the maximum credit amount capped at two times monthly income per card issuer for those earning RM36,000 per year or less. These measures represent a welcome, pre-emptive approach to rein in potentially emerging risks in the face of further anticipated policy tightening.

<sup>19</sup> In addition to lowering the LTV ratio, Singapore and Hong Kong SAR (China) also raised stamp duties on early real estate sales. China adopted an administrative guidance on financing such as higher down payments and no third mortgages. According to a survey by Real Estate and Housing Developers' Association Malaysia, the average prices of new residential property in 2011 are expected to grow by 13 percent in tandem with rising raw materials costs.

On capital market development policy, the second masterplan (2011-2020) with the theme on growth and governance is launched in April. Among others, the growth theme focuses on promoting capital formation, expanding intermediation efficiency and scope, and deepening liquidity. The governance aspect seeks to enhance regulatory framework, strengthen accountability, and augment oversight of risks. Financing innovative ventures, large-scale projects, and frontier green technology is also one of the priorities. Detailed measures that should be effective later this year are deregulations on fundraising, introduction of a new dual licensing scheme allowing dealers to trade in both the equity and derivatives markets, and increase in the number of proprietary day traders.

## **2. ECONOMIC OUTLOOK**

The multi-speed nature of the global recovery, as seen in 2010, is expected to proceed into 2011, but with some heightened risks. Growth momentum in both advanced and emerging economies remains positive, but is expected to slow slightly. As the global recovery continues, macroeconomic policies will likely normalize further, though with geographical variations in pace. The conduct of global macroeconomic policy will likely remain complicated by the persistence of elevated inflationary pressures and the continued volatility in global capital flows.

As to the near-term outlook, the baseline forecast assumptions have generally improved compared to our previous assessment in November 2010. Growth projections are therefore upgraded. Real output growth in the coming years should resume its historical trend. Since external demand remains fragile, domestic demand would be propelling the Malaysian economy, particularly private consumption and fixed investment as fiscal consolidation moves forward. Downside risks, mainly from external factors, remain considerable.

Whereas the near-term outlook for Malaysia is highly dependent on external developments, the medium-term outlook will depend to a large extent on the domestic structural reform agenda. On this front, the Government of Malaysia has launched over the last year a series of initiatives centered around the objective of transforming Malaysia into a high-income economy through a process of inclusive and sustainable growth. These initiatives are welcome and provide a sound basis to revitalize the engine of growth. The medium-term outlook remains subject to upside and downside risks, both of them relating to the degree of implementation of the structural reform agenda.

### **GLOBAL RECOVERY EXPECTED TO CONTINUE**

The uneven global recovery is expected to proceed, albeit more moderately, amid heightened uncertainty. Overall global GDP is projected to grow by 3.3 percent in 2011, before picking up to 3.6 percent in 2012 (Table 2.1). The emerging economies are expected to continue to lead global growth, driven mainly by strong domestic demand. Meanwhile, growth in the advanced economies will likely remain dampened by necessary fiscal and household consolidation, as well as restructuring in the banking and property sectors. Notwithstanding this, heightened downside risks on the sustainability of global recovery exist. There are three concerns: the pace of macroeconomic policy normalization, the elevated levels of fuel and commodity prices, and the volatility in global capital flows.

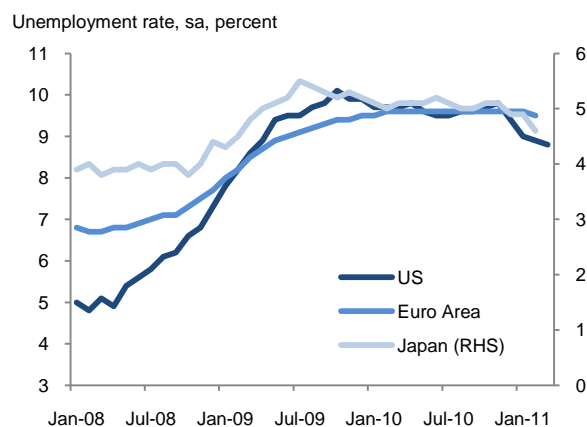


**Table 2.1. Global growth momentum to slow in 2011 before picking up in 2012**

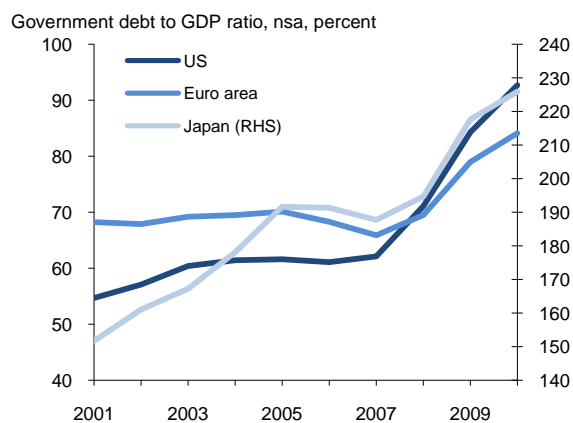
Percent change from previous year	Estimate		Forecast	
	2009	2010	2011	2012
World	-2.2	3.9	3.3	3.6
<i>High-income countries</i>	-3.4	2.8	2.4	2.7
United States	-2.6	2.8	2.8	2.9
Euro Area	-4.1	1.7	1.4	2.0
<i>East Asia and Pacific</i>	4.8	9.2	7.2	7.1
East Asia NIEs	-0.9	8.2	4.6	4.9
Developing East Asia	7.4	9.6	8.2	7.9
Developing East Asia excluding China	1.2	6.9	5.3	5.7
China	9.2	10.3	9.0	8.5
Indonesia	4.6	6.1	6.4	6.7
Philippines	1.1	7.3	5.0	5.4
Thailand	-2.3	7.8	3.7	4.2

Source: World Bank (2011a) and World Bank (2011b).

The advanced economies are expected to recover to their lower post-crisis potentials. Economic expansion is projected at 2.4 percent in 2011 and 2.7 percent in 2012 as the drag from restructuring activity eases somewhat. The U.S. economy is expected to grow at 2.8 percent in 2011. Domestic demand will likely continue strengthening, especially amid improving labor market conditions. Growth support will also come from the additional stimulus measures passed in late 2010. Nevertheless, the U.S. will continue to deal with high unemployment and deleveraging in the housing sector (Figure 2.1). Meanwhile, the E.U. is expected to grow at 1.4 percent in 2011. Growth will, however, remain uneven. Improving domestic demand is expected to support economic activity in the core European economies, whereas the peripheral European economies will likely continue to grapple with the restructuring of sovereign and banking system balance sheets (Figure 2.2).

**Figure 2.1. Unemployment remains high in the advanced economies despite recent improvements**

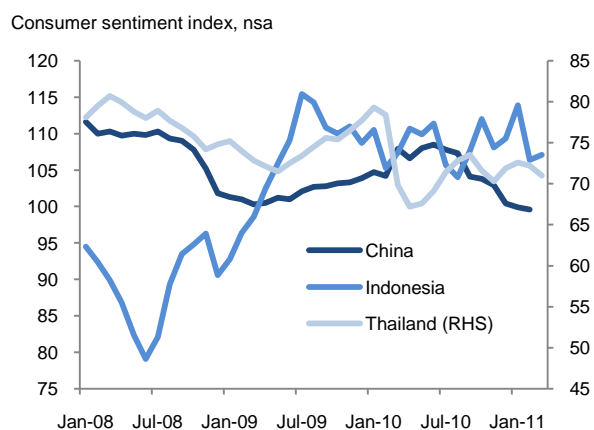
Source: Haver and World Bank staff calculations.

**Figure 2.2. Government debt has continued to rise in spite of fiscal consolidation efforts**

Source: IMF and World Bank staff calculations.

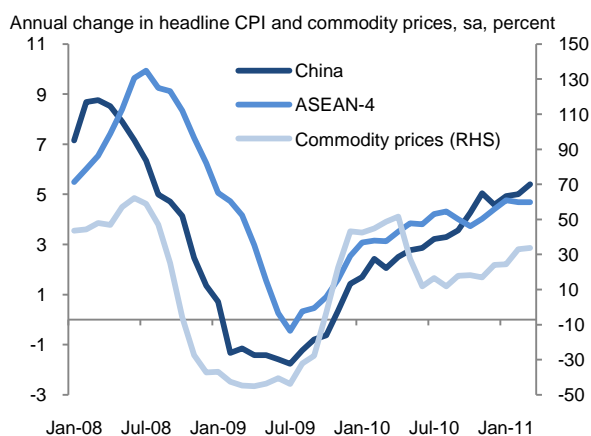
Growth in the emerging economies is also expected to moderate towards long-run potential. The East Asia and the Pacific region is projected to expand by 7.2 percent and 7.1 percent in 2011 and 2012 respectively, more than twice the growth rate of the advanced economies. Growth in China is expected to slow to 9 percent in 2011 (Figure 2.3). This is on the expectation that measures introduced to cool property prices and counter generalized inflation will take firmer hold amid efforts to rebalance domestic and external demand. Both Developing East Asia excluding China and the East Asia NIEs are projected to grow at rates comparable prior to the recent crisis, at 5.3 percent and 4.6 percent respectively. Meanwhile, indications that elevated fuel and commodity prices are causing persistently higher inflation and inflationary expectations have emerged (Figure 2.4). Coupled with continued heightened volatility in capital inflows and exchange rates, more determined policy actions will be required across the region. The pace of interest rate normalization is likely to accelerate to prevent more price pressures from exacerbating and becoming entrenched.

**Figure 2.3. Consumer sentiment remains favorable in Indonesia and Thailand but has fallen in China**



Source: Haver and World Bank staff calculations.

**Figure 2.4. Headline inflation has trended upwards amid rising commodity prices, particularly in China**



Source: Haver, IMF and World Bank staff calculations.

The pace of policy normalization will, however, have key implications on global growth prospects. In the advanced economies, greater clarity on the firmness of private sector revival will be necessary as premature fiscal and monetary exit could still jeopardize overall economic recovery. This is further complicated by rising inflationary expectations on higher food and fuel prices, particularly in the E.U.. Over-tightening in policy could push the still-weak economies back into recession. On the other hand, the emerging economies run the risk of economic overheating against unchanged accommodative policies. Escalating price pressures may erode household purchasing power and thereby reduce discretionary spending to the detriment of economic growth. Yet, the withdrawal of policy accommodation must also remain vigilant of uncertainties in the global landscape. A weaker-than-expected recovery in the advanced economies, particularly amid the unfolding developments in Japan, could cause larger-than-expected growth moderation (see Box 6 for more details). In addition, should economic activity in China slow down faster than expected, growth in the emerging economies will be significantly affected given the tight integration of production networks and high dependence on regional external demand.

If high fuel and commodity prices were to persist at current high levels or rise even further, the sustainability of global recovery may be endangered. Expectations are for fuel and commodity prices to moderate in the second half of 2011 as supply disruptions from adverse weather conditions lessen. However, potentially higher global demand given the need for substantial rebuilding activity in Japan, together with any threat of disruption in energy and commodity supplies due to escalating geopolitical factors, could cause prices to surpass historical highs instead. This could spur panic, potentially resulting in high inflation globally and subsequently a double-dip recession in the advanced economies. In addition, as fuel and commodity prices have a relatively firm floor underpinned by sustained global demand but a soft ceiling amid geopolitical unrests, speculative activity in commodities may intensify, further worsening the price increases.

Large two-way shifts in volatile capital flows are expected to feature prominently in the global landscape over the near to medium term. Given the continued unevenness in global growth performances and the consequent differences in interest-rate policies, the emerging economies can expect to receive a continued inflow of capital, as seen in 2010. However, given the improving economic prospects of the advanced economies, particularly in the U.S., a better-than-expected recovery could result in a rapid reversal of short-term capital. Such heightened volatility in large amounts of capital could result in disorderly exchange rate movements and periodic financial market volatility globally.

## BOX 6. ECONOMIC IMPACT OF THE CALAMITY IN JAPAN

Japan was hit by a disastrous calamity on March 11, 2011. A 9.0-magnitude earthquake had set off a 40 meter-high tsunami along the northeastern coast of Japan and triggered a crisis at Fukushima nuclear power plant. The earthquake is the worst recorded in Japan's history and the fourth most severe in the world. The nuclear crisis has been assessed to be at least as serious as the 1986 Chernobyl accident.

One month on, the scale of the destruction is still largely unknown. As of mid-April, the human cost was quickly approaching 30,000 people, with the direct damage to infrastructure estimated at 4-6 percent of GDP. The situation in the nuclear plants and consequent impact remains uncertain. In any case, power shortages have occurred in the Tokyo metropolitan area and rolling black-outs have disrupted the resumption of economic activity, especially in the car, electronics and other energy-intensive industries.

### *A V-shaped recovery for Japan against elevated downside risks*

It is too early to make any definitive assessments. Based on the information available as of mid-April, the economy is likely—as with the Kobe quake in 1995—to experience a V-shaped impact: negative through mid-2011 and then positive through end-2011. Even if the directly affected areas account for just 4 percent of total output, the economy is likely to experience a technical output decline during the first quarter. This is due to a contraction in industrial production and exports, following capacity loss, power shortages, and supply chain disruptions. As reconstruction gains momentum and disruptions ease, the recovery should be swift, with robust external demand from the region providing support.

Three downside risks cloud the near- and medium-term horizon, which could potentially result in potential international spill-over effects:

- *Nuclear radiation:* If radiation levels in Fukushima remain elevated and contamination spreads throughout the country, business and consumer sentiment would like be affected even more. Exports as well as tourism to and from Japan would also be expected to take a further hit under these circumstances.
- *Prolonged power shortages:* As energy demand rises during the summer, power shortages could intensify. This would particularly affect the car and electronics industries around Tokyo, responsible for 11 percent of GDP. Differences in power frequency across regions complicate matters. Continued uncertainty could trigger or accelerate relocation to overseas.
- *Limited macro policy flexibility:* Given the limited fiscal space prior to the disaster, yields are likely to rise if the USD120 billion emergency budget is financed with new debt.<sup>a</sup> Tax increases could dampen consumer spending in the short run. The monetary stance is already highly accommodative.

### ***Impact on Malaysian economy to be felt through trade and investment channels***

At least three effects on the Malaysian economy can be distinguished:

- *Direct trade channel: Relatively modest overall impact, with mixed effects across sectors.* Japan is Malaysia's third largest trading partner, but the direct impact on trade—first negatively, then positively—is expected to be relatively modest.<sup>b</sup> In the near term, the production and exports of E&E in Malaysia—a key product traded with Japan—will likely be negatively affected, given that the E&E sector is amongst the most affected in Japan. However, this could be partially offset by a higher export of energy, particularly liquefied natural gas (LNG), as Japan temporarily maximizes its power generation from thermal plants. Nevertheless, towards the second half-year, Malaysia's export of both E&E and commodities can be expected to improve as economic activities in Japan resume and rebuilding activities gain traction.
- *Supply chain disruption: Potentially large negative impact.* The decline in industrial production is expected to be amplified as the impact of a global supply shortage for intermediate inputs ripples through the E&E and automobile supply chains.<sup>c</sup> While the unexpected build-up of inventory in the last quarter of 2010 is likely to dampen the adverse impact on Malaysia's E&E industry until the second quarter of 2011, the lack of just a small portion of auto parts would almost immediately affect overall production in the automobile industry given its reliance on just-in-time inventory management. The supply shortage is further complicated by difficulties in obtaining substitutes, as parts and components sourced from Japan are typically customized in design and highly complex. Where substitutes are available, high global demand—for both production and inventory stocking for the future—would result in higher prices.
- *Investment channel: Minimal impact, but potential for lower competitiveness in medium-term.* While Japan is Malaysia's second largest foreign investor, the risk of capital reversal for fund repatriation to Japan is relatively small. Most of the capital invested is long-term in nature—such as in the form of physical capital investment through FDI—and the liquidation of financial assets is more likely to occur in deep liquid markets outside of Malaysia.<sup>d</sup> In contrast, Japanese operations in Malaysia may marginally benefit in the short run as the temporary substitution for the loss of capacity in Japan, where possible, may attract slightly higher FDI inflows. However, continued uncertainties in Japan could accelerate the permanent relocation of Japanese operations—both assembly and lower-level R&D—to overseas destinations (a trend which was documented in Box 12 of the April 2010 *Malaysia Economic Monitor* and which also seems consistent with the declining number of Japanese expatriates in Malaysia in Table 3.15).

#### ***Notes:***

<sup>a</sup> Japan's net public debt and fiscal deficit were 120 percent and 10 percent respectively in 2010, significantly higher compared to 20 percent and five percent respectively in 1995. Furthermore, reconstruction costs for the 1995 Kobe earthquake was about three times lower, amounting to only USD38 billion over two fiscal years.

<sup>b</sup> Japan accounted for 10.4 percent of Malaysia's exports and 12.6 percent of imports in 2010.

<sup>c</sup> Several major automobile and components factories, accounting for large portions of global supply, were destroyed by the calamity. For example, in the E&E industry, about half of global BT Resin—a key component for consumer electronics—and some 20 percent of global wafer production for semiconductors have been affected.

<sup>d</sup> Japan accounted for 12.1 percent of FDI, and 13.9 percent of foreign manufacturing investments in 2010.

## MALAYSIAN GROWTH TO RESUME HISTORICAL TRENDS

After a period of crisis-related volatility, Malaysia's growth momentum is expected to converge to pre-crisis trends. In this process, domestic demand is expected to take on an increasing role. Private consumption will likely be a key growth driver, with rural areas benefitting from elevated commodity prices and urban areas from continued growth in the manufacturing and services sectors. Buoyant domestic consumer spending and a later pick-up in advanced economies would use up spare production capacity. Additional fixed investment is likely but is also sensitive to investor sentiment and the progress made on the structural reform agenda. On the policy front, barring any unexpected developments, fiscal and monetary policy normalization would normally continue at a steady pace. Consumer inflation is expected to be higher on account of cost-push factors, but demand-pull factors are gaining strength and will become more visible in the coming quarters.

### Baseline Forecast Assumptions Have Generally Improved

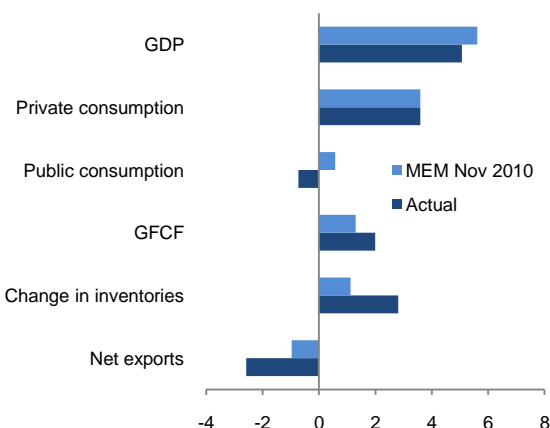
The recent growth outturn was only slightly weaker than we had predicted earlier. The baseline scenario in the November 2010 *Malaysia Economic Monitor* pictured a sharp deceleration, but not a contraction, in the second half of 2010. The sequential decline in the third quarter was therefore largely unexpected and only seen as a low-case scenario in our previous assessment. But with the solid sequential rebound in the fourth quarter, the discrepancy narrowed. For the second half of 2010, net exports were holding back GDP growth more forcefully than predicted, which directly translated into larger restocking by firms (Figure 2.5).<sup>20</sup> While our views on private consumption did materialize, fiscal consolidation advanced more swiftly than envisaged. Given the more sluggish second half, the full-year 2010 growth projection of 7.4 percent in our previous assessment exceeded the actual growth by 0.2 percentage points.

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<sup>20</sup> Box 2 in the November 2010 *Malaysia Economic Monitor* showed that changes in stock essentially mirror net real exports of goods and services in Malaysia. So any underestimation of a negative contribution to growth by net exports will be reflected in a comparable underestimation of positive contribution to growth by changes in stocks.

**Figure 2.5. Growth in the second half of 2010 was slightly slower than expected**

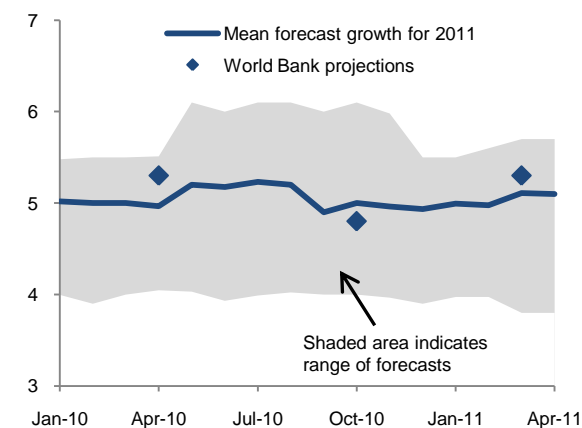
Contributions to year-on-year real GDP growth rates, percentage points



Source: CEIC and World Bank staff projections.  
Note: MEM is *Malaysia Economic Monitor*.

**Figure 2.6. Market views on 2011 growth has been stable**

GDP growth year-on-year, percentage points



Source: Consensus Economics and World Bank staff projections.

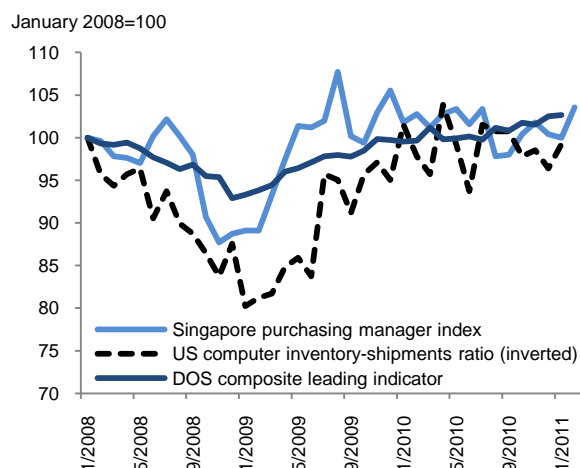
As a result, the outlook for 2011 would be technically upgraded even without changes in assumptions. Given that actual growth in the second half of 2010 was short of expectations, the full-year 2011 growth projection would be technically lifted to 5.1 percent, or 0.3 percentage points higher than previously estimated, even if the baseline assumptions made in the November 2010 *Malaysia Economic Monitor* were to remain unchanged. The mean April 2011 Consensus Forecast is also at 5.1 percent, with the range of 3.8-5.7 percent (Figure 2.6). The view towards macroeconomic performance in 2011 has been rather stable since the January 2010 survey. For 2012, the mean forecast is 5.5 percent, up slightly from 5.4 percent in the March 2011 survey.

The baseline assumptions generally improved on both external and domestic fronts. The near-term prospects on the US economy and global trade are more encouraging. International prices of Malaysia's key commodity exports such as crude oil, palm oil, and natural rubber<sup>21</sup> escalated which should help boost commodity exports and GDP growth.<sup>22</sup> Domestically, the project-based part of the Economic Transformation Programme (ETP) is being rolled out and, as our consultations with market participants suggest, is attracting significant investor interest. Yet, the strength, timing and sustainability of the likely uptick in investment growth are all subject to uncertainty. Rising international food prices, the unfolding impacts of the disaster in Japan, and domestic macroeconomic policy normalization also complicate the baseline assumptions.

<sup>21</sup> The average crude oil price jumped to USD120 per barrel in mid-April 2011, up significantly from USD75 per barrel in mid-2010. The reaction from OPEC producers has so far been limited. In contrast, world non-energy prices fell close to five percent in March 2011, the first decline in nine months. But the current rubber prices remain the highest in many years and are well above the 2008 peak. Palm oil prices are close to the 2008 height.

<sup>22</sup> IMF (2011) estimated that global commodity price increases should contribute positively to Malaysia's trade balance in 2011 at around three percent of GDP in 2009. This net trade gain is slightly larger than other regional commodity exporters such as Indonesia and Vietnam but far lower than Brunei. Credit Suisse (2011) also suggests that a 10-percent increase in palm oil prices would lift Malaysia's real GDP growth by about 0.3 percentage points. This figure would be 0.2 percentage point for a similar rise in Dubai oil prices or rubber prices. Finally, CIMB (2011b) notes that gross export growth would rise by 0.5 percentage point for every USD10 per barrel rise in crude oil prices (assuming constant export volume).

**Figure 2.7. Leading indicators indicate favorable economic conditions in the coming months**



Source: CEIC and World Bank staff calculations.

Leading indicators point to encouraging signs of economic activity in the near term. The composite leading indicator of the Department of Statistics registered positive growth since August 2010 on a three-month moving average seasonally-adjusted basis (Figure 2.7). Sub-components such as real money supply, real imports of semiconductors and metals, total trade with major trading partners, and industrial material price index all improved. In addition, variables that have historically led export-oriented industrial production in Malaysia by a few months, such as the Singapore purchasing manager index and the US inventory-to-shipment ratio of computers, also suggest an upward trend. Finally, OECD composite leading indicators expanded further in February 2011 for the seventh consecutive month.

### Near-Term Growth Momentum Is Expected to Develop Favorably

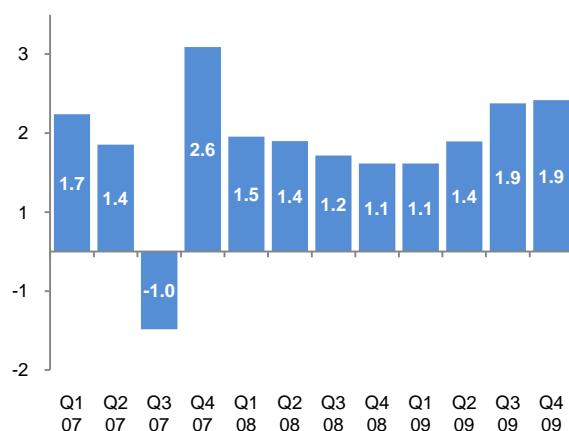
Our revised baseline scenario augurs for a smooth, yet relatively moderate, strengthening of growth momentum over the coming quarters. Quarter-on-quarter, seasonally adjusted growth rates in 2011-12 are projected to range between 1.1 and 1.9 percent (Figure 2.8), compared to the mean and median of 1.5 and 1.6 percent during 2002-07. Solid leading indicators in early 2011 coupled with elevated commodity prices should see a relatively buoyant expansion in the early quarters. The baseline scenario assumes somewhat softening commodity prices after mid-2011, hence decelerating consumer spending growth. In addition, private consumption in the second half of 2011 may be held back by higher inflation<sup>23</sup> and rising borrowing costs from continued monetary policy tightening (see below for the outlooks on inflation and macroeconomic policies). Sequential growth in 2012 gains momentum towards year-end, as the global economic recovery becomes more broad-based and investment projects under the ETP are implemented.

<sup>23</sup> Commodity prices are likely to soften mid-2011. Higher sequential inflation in the second half will likely reflect second-round effects of earlier inflation (higher wages, greater pass-through from PPI).



**Figure 2.8. Near-term growth momentum set to rise**

Actual and forecast GDP growth, qoq sa, percent



Source: CEIC and World Bank staff projections.

**Figure 2.9. Yearly growth expected to return to historical pace**

Actual and forecast GDP growth, yoy, percent



Source: CEIC and World Bank staff projections.

The full-year projection for 2011-12 is that growth is likely to realign itself with the pre-crisis trend rate. The baseline growth projection for 2011 is 5.3 percent and 5.5 percent for 2012 (Figure 2.9), relative to 5.9 percent during 2002-07. As in the past years, domestic demand—especially private consumption and fixed investment—is expected to continue driving the economy (Table 2.2. below).

Private consumption is expected to remain the engine of growth for the Malaysian economy, even if headwinds are likely to emerge. Leading indicators such as rubber prices, the stock market index, the consumer sentiment index, and the number of retrenched workers suggest that consumer spending should be buoyant in the coming few quarters.<sup>24</sup> Solid employment and modest wage growth<sup>25</sup> in line with improving external demand as well as buoyant commodity prices<sup>26</sup> should support household balance sheets. Comfortable access to bank loans and relatively low borrowing costs also push up consumer confidence. For instance, the Malaysian Retailers Association in February 2011 upgraded its 2011 sales growth projection to 6 percent, up from 5 percent estimated in end-2010. Yet, at the same time, headwinds such as rising inflationary pressures, sharper-than-expected subsidy cuts, and rising borrowing costs from further monetary policy normalization could be moderating factors (see more details below).

Private investment is set to strengthen but remains highly sensitive to progress with the implementation of ETP projects, which in large part depend on private sector initiative. Overall capacity

<sup>24</sup> These four variables have historically led private consumption in Malaysia with the cross-correlation coefficient of at least 0.5 and a lead time of at least one quarter. Note that the consumer sentiment index registered a slight decline early 2011, but it remains positive.

<sup>25</sup> Mercer's survey reveals that average salary increase in 2011 is set at 5.6 percent, up from 5.2 and 5.0 percent in 2009 and 2010 respectively. The results are similarly reflected in the survey by the Malaysian Employers Federation. So real wage growth should generally be modestly positive.

<sup>26</sup> Up to one-fifth of the workforce is estimated to work in plantation sector. Although the pass-through of high global prices to net-producing household income may be partial, households reportedly benefit from price gains.

utilization reached 80 percent by end-2010, surpassing the pre-crisis peak. Spare capacity shrank in both domestic and export-oriented industries. MIER business conditions index revived early 2011. These point to the prospect of additional fixed investment given that export orders and consumption outlook are also improving. The baseline scenario assumes stronger ETP-induced private investments from early 2012 onwards that could especially benefit the construction sector.<sup>27</sup> Business sentiment may be affected if these projects take off sluggishly relative to expectations as the initiative is viewed as front-loaded.

Public consumption should edge up somewhat. After virtually no growth in 2010 due to fiscal consolidation efforts, Budget 2011 suggests that public consumption would resume modest growth. The stalled expansion last year was mainly driven by a reduction in supplies and services, while emoluments grew steadily. In the coming quarters, expenditures on supplies and services are set to grow at a faster pace, making up for the decline in 2010. Our baseline scenario projects moderate public consumption growth in 2011-12, at levels below pre-crisis trends.

Public investment will likely benefit from the ETP, even if the focus is on revitalizing private investment. The projections price in continued growth, but like public consumption, projected growth in 2011-12 is slower than its pre-crisis pace, given also the need to make progress on fiscal discipline. While a large part of development spending by general government in the next few years has already been allocated, investment by government-linked companies (GLCs) is more volatile and harder to assess.<sup>28</sup> Among others, the trajectory of development spending will closely depend on the progress made with the ETP projects. As of early March 2011, the potential investment under the ETP reached RM95 billion which is equivalent to over 60 percent of total gross fixed investment in 2010. But the information on the timeframe and investment share by GLCs is largely not available. GLCs investment may be pushed up in late 2011 to early 2012 should the progress of the ETP projects fall short of targets and expectations.

Moderate growth in goods and services exports is anticipated in line with the projected pick-up in global trade. Import volume growth from industrial economies is converging to a more sustainable pace in 2011-12 after the forceful rebound in 2010. In the near term, Malaysia's export performance could outpace this overall upward trend, underpinned by, first, favorable commodity prices that will likely remain high at least in the first half of 2011 and, second, the faster recovery in the US relative to the EU and Japan, which is still Malaysia's most important final export destination. The electrical and electronics industry is also expected to revive further.<sup>29</sup> Leading indicators such as the Singapore purchasing manager index, US unfilled orders of durable goods-to-shipment ratio, and vessel arrivals to Malaysia pose an optimistic picture. Import growth would generally continue to outpace export growth in the coming quarters. But the contribution of net external demand to growth should converge to pre-

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<sup>27</sup> The construction sector tends to benefit from various policy initiatives. First, the My First Home Scheme programme, which allows younger workers who earn less than RM3,000 per month to obtain a 100-percent financing for houses costing between RM100,000 and RM220,000 with a repayment period of 30 years. Second, the government had increased the maximum housing loan amount for civil servants by 15 percent to RM450,000 since January 2011. The scheme is expected to disburse around RM6.8 billion.

<sup>28</sup> The size of investment by GLCs is increasingly important. Development spending made by non-financial public enterprises as a share of GDP has exceeded that of general government since 2005.

<sup>29</sup> For example, Standard & Poor forecasts a robust 14-percent order growth for semiconductors in 2011 given rising customer utilization levels, capacity expansion plans, and introduction of new consumer products.

crisis magnitudes, as the inventory restocking process draws to an end which would dampen intermediate import growth.

Changes in inventories are expected to subside over the next quarters. As in the November 2010 *Malaysia Economic Monitor*, the baseline scenario projects a completion of the inventory cycle. Restocking in the final three quarters of 2010 already regained close to 70 percent of the destocking that took place between the fourth quarter of 2008 and the first quarter of 2010. Stock build-up should continue modestly in the coming quarters given the positive export outlook. Some destocking, however, is possible in 2012.

**Table 2.2. Private consumption and to a lesser extent private investment are likely to drive future growth**

Actual and forecast contributions to GDP growth, yoy, percent

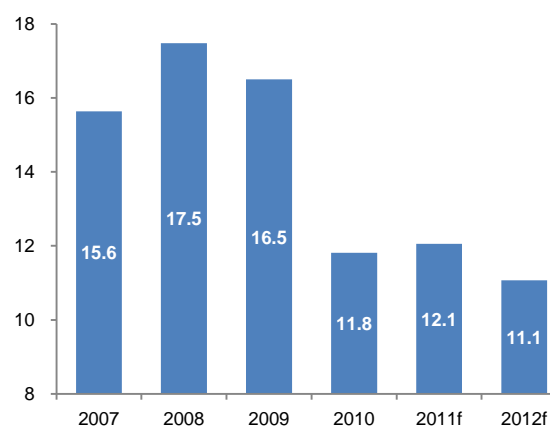
	2010	2011f	2012f
GDP	7.2	5.3	5.5
<i>Domestic demand</i>	10.4	4.8	5.8
Final consumption	3.6	4.7	4.7
Private sector	3.6	3.8	4.0
Public sector	0.0	0.8	0.7
GFCF	2.0	1.6	1.6
Private sector	1.4	1.2	1.2
Public sector	0.6	0.4	0.4
Change in stocks	4.9	-1.5	-0.5
<i>External demand</i>	-3.3	0.5	-0.4
Exports of G&S	10.5	6.0	7.1
Imports of G&S	13.8	5.6	7.4

Note: GFCF is gross fixed capital formation, G&S is goods and non-factor services

Source: CEIC and World Bank staff projections.

**Figure 2.10. Current account is expected to pick up in 2011 on commodity strength, but soften later**

Current account surplus, percent of GDP



Source: CEIC and World Bank staff projections.

Commodity price strength is expected to further raise Malaysia's current account surplus. The current account surplus as a share of GDP is estimated to slightly improve in 2011 to 12.1 percent from 11.8 percent in 2010 (Figure 2.10). Merchandise import growth would continue to outpace export growth in nominal terms but the gap tends to narrow. Robust commodity prices boost commodity exports that, unlike exports of electronics items, do not pull up intermediate goods imports. Gross exports in 2012 will likely benefit from a more synchronized recovery in advanced economies, although commodity prices could soften. Our baseline scenario does not foresee major swings in the net services account, the income account, and current transfers relative to historical movements.

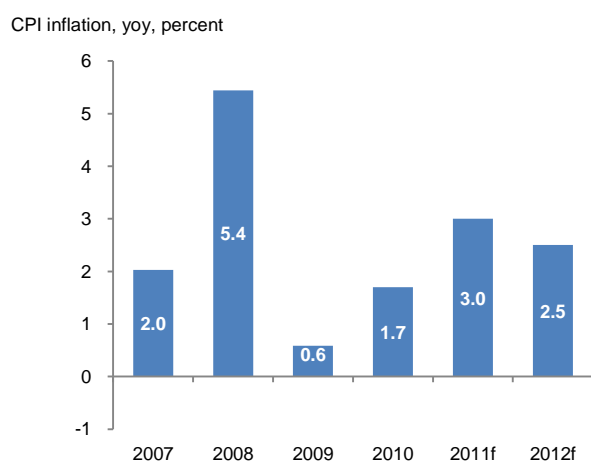
### Consumer Price Inflation Will Likely Rise Further

Consumer price inflation is expected to first gain strength and then moderate. CPI inflation is expected at 3.0 percent in 2011 and 2.5 percent in 2012 (Figure 2.11). Whereas global food and energy prices initially accounted for significant cost-push inflation, the price control scheme and stronger ringgit have absorbed some pressure. This likely leads to the second-round effects—such as domestic wage

increases, partial pass-through of producer price inflation to consumer price inflation.<sup>30</sup> Imported inflation from regional economies may push up inflation and inflationary expectations even further. Closing output gaps, ample liquidity in the financial markets, upbeat retail sales, and firms' ability to raise prices demonstrate that demand-pull inflation is now likely relative to our previous assessment in November 2010.

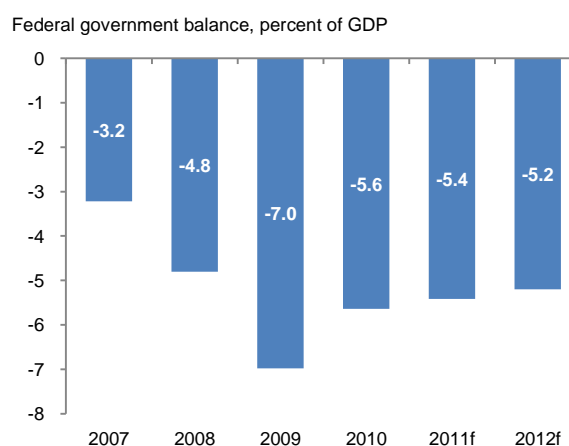
Policy factors such as future movements in the overnight policy rate as well as subsidy cuts could be influential. As discussed earlier, monetary policy tightening could have a full and immediate impact on borrowing costs, thus affecting the financing conditions of households rather directly. The baseline scenario assumes gradual reductions in food and fuel price subsidies. Larger-than-expected subsidy cuts could produce large spillover effects and higher inflation as seen in 2008. Volatility in global commodity prices poses a key risk.

**Figure 2.11. Inflationary pressure is mounting**



Source: CEIC and World Bank staff projections.

**Figure 2.12. Fiscal consolidation is expected at a gradual pace**



Source: CEIC and World Bank staff projections.

<sup>30</sup> Anecdotal evidence suggests that the pass-through of higher input costs to higher retail prices is likely to take place soon. The Malaysian Retailers Association reported 8.5-percent sales growth in the final quarter of 2010 (year-on-year) but profit margins shrank by over 9 percent. Traders have so far absorbed rising input costs, but this is expected to be eventually passed onto consumers. For instance, the Malaysian Corrugated Carton Manufacturers' Association has announced in April 2011 an increase in carton box prices due to higher paper prices. As carton boxes are used in many other industries, this potentially has a widespread effect.

## Fiscal and Monetary Policies Are Expected to Renormalize Further

The fiscal deficit target in 2011 is likely within reach. International oil price hikes since late 2010, however, complicate the forecasting of the fiscal balance. On the one hand, oil revenue, which constitutes around 35-40 percent of total government revenue, should gain but the pass-through of international oil prices to oil revenue in Malaysia is neither proportional nor automatic.<sup>31</sup> On the other hand, the Ministry of Finance has recently revealed that the total fuel subsidy cost for 2011 would jump to RM14 billion—some 40 percent higher than the Budget 2011 estimate. If the net positive effect of rising oil prices on the fiscal balance is smaller than commonly understood<sup>32</sup>, then the government's ability to meet the target deficits of 5.4 percent of GDP relies preliminarily on how much it can mobilize other funds allocated for operational or development spending to finance the rising subsidy bills. Another important factor is nominal GDP growth, which has in past fiscal consolidation efforts played a major role (Box 5). The baseline scenario projects that nominal output growth would be supportive in achieving the deficit target (Figure 2.12).

Further monetary policy normalization is likely during 2011. Bank Negara Malaysia has signaled in its March 2011 statement that demand-pull inflation is building up from closing output gaps and inflationary expectations. Further OPR rises are expected in the coming quarters but how soon the OPR will return to the pre-crisis level remains data-dependent. Additional SRR adjustment is anticipated, especially if OPR normalization leads to excessive capital inflows and liquidity in the financial markets. Although some advanced economies started unwinding their monetary policy in response to higher inflation<sup>33</sup>, the interest rate differential between industrial and emerging East Asian economies remains wide and the inflow of capital is expected to continue.

## Near-Term Risks Remain Considerable

As in the past issues of *Malaysia Economic Monitor*, the key downside risk is the strength of the recovery in global demand. The view that the global recovery remains fragile has persisted. New normal, lower growth in advanced economies that was widely hypothesized during the peak of the crisis has to a large extent materialized.<sup>34</sup> In addition to continued labor market weaknesses, weak government and household balance sheets, policy-induced moderation in China, uncertainty surrounding the Japanese calamity, geopolitical tensions in North Africa and the Middle East, and rising inflation in East Asian economies have emerged as new downside risks. Soaring global oil prices have so far benefited Malaysia's commodity exports but excessively high energy prices, which would also push up food prices

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<sup>31</sup> Among others, this is determined by how Petronas (the national oil company) reports its annual income to fulfill specific tax regulations and guidelines. The realized ringgit value also alters Petronas's income projections which have implications on company's tax liability and payment.

<sup>32</sup> As full information on the transmission mechanism is not available, market participants tend to view the net positive effect as sizeable because subsidy costs were only 12 percent of government revenue in the past years relative to 40 percent for oil revenue.

<sup>33</sup> For the first time in three years, the European Central Bank raised the policy rate by 25 basis points to 1.25 percent in early April 2011.

<sup>34</sup> Most estimates suggest that the output levels at end-2011 in the Euro Area and Japan would remain lower than the 2007 levels. Import volume for goods and services from industrial economies is also expected to surpass the pre-crisis level by less than five percent in 2011.

through higher transportation costs, could stall economic activities worldwide. This may dent Malaysia's non-commodity exports as well as potentially oil export volume if rising prices depress demand for oil.<sup>35</sup>

Domestically, inflationary pressure poses an increasing risk. CPI inflation may weaken consumer spending, which is in the baseline the key growth propeller for 2011-12. Rising prices especially hurt net-consuming rural households and urban residents who do not benefit from booming commodity prices. Real savings deposit rates would turn more negative (already at -1.9 percent in February 2011). At the same time, inflation prompts higher policy and lending rates and ringgit appreciation. Rising borrowing costs, in tandem with larger-than-expected subsidy cuts<sup>36</sup> and sustained household debts<sup>37</sup>, could destabilize private consumption. The stronger ringgit also dampens future employment and wage growth and therefore spending by workers in certain export sectors. Higher borrowing costs can suppress some new investment projects. In sum, consumer price inflation influences both current and future consumer spending, and likely has indirect detrimental effects on export performance and fixed investment.

Failure to achieve fiscal consolidation may put into question the government's commitment towards the reform agenda. Box 8 of the April 2010 *Malaysia Economic Monitor* highlighted that the sustainability of general government debt is particularly sensitive to output growth (hence the importance of structural reform) and global oil prices. Yet, as nearly all of this is domestic debt with a large share held by domestic public entities, exchange rate and capital reversal risks would be expected to be limited. In addition, the solid financing position, the large current account surplus and the ample level of foreign reserves mitigate concerns. Although the level of public debt in itself may not be of immediate concern, it does limit the government's ability to cope with any future adverse shocks. Should for example global food and energy price inflation rise further with its concomitant risks for output growth, then there would be limited room for fiscal policy maneuver. Importantly, lackluster progress on the fiscal consolidation front could also hurt policy credibility that may spill over into perceptions on other parts of the reform agenda.

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<sup>35</sup> A general equilibrium simulation in ADB (2011) shows that a combined oil and food price shock would cut Malaysia's real GDP growth in 2011 by 0.7-0.8 percentage points and over one percentage point in 2012. While the impact in 2011 is comparable to regional economies, the effect in 2012 is larger than others. The simulation assumes 30-percent increases in both global oil and food prices in 2011 before the oil prices retreat by five percent in 2012 and three percent for food prices.

<sup>36</sup> The baseline scenario assumes gradual subsidy rationalization but sharper subsidy reductions are not impossible especially if international oil prices, and thus fiscal burden on subsidies, rise much faster-than-expected.

<sup>37</sup> Household debt-to-GDP ratio stood at 76 percent in 2009-10, up from the mean of 67 percent during 2006-08. Although the debt level has risen, household assets-to-debts ratio was at least 2.3 times in these years. Non-performing consumer loan ratios also remain at low levels. The risk is higher among lower-income households that suffer from rising borrowing costs and possible negative real income growth.

## MEDIUM-TERM OUTLOOK CONTINGENT ON REFORM IMPLEMENTATION

As for the medium-term outlook, it is useful to first place the challenges facing the Malaysian economy in a wider perspective. The approaches taken to address these challenges are then discussed, followed by an assessment of the medium-term outlook and risks.

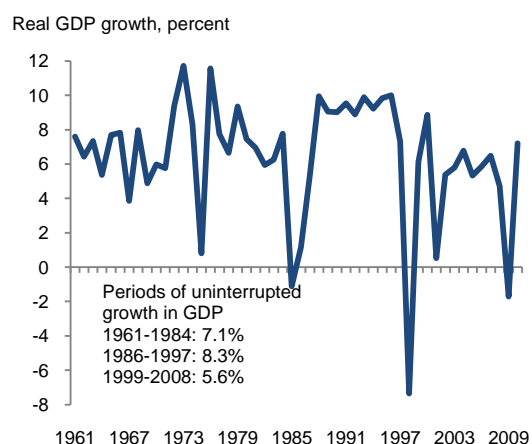
### Malaysia's Medium-Term Challenges in Perspective

The challenges facing the Malaysian economy can be usefully contextualized by examining the country's historical growth performance, asking what counterfactual growth might have been and considering what the future might behold.

#### A Historical Perspective

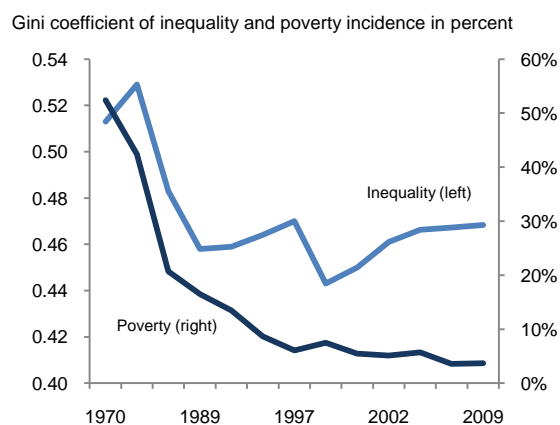
Through the long-term lens of economic development, the Malaysian growth story has been a success story. As highlighted by the Commission on Growth and Development (2008), Malaysia is one of the few countries in the world that has since 1950 managed to register sustained economic growth at 7 percent per year or more for 25 years or longer. Malaysia's growth spurt occurred between 1967 and 1997, which led the country to upper middle-income (Figure 2.13). Malaysia witnessed a structural shift from an economy depending primarily on the production of mineral and agricultural export commodities—palm oil, natural rubber, tropical timber and tin—into one dominated by manufacturing and services.

**Figure 2.13. Malaysia's historical growth is high but trended down after the 1997-98 East Asian crisis**



Source: WDI and World Bank staff calculations.

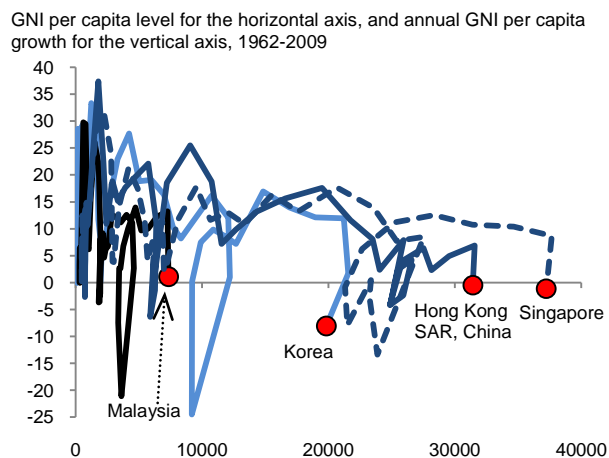
**Figure 2.14. Poverty has declined markedly, but inequality remains at high levels**



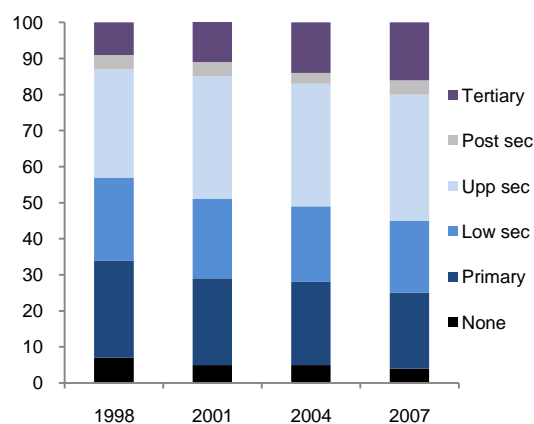
Source: DOS, EPU and World Bank staff calculations.

Spurred by export-led industrialization reliant on foreign direct investment, Malaysia became the third-most open economy to trade in the region. Since the establishment of a free-trade zone in Penang in 1971, Malaysia successfully attracted multinational companies (MNCs), initially from Japan and the United States and later from Europe. MNCs flocked into Malaysia thanks to favorable factors such as attractive incentives, geographical location, political stability, reliable infrastructure, and an elastic supply of low-cost labor. The arrival of MNCs led to an expansion in export volumes, with total trade (exports plus imports) reaching twice the value of Malaysia's annual GDP at its historical peak.

**Figure 2.15. The Malaysian economy appears stuck in a middle-income trap**



**Figure 2.16. The educational level of the workforce is still relatively low**



Accompanying Malaysia's growth successes was the steady improvement in social outcomes. Poverty incidence declined from levels above 50 percent in 1970 to under 4 percent in 2009 (Figure 2.14). In line with the Government's stated objectives, hardcore poverty has been nearly eliminated, standing at less than 1 percent in 2009. And, as households were lifted out of poverty, economic growth was associated—at least during earlier periods—with a steady reduction in income inequality, with the Gini coefficient at 0.45 in 1990 compared to 0.51 in 1970. While income inequality in Malaysia remains high today, it is no longer primarily a function of ethnicity. Nowadays, inequality in income within—as opposed to between—ethnic groups accounts for nearly 94 percent of total income inequality.<sup>38</sup> Progress in social outcomes also manifested itself in various dimensions of human development, such as literacy, life expectancy and infant mortality.

### ***A Counterfactual Perspective***

In spite of the successes which have enabled the transition to upper middle-income status, this historical growth performance appears to have fallen short of Malaysia's growth potential. Malaysia seems stuck in a middle-income trap, the predicament that prevents middle-income countries from fulfilling the next step in their development path towards high income (Figure 2.15). This has manifested itself in the growing inability to remain competitive as a high-volume, low-cost producer coupled with the difficulty to break into fast-growing markets for knowledge- and innovation-based products and services.<sup>39</sup> The implication is that, despite past growth successes, living standards as measured by per capita gross national income could have been significantly higher. In this respect, the comparison with South Korea is instructive: whereas four decades ago South Korea was markedly poorer than Malaysia, South Korea's per capita income is now three times higher than Malaysia's.<sup>40</sup>

<sup>38</sup> World Bank (2009b).

<sup>39</sup> World Bank (2009a).

<sup>40</sup> Economic Planning Unit (2010).



Despite vast improvements in socio-economic outcomes, Malaysia's past growth successes have not benefited all equally. As documented World Bank (2010b), deep pockets of poverty continue to exist and, in spite of notable reductions in the 1970s and 1980s, inequality remains at levels higher than Indonesia, Philippines, and Thailand. A large share of households lives on low income levels at less than half of median income. As of 2009, the bottom 40 percent of households accounted for only 14.3 percent of total income, while the top 20 percent accounted for nearly 50 percent. An additional challenge concerns the skills of the workforce, where 80 percent of workers are educated only to the upper-secondary level or equivalent (Figure 2.16). Among the poor, 62 percent of households are headed by a person with primary education or less and only 1 percent among them are headed by someone with tertiary education (World Bank, 2009b). Recent poverty data suggest that poverty has seen a rise in some states. Poverty also remains highly concentrated geographically (Box 7).

## BOX 7. THE GEOGRAPHY OF POVERTY IN MALAYSIA

Malaysia has made tremendous progress in reducing poverty but inequality appears to have stagnated at internationally high levels. The November 2010 *Malaysia Economic Monitor* examined these issues at length. The report offered a three-pronged strategy to address the remaining challenges: boost access to economic opportunities, improve human capital development and provide social protection to help those who cannot help themselves.

While inequality is now in the spotlight, this is not to say that the battle against poverty has been won. To the contrary, deep and concentrated pockets of poverty remain. Unsurprisingly, poverty incidence also featured prominently as a topic in the outreach we conducted for the previous Monitor and in the media attention that followed on the geography of poverty in Malaysia. Delving into the measurement of regional patterns of poverty more deeply, this Box provides an overview of the facts as they are borne out by the official statistics which are available up till 2009.

**Table 2.3. The long-term poverty reduction record is spectacular but the crisis pushed up poverty in some states**

	Poverty headcount rate			Percentage point change	
	1976	2007	2009	1976-2007	2007-2009
Malaysia	37.7	3.6	3.8	-34.1	0.2
Kelantan	67.1	7.2	4.8	-59.9	-2.4
Kedah	61.0	3.1	5.3	-57.9	2.2
Terengganu	60.3	6.5	4.0	-53.8	-2.5
Perlis	59.8	7.0	6.0	-52.8	-1.0
Sabah/F.T. Labuan	58.3	16.0	19.2	-42.3	3.2
Sarawak	56.5	4.2	5.3	-52.3	1.1
Perak	43.0	3.4	3.5	-39.6	0.1
Pahang	38.9	1.7	2.1	-37.2	0.4
N. Sembilan	33.0	1.3	0.7	-31.7	-0.6
Melaka	32.4	1.8	0.5	-30.6	-1.3
P. Pinang	32.4	1.4	1.2	-31.0	-0.2
Johor	29.0	1.5	1.3	-27.5	-0.2
Selangor	22.9	0.7	0.7	-22.2	0.0
F.T. Kuala Lumpur	-	1.5	0.7	-	-0.8

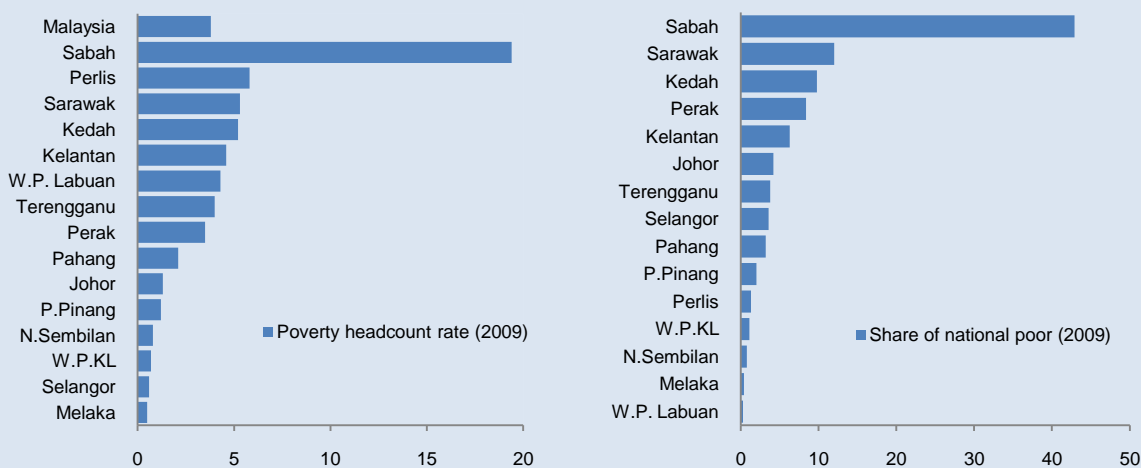
Source: Economic Planning Unit.

Official statistics point to significant success in poverty reduction across all states. Table 2.3 considers the period of 1976 through 2009, which is the earliest and latest date for which official poverty statistics are available for the nation as a whole. Over this period, national poverty incidence was decimated to a tenth of what it used to be. The reduction in poverty was widely shared across all states—with Kedah, Terengganu, Perlis, Sarawak, Kelantan and Sabah/F.T. Labuan registering drops of more than 40 percentage points.

Over the last few years, poverty incidence has however increased in a number of states. During the global economic crisis poverty rates went up in states such as Sabah/F.T. Labuan and Kedah, whereas others such as Terengganu and Kelantan have continued to experience a further decline. For Malaysia as a whole, poverty rates ticked up slightly in 2009 relative to 2007.

Poverty in 2009 retains a strongly regional flavor. Figure 2.17 shows that Sabah stands out with a poverty rate of close to 20 percent, followed by a first group of states clustered around 3-6 percent and a second group of states with rates below 2 percent. This compares to a national average of 3.8 percent. As Figure 2.17 shows, expressed in terms of number of poor, Sabah now attracts more than 42.9 percent of the total poor in Malaysia, followed by Sarawak at 12.0 percent and Kedah at 9.8 percent.

**Figure 2.17. Poverty in 2009 Retains a Strongly Regional Dimension**



Source: Economic Planning Unit.

### *A Forward-Looking Perspective*

Productivity and inclusiveness—the two factors discussed so far that have held back Malaysia’s growth relative to counterfactual—remain the two single most critical factors that are now posing a binding constraint to growth. For Malaysia to become a high-income economy, it will need to increasingly base its growth momentum on innovation and creativity, which boosts the efficiency with which capital and labor are put to use, and this will need to be supported by a healthy level of investment as well in physical and human capital. This will in turn require further efforts to raise productivity and promote inclusiveness, which will help raise the rates of return on investment in physical and human capital.

- Raising the rate of return on physical capital is important as following the Asian financial crisis the investment share to GDP took a dive in Malaysia and, unlike other regional economies, never recovered afterwards. While investment rates should not be expected to return to pre-crisis Asian crisis levels, there is a general recognition that investment has been too low for a dynamically efficient economy that aims to become dependent on innovation-led growth.<sup>41</sup> By creating productive opportunities domestically both foreign and domestic investors can take advantage of these. By promoting inclusiveness individuals can afford themselves better to take entrepreneurial risks and larger segments of society can contribute to the augmentation of domestic capital.
- Equally, if not more, important will be efforts to raise the return on human capital investment. The currently low returns to education in Malaysia—both as a result of deficiencies in skills formation as well as inefficiencies in firm productivity—create powerful incentives for outward migration and equally potent disincentives for return migration. Higher productivity levels will be required to boost wage levels and reduce cost of living-adjusted wage differentials so as to attract and retain talent in the country. Better inclusiveness, in the sense of fostering greater meritocracy, will mitigate the push factors for emigration. These issues are more fully discussed in Chapter 3 on Malaysia’s brain drain.

In tackling the legacy problems on productivity and inclusiveness, Malaysia will also need to consider a number of external challenges (arising from changes in the global environment) and internal challenges (arising from changes in the domestic economy as Malaysia embarks on its journey towards the high-income economy).

Among the external challenges, the emergence of China and India on the global stage has increased the competitive threat—even though counterbalancing this are the opportunities arising from intra-regional trade creation. And, as the global rebalancing process continues to unfold, export demand from advanced economies may be less buoyant going forward, creating additional export competition (Figure 2.18). Also, competition for FDI is intensifying, especially as the geographical center of gravity is

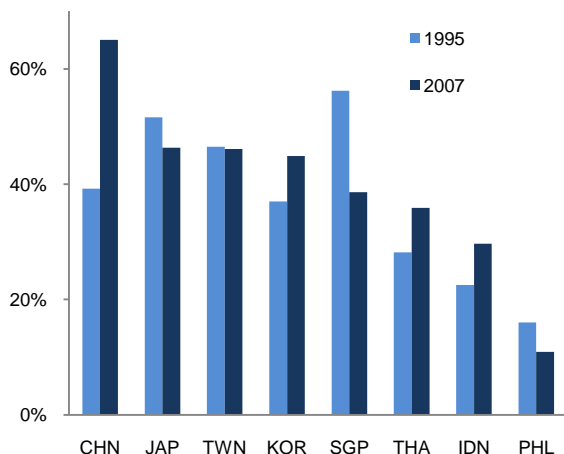
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<sup>41</sup> As some of the pre-crisis investment constituted overinvestment and also going forward a more services-oriented economy requires less capital than one oriented towards heavy industry. For an analysis of Malaysia’s investment rates, see World Bank (2008b, 2009a).

increasingly shifting to China.<sup>42</sup> As labor markets become more globalized in tandem with stronger demand for skilled labor, the cross-border competition for talent is also increasing. All of the above—the competition for trade, FDI and talent—mean that Malaysia’s high-income objective will need to be met in an environment that is significantly more challenging than it was a decade ago. More than ever before, success will be conditional on making progress relative to a rapidly moving frontier, as heightened competition in today’s global marketplace is triggering powerful incentives for countries around the world to innovate and reform.

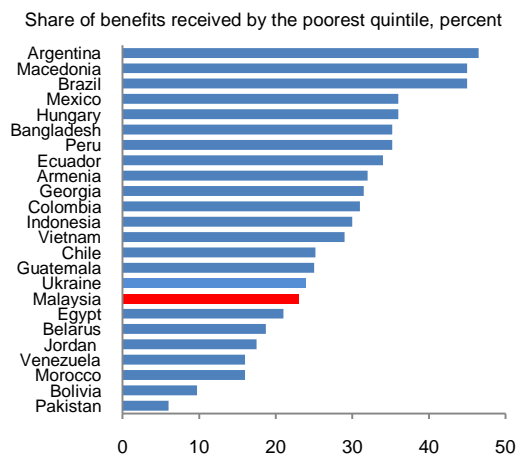
**Figure 2.18. External competition is rising with China**

Overlapping trade value share between Malaysia and selected countries, percent



Source: UN Comtrade; Yusuf and Nabeshima (2009).  
Note: PHL data is for 1996; TWN data is for 1997.

**Figure 2.19. Social protection system needs to be targeted better**



Source: EPU, HIS, World Bank staff calculations.

Directly related to the future transformation of Malaysia’s economy are a number of internal challenges that will need to be managed. For example, with the need to boost skill levels featuring prominently in the reform agenda, it needs to be recognized that raising the knowledge intensity of economic activity may also raise income inequality (as income disparities across skill levels rise). Similarly, in the absence of compensating policies, geographical concentration of economic activity—which is good for productivity—may amplify urban-rural differences as well as leave lagging regions behind. Finally, restructuring the sources of growth to support a more narrowly specialized economy and introducing greater competition in product and factor markets may cause temporary disruptions and dislocations, which if inadequately buffered by social protection systems may result in more long-lasting costs (Figure 2.19).

<sup>42</sup> China accounted for 30 percent of total FDI inflows to developing countries in 2010, according to the new estimates by the Chinese authorities that reportedly measure reinvested earnings by multinationals more accurately.

## Policy Approaches to Strengthen Medium-Term Prospects

Against this general background of strong historical performance, yet large untapped potential and emerging challenges on the horizon, the Government of Malaysia has initiated a comprehensive assessment of the country's requirements for structural reform. The assessment that has emerged articulates well the magnitude of the challenges facing Malaysia and also the urgency to make progress on addressing them.

- *"A new economic model is necessary for Malaysia to progress and join the league of high-income nations. A paradigm shift is required, especially in terms of national economic strategy and public policy. The transformational nature of change requires, in our collective selves, the sense of urgency for change. We need to see the reality for what it is: we are on a burning platform."* (Economic Planning Unit, 2010, p. 7)
- *"Business as usual will not be enough to deliver on the goals of high income, inclusiveness and sustainability. Malaysia is at a critical point in its economic development. There has been a loss of growth momentum over the past decade, and it has become increasingly clear that the historical drivers of growth can no longer be relied on to deliver strong economic outcomes. In an increasingly competitive global economy it is more difficult to generate high rates of economic growth. Growth can no longer be taken for granted, but needs to be earned."* (Pemandu, 2010, p. 60)
- *"Incremental solutions to address considerable legacy problems and intense international competition will not succeed. Malaysia must aim for a 'game change' package that will stimulate growth, whilst at the same time address the long-term structural issues that will take time to resolve."* (National Economic Advisory Council, 2010b, p. 4)

The Government's approach to tackle the medium-term challenges consists of several pillars, which were unveiled consecutively over the last year or so. These pillars remain anchored on Vision 2020, which envisages the transformation of Malaysia into a high-income country by the year 2020. This would bring Malaysia at a per capita income level between USD15,000-20,000 compared to its current level at about USD7,000. This requires growth levels above 6 percent, which if they are to materialize would constitute a marked improvement over the 4.4 percent achieved during the Ninth Malaysia Plan period of 2006-2010.

Four interrelated government programs have been developed to meet the Vision 2020 challenge. The first, 1Malaysia, focuses on building support for a 'People First, Performance Now' concept. The second is the Tenth Malaysia Plan (RMK10), covering the period of 2011-2015 and incorporating macroeconomic and socio-economic targets and development expenditure allocations within a framework of '10 Big Ideas'. In particular it targets a revival of private investment, improvement in productivity and rationalization of the role of the government. The third is the Government Transformation Program (GTP), which aims to improve the efficiency of delivery of government services in six National Key Results Areas (NKRAs). The fourth is the Economic Transformation Programme (ETP), launched October 2010, which aims to structurally transform the macro- and micro-enabling economic environments and catalyze investment in specific sectors of strategic interest.

In what follows, the two transformation programs—GTO and ETP—will be discussed in more detail.

### ***Government Transformation Programme***

The Government Transformation Programme (GTP) seeks to enhance government effectiveness in delivering public services. As part of the reform agenda to achieve Vision 2020, the GTP was first launched in April 2009 and will be implemented in three phases over 2010-2020. The Programme focuses on six key priority areas, or National Key Result Areas (NKRAs), namely reducing crime, fighting corruption, improving student outcomes, raising living standards of low income households, improving rural basic infrastructure, and improving urban public transport. Individual ministers are tasked to lead the NKRAs to ensure accountability of outcomes. There is a set of National Key Performance Indicators (NKPIs) for each NKRA to measure Ministers' performance. Specific targets, typically numerical, are reviewed and adjusted on an annual basis. For example, the Minister of Home Affairs is taking the lead on the Reducing Crime NKRA, with NKPIs such as a five-percent reduction in index crime and a 20-percent decrease in street crime in 2010. Meanwhile, NKRAs are a dynamic concept so they may change as the GTP progresses. Other important areas that are not covered under NKRAs, such as cutting the number of road traffic accidents, are called Ministerial Key Result Areas (MKRAs, 29 in total) with their own Ministerial Key Performance Indicators (MKPIs)

### ***Economic Transformation Programme***

The ETP was introduced after the GTP and consists of two components. The first one is the New Economic Model, which comprises two reports produced by the National Economic Advisory Council delivered in April and December 2010. The New Economic Model addresses Malaysia's cross-cutting bottlenecks and consists of 8 Strategic Reform Initiatives.<sup>43</sup> The NEM sets out policy options to improve the enabling environment so as to achieve the macro targets of the 10MP and Vision 2020.

The second component consists of the National Key Economic Activities (NKEAs), which were discussed in an Open House in the second half of September. The NKEA initiatives represents a bottom-up consultative approach to identifying investment opportunities in support of Malaysia's high-income objective. The intensive NKEA consultations and 'labs' that took place quantified the potential gross national income benefits of projects in different economic areas. This decentralized process involved experts from the private sector, GLCs and public sector. A total of 12 NKEAs were identified including 11 economic sectors — oil, gas and energy, financial services, palm oil, wholesale and retail trade, tourism, E&E, business services, education, communications content and infrastructure, healthcare, agriculture — and one geographic sector — the greater Kuala Lumpur conurbation.

The NKEA projects identified require substantial fixed investment. Within the NKEAs 131 entry point projects (EPPs) were identified, i.e. projects which can be implemented relatively quickly and with sizeable estimated impact on gross national income. A further 60 business opportunities for future investment projects were also highlighted. The investment required over 2011-2020 for the EPPs is estimated to be USD444 billion, of which an estimated 8 percent is from the non-GLC public sector, 32 percent from the GLCs and 60 percent from the private sector. Just over a quarter of the overall figure is planned to come through in the form of foreign investment.

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<sup>43</sup> These include (i) re-energizing the private sector, (ii) developing a quality workforce, (iii) creating a competitive domestic economy, (iv) strengthening the public sector, (v) transparent and market-friendly affirmative action, (vi) building the knowledge-based and infrastructure, (vii) enhancing the sources of growth, and (viii) ensuring sustainability of growth

## Assessment of Medium-Term Outlook and Risks

Relative to the previous issue of the *Malaysia Economic Monitor*, the economic challenges facing Malaysia have come into sharper focus. On the one hand, progress has been made on the implementation side, particularly with respect to the Government Transformation Programme and the NKEA projects under the Economic Transformation Programme. On the other hand, investor sentiment appears to remain skeptical about the prospect of implementation of the measures that tackle the underlying cross-cutting bottlenecks that hold Malaysia back from realizing its full growth potential.

### *Implementation is Progressing, But Skepticism Remains*

Consultations with private sector counterparts in Malaysia and overseas suggest that investor sentiment appears to have warmed up considerably insofar as it concerns the project-based approach under the NKEAs. On this basis, there is a general sense that investment momentum will accelerate within the foreseeable future even if not all of the projects announced are considered to reflect incremental investment relative to what the private sector may have invested anyway.

The GTP has successfully achieved many targets in its first year of implementation. Out of the six NKRAAs, Reducing Crime and Improving Student Outcomes appeared to have moved more quickly than others. All 2010 NKPIs under these two NKRAAs are satisfactorily met. Street crime reportedly came down by 35 percent which was the first reduction in four years, while many more violent crime backlog cases were also cleared. On education, targets for pre-school enrolment, literacy rate, and numeracy rate are fulfilled.<sup>44</sup> In other areas, changes were made to legal and institutional arrangements, where the impact on outcomes are expected to show only over time. For example, under the NKRA of Fighting Corruption, new initiatives include the Whistleblower Protection Act 2010 and the launch of a website that lists details of government contracts and awarded tenders. One NKPI that was not satisfactorily concerned the reduction of poor households by 46,000 in 2010. This partly related to the 2009 poverty incidence estimate, which was not available when the target was being set, turning out higher than previously anticipated.

Several implementation challenges remain for the GTP. The GTP is widely praised for its outcome accountability, commitment from top-level management, broad buy-in within the civil services, reasonably high public engagement, and monitoring and evaluation efforts. Nonetheless, the government has acknowledged several challenges in moving the GTP forward. The most significant one is coordination across government agencies as NKRAAs are inter-agency in nature. Cutting agency-specific red tape (e.g. permits and documentation), enhancing communication strategy, and minimizing duplication of tasks seem to be priorities in this respect. Shortages of some non-financial resources also pose difficulties but this will take time to address, e.g. upgrading the quality of pre-school teachers. Tackling these issues is needed to sustain the success of the GTP. Going forward, targets will become increasingly demanding and outcomes are naturally more difficult to achieve.<sup>45</sup>

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<sup>44</sup> Nevertheless, these targets tend to primarily capture the quantitative aspect of educational achievement. Specific targets on the quality of students based on international standardized test scores are uncommon.

<sup>45</sup> For example, in combating crime, the government has spent disproportionately high resources on selected high-crime areas. Once the crime rate in these areas is down and crime is more evenly dispersed across areas, a sharp reduction in overall crime is harder.

The project-side of the ETP demonstrated notable progress. As of mid-April 2011, the ETP has attracted 72 potential projects that are together estimated to invest RM106.4 billion by 2020 or equivalent to 70 percent of total gross fixed investment in 2010. Government estimates suggest that these projects would generate 298,865 jobs (which is 2.4 percent of the Malaysian labor force). The larger projects in terms of potential income generation (over USD10 billion) include the Kuala Lumpur urban mass rapid transit system and initiatives in solar, semiconductors, aviation maintenance & repair, and energy efficiency-enhancement. The level of commitments in these projects also seems to increase. Out of 131 EPPs, the number of committed projects increased to 21 in March 2011, up from 7 projects in October 2010. The number of 'close to commitment' projects also rose from 12 to 25. So far, the two NKEAs that have attracted higher investment values relative to their targets are Greater KL and Oil, gas and energy. The announced-to-target investment value ratio reached 23 and 13 percent as of mid-April 2011 respectively.

Counterparts, however, remained skeptical about the impact of the cross-cutting reform announcements under the NEM. Most do not price the NEM measures into their medium-term forecasts, considering them instead as upside risk factors. The skepticism observed among counterparts is likely to reflect two issues:

- *The difficulty of the cross-cutting route.* To be successful, the NEM route will require a comprehensive overhaul of policy frameworks, where success may show itself only after a period of many years of steady implementation—for example, there are few quick wins in strengthening the country's education system. The NEM reform agenda is therefore also more difficult to implement.
- *A perceptions issue.* Given the considerable efforts the Government of Malaysia is taking to make the NEM proposals concrete (consider for example the various ongoing labs on the Strategic Reform Initiatives<sup>46</sup>) and enhance the pressure to implement (consider that ministers and ministries have been given specific key performance indicators), there also appears to be a perceptions issue, which could be addressed by enhanced communication.

### ***Tackling Cross-Cutting Issues Remains Crucial***

Given the importance of the cross-cutting policy reforms, the apparent high level of skepticism and the perceptions issue, it is in our view critical that NEM implementation is accelerated. Bolder efforts will be needed to sway investor sentiment and tap into Malaysia's vast unrealized growth potential amidst intensified regional competition.

This view is based on the presumption that the alternative of gradual and incomplete implementation of the NEM is unlikely to reverse the erosion of the internal dynamism and external competitiveness of Malaysia's economy. Two factors will make it likely that Malaysia's economic performance will deteriorate under this scenario:

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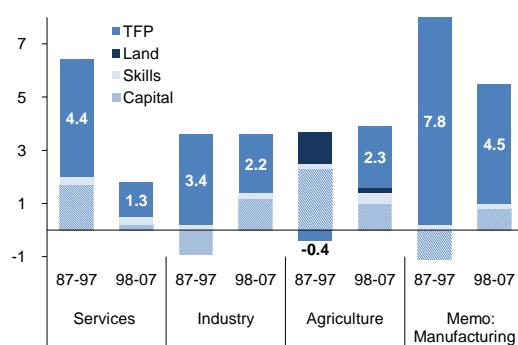
<sup>46</sup> In the past few months, the government has conducted a number of labs attended by various participants from the public and private sectors. These labs sought to gather opinions in order to deliver 51 cross-cutting policy measures announced under the concluding part of the NEM concretely and tangibly.



- *The external factor.* Competition in the region for trade, talent and FDI will likely continue to intensify, as it has over the last decade with the emergence of new economic powerhouses in the region. In addition, Malaysia is chasing a moving frontier, since other countries are implementing reforms. There is, for example, a great similarity between the measures proposed under Malaysia's NEM and the policy directions taken under China's 12<sup>th</sup> Plan.
- *The internal factor.* As argued in World Bank (2010a), the underlying dynamism of Malaysia's economy has weakened in the period following the Asian financial crisis. This is reflected in measures of total factor productivity which slowed significantly, as well as in a broad set of innovation indicators (Figure 2.20). This trend is likely to continue in the absence of an incisive course correction. While it is too early to extract structural trends from recent quarterly developments, there is a concern that Malaysia's recent manufacturing export performance reflects a further weakening of competitiveness.

**Figure 2.20. Productivity gains slowed after the Asia crisis**

Contributions to labor productivity growth of total factor productivity (TFP), land, skills and capital, percentage points



Source: World Bank (2008).

If indeed the structural bottlenecks are less than convincingly addressed, a situation may materialize where headline growth would experience a temporary acceleration on the back of project-related investment growth, but where the economy's underlying growth momentum actually weakens. These concerns are well anticipated and articulated in the concluding part of the New Economic Model:

- *"The 10MP and NKEAs have identified projects that will enhance Malaysian sources of growth. However, these projects will not take off successfully if structural barriers which impede implementation are still in place. Broad-based reforms must be implemented holistically across a range of areas to address foundational issues."* (National Economic Advisory Council, 2010b, p. 14)
- *"The achievement of the NEM's objectives is dependent upon the sustained, effective and wholesome implementation of foundational policy measures underlying all eight Strategic Reform Initiatives".* (National Economic Advisory Council, 2010b, p. 89)

- *“While the NKEAs focus on sectors and industries that will drive economic growth, its initiatives will face the same constraints and obstacles as those attempted in the past unless the foundational NEM SRIs are implemented simultaneously. Similarly, the SRIs themselves are interdependent and must be implemented in a holistic and comprehensive manner.”* (National Economic Advisory Council, 2010b, p. 99)

To support the acceleration of reform implementation, policymakers could consider reprioritizing the reform agenda, refocusing on the critical binding constraints to growth first and attempting to over-deliver on these. The good news is that, in the face of Malaysia’s vast unrealized potential, the critical bottlenecks also present significant opportunities to accelerate growth. In this respect concrete policy actions that support productivity and inclusiveness should attract first priority—at theme that will be echoed in the next Chapter.

### 3. BRAIN DRAIN

*“Malaysia faces an exodus of talent. Not only is our education system failing to deliver the required talent, we have not been able to retain local talent of all races nor attract foreign ones due to poor prospects and a lack of high-skilled jobs.” (NEAC, 2010a, p.60)*

Human capital is the bedrock of the high-income economy. As Malaysia prepares to join the league of high-income nations, it is embarking upon a structural transformation of its economy that relies on skill-intensive and innovation-led growth. Unsurprisingly, the agenda of human capital development has taken center stage in the reform agenda. For Malaysia to meet the requirements of its new growth model, it will need to develop, attract and retain talent.

Against this backdrop, brain drain—or the cross-border migration of talent—poses a specific challenge. If indeed there has been and continues to be an ‘exodus of talent’ as the quote above suggests, the brain drain could well be a major stumbling block in Malaysia’s journey towards high income. Indeed, the outflow of talent does not seem to square with what is needed domestically: a skilled, entrepreneurial and creative labor force that helps propel value added.

Brain drain has long been a subject of debate and controversy, but few studies have characterized the phenomenon in the Malaysian context—be it in terms of magnitude, impact or policy response. As Danny Quah of the London School of Economics remarked in a recent New York Times interview, “people have left, growth prospects have dimmed, and then more people continue to leave... It is a vicious cycle that the economy has had to confront for the last decade or longer” (Gooch, 2010).

These observations alone lead to three sets of questions

- The fact that “people have left” is largely uncontested. But what is the magnitude and intensity of Malaysia’s brain drain, what are its characteristics and for what reasons do people emigrate?
- “Growth prospects have dimmed.” This may be true, but is brain drain a fundamental cause or a symptomatic consequence? Is brain drain necessarily negative? What is the overall impact?
- If indeed brain drain is responsible for “a vicious cycle”, how can Malaysia break out of this cycle? Is there a role for policy? What would these policies consist of?

This Chapter attempts to address these questions in the following sequence. It first places the brain drain in the global context, highlighting that brain drain is far from unique to Malaysia. Next it presents new estimates, based on the latest information available, of the magnitude of the Malaysian diaspora and brain drain. It then examines the economic impact of brain drain, where the significance of Malaysia’s brain drain, the channels of economic impact, and the overall effect on human capital formation are considered. Finally, it offers broad policy suggestions, which are anchored on the underlying determinants of brain drain and distinguish between comprehensive and targeted approaches.

## BRAIN DRAIN AS A GLOBAL PHENOMENON

The latest information on global migrant stocks suggests that 215 million people live outside their country of birth (Table 3.1) (see Box 8 on the definitions of the brain drain).<sup>47</sup> This amounts to about 3 percent of the world's population. The migrant population from developing countries alone totals 171 million, accounting for 80 percent of all migrants. Migration patterns vary significantly across regions (Figure 3.1). South-South migration represents 43 percent of migration originating in developing countries, with the remainder absorbed mainly by OECD high-income economies. Migrants from high-income economies typically migrate to other high-income economies. Interestingly, South-South migration seems to matter much less for countries in East Asia and Latin America, unlike other regions where one third up to two thirds of all migration is to developing countries.

**Table 3.1. Developing countries are the main contributors to global migration**

Global migrant stock estimates, 2010, millions and percentage shares

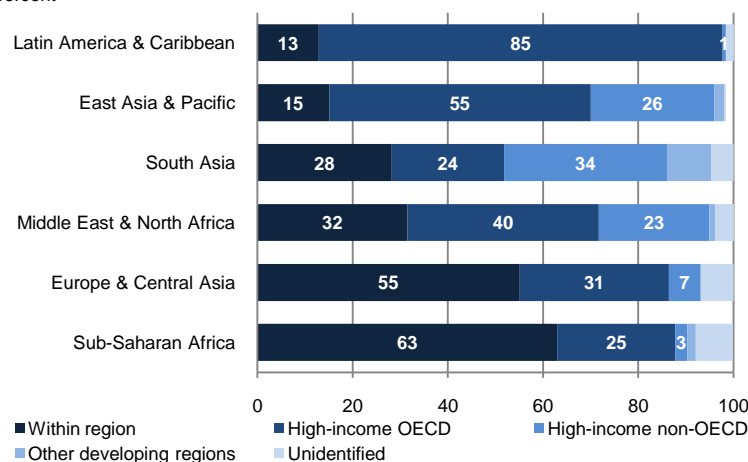
	Migrants living in:			Total
	Developing	High-income OECD	High-income non-OECD	
Migrants from (millions):				
Developing	74.0	73.3	24.2	171.6
High-income OECD	5.1	31.1	1.2	37.3
High-income non-OECD	1.4	5.1	0.3	6.9
Total	80.5	109.5	25.7	215.8
Migrants from (percentage shares):				
Developing	43.1	42.8	14.1	100
High-income OECD	13.6	83.3	3.1	100
High-income non-OECD	20.9	74.1	5.0	100

Source: World Bank (2011c).

<sup>47</sup> Unless otherwise specified, the estimates reported in this first section are based on the World Bank's Migration and Remittances Factbook (see World Bank, 2011). The headline estimate of 215 million as of 2010 compares to an earlier estimate of 191 million (Ratha and Shaw, 2007). The Dumont, Spielvogel and Widmaier (2010) Database on Immigrants in OECD Countries-Enhanced ("DIOC-E") dataset puts the total stock of migrants in OECD countries at about 125 million.

**Figure 3.1. The patterns of migration vary across regions**

Share of migrants from region (vertical axis) to selected group of countries (legend), 2010, percent



Source: World Bank (2011c).

## BOX 8. WHAT IS BRAIN DRAIN?

In line with the approach taken by Carrington and Detragiache (1998), Docquier and Rapoport (2004), and Docquier and Rapoport (2011), brain drain is defined as the emigration of high-skill individuals, where a high-skill emigrant is a foreign-born individual, aged 25 or more, with an academic or professional degree beyond high school (i.e. ‘post-secondary’ or ‘tertiary educated’) at the census or the survey date.

Another working definition of a person classified as a ‘brain drain’, as articulated in Grubel and Scott (1976), is a person who has the “intention of holding permanent employment in a country other than the one in which he was educated up to a specified, high level.” More practically, brain drain simply refers to the migration of highly-skilled workers as measured by their level of educational attainment, typically at the level of Bachelor’s degree or higher.

This Chapter adopts the first definition (i.e., a foreign-born individual, aged 25+ and tertiary-educated at the census or survey date), but it is worth highlighting that this definition poses a number of limitations:<sup>a</sup>

- *Illegal immigration.* The definition does not capture illegal immigration. While illegal immigration could potentially distort the statics, it is unlikely to have a major impact on the data for high-skilled migrants, who have a greater propensity to migrate through conventional, legal channels. In addition, illegal immigration may be rather volatile and some of this volatility in the flows may wash out when considering the stocks of immigrants.
- *Source of education.* The definition assumes that all foreign-born individuals that have obtained an academic or professional degree are included in the brain drain number, irrespective of where their education was acquired. This potentially significant problem may cause the brain drain numbers to be overestimated if migrants obtained their degree at destination, after

migrating. If migrants arrived after having received their education at home, then this is a more serious phenomenon because the home country spent resources educating these individuals but is not reaping the social dividend on their investment in human capital. Corrections based on the date of entry of immigrants, as a proxy for whether education was acquired in the home or host country, may shed light on the magnitude of this bias. Immigrant surveys may provide further insight.

- *Heterogeneity in human capital levels.* The definition equates the notion of high-skill with having obtained an academic or professional degree, but does not make any further differentiation on the actual skill level of the migrant. To put it simply, foreign-born individuals are considered 'brain drain', independent of what they are actually doing in the recipient country and there may be 'brain wastage' as well. Field of study, type of degree, actual occupation and work experience all matter greatly and perhaps more so than the binary consideration whether or not the migrant has a tertiary degree.

Additional complications arise in connection with the measurement of migratory flows more generally:

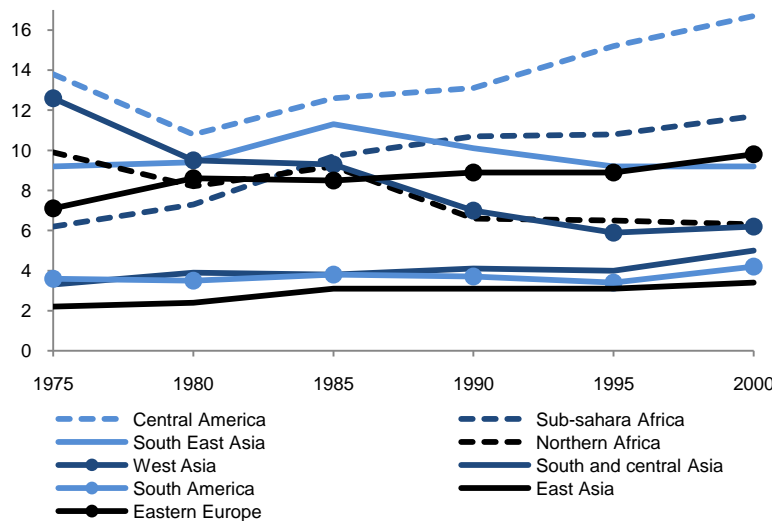
- *Lack of uniformity in data collection.* There is also no uniformity in the practices of various destination countries when it comes to collection of census data. Some countries ask for country of birth while others ask for country of citizenship. This poses particular issues when attempting to compare numbers across countries and also over time, where in some cases a jurisdiction may have switched from collecting country of citizenship to country of birth (such as in the case of Singapore from the 1990 census onwards).
- *Foreign-born migrants versus foreign citizens who are migrants.* Consider a US expatriate of Caucasian ethnicity has a child during her stay in Malaysia and afterwards returns to the US. The child will be counted as a Malaysian-born migrant. Looking at the US census returns for 2000, it seems that the number of such individuals, while not many, is by no means trivial. Out of 49,460 Malaysian-born migrants, 3,335 were not of Asian ethnicity. In other words, 6.7 percent of the stock of Malaysian-born migrants in the US were not considered 'migrants' in the sense of ethno-cultural transition to a different country.

*Note:*

<sup>a</sup> The discussion draws upon Docquier and Rapoport (2011) and Docquier and Marfouk (2006).

**Figure 3.2. The evolution of migration also differed across regions**

Emigration rates of high-skilled 25+ olds to six main receiving OECD countries, percent



Source: Defoort (2008).

Zooming in on a subset of the world's migrants (namely those aged 25+ and migrating to OECD countries), Table 3.2 and Figure 3.2 show the evolution of the intensity of high-skill emigration across country groups over the period 1990 to 2000. A number of interesting conclusions emerge:<sup>48</sup>

- While migrant stocks have been on the rise everywhere, the intensity of brain drain—as measured by the emigration rate—has not necessarily increased as much. This may be explained by improvements in educational attainment, since the emigration rate of high-skill labor compares the stock of high-skill migrants abroad with the stock of high-skill residents before migration.<sup>49</sup>
- Emigration rates are the highest in middle-income countries, which have both the incentive and the means to migrate. High-income and low-income countries have typically lower rates, even if the rate of brain drain seems to have picked up significantly for low-income countries. Lower rates would be expected for high-income countries as incentives would be less strong. For low-income countries financial and human capital constraints may make emigration less likely.
- Geographically, the regions most affected by brain drain are the Caribbean, the Pacific, sub-Saharan Africa and Central America. Within Asia, the brain drain is most pronounced in Southeast Asia.

<sup>48</sup> Docquier and Rapoport (2011).

<sup>49</sup> Defoort (2008). Recent research on high-skill migration to six major destination countries (USA, Canada, Australia, Germany, UK and France) between 1975 and 2000 suggests that migration rates increased for all education categories but that general improvements in educational attainment have reduced selection biases around the world.

**Table 3.2. High-skill emigration has been on the rise worldwide**

Emigration stocks and rates to OECD countries of emigrants aged 25+

	Total stock		Share of high-skill		low-skill		Emigration rate of high-skill	
	1990	2000	1990	2000	1990	2000	1990	2000
World	41,996	58,619	29.9	35.0	1.3	1.3	5.1	5.5
<i>By income group:</i>								
High-income	18,206	19,890	31.7	39.9	3.9	3.6	4.0	3.9
Upper-middle income	9,166	15,403	22.2	24.3	2.7	3.6	5.5	6.2
Lower-middle income	9,884	15,586	31.8	36.6	0.8	0.9	8.1	8.1
Low-income	3,554	6,499	37.5	45.3	0.3	0.3	5.5	7.6
<i>By region:</i>								
Africa								
Northern Africa	1,705	2,306	15.3	20.2	2.6	2.6	9.3	7.9
Sub-Saharan Africa	1,209	2,158	39.7	43.6	0.3	0.4	13.2	12.8
Americas								
Caribbean	1,955	3,011	35.4	38.2	8.2	10.4	44.0	43.0
Central America	3,487	8,051	17.3	17.1	7.3	12.1	13.7	17.1
South America	1,577	2,904	39.9	39.8	0.5	0.7	4.8	5.1
USA and Canada	1,427	1,537	50.3	61.9	1.9	2.3	1.0	0.9
Asia								
Eastern Asia	2,647	4,128	48.5	54.6	0.2	0.2	3.7	4.1
South-Central Asia	2,070	3,691	43.1	52.1	0.2	0.2	3.9	5.3
South-Eastern Asia	2,584	4,363	46.2	49.3	0.6	0.7	10.8	9.8
Middle East	2,204	3,202	20.3	23.2	3.4	3.6	9.8	8.4
Europe								
Eastern Europe	3,633	4,457	24.0	35.4	3.2	2.5	3.6	4.5
Western Europe	15,859	16,908	25.3	31.5	5.7	5.4	8.9	8.9
Oceania								
Australia and NZ	383	564	43.3	51.9	1.9	2.1	4.3	5.7
Pacific Islands	141	228	38.7	37.9	2.7	3.1	61.2	52.3

Source: Docquier, Lowell and Marfouk (2009).

Note: High-skill refers to college graduates.

Brain drain is widely credited as a facet of globalization. But to what extent is this true?

- Compared with the cross-border flow of trade and capital, globalization has had little effect on the migration of people. Over the period 1960-2000, the international migrant population rose at the same pace as the world's population, with the world emigration rate rising only from 2.5 to 2.9 percent and this was mostly explained by the break-up of the Soviet Union. In contrast, world trade to GDP tripled over the same period, whereas FDI to GDP tripled just in the 1990s.<sup>50</sup>

<sup>50</sup> Docquier (2011) and Ozden et al. (2011).



- The picture completely changes if we focus the cross-border flow of skilled people— brain drain. Table 3.2 points to a stock of 20 million highly skilled migrants in 2000 who are educated at tertiary level, were born abroad and now live in the OECD countries. Compare this to 1990: the stock back then was only 12 million. This fast growth of 70 percent occurred over the span of a single decade, at about double the rate of increase of low-skilled migrants.<sup>51</sup>

## MAGNITUDE OF BRAIN DRAIN

Clearly the brain drain is by no means unique to Malaysia, but how large is it then? What is the magnitude of Malaysia's diaspora—the worldwide assortment overseas of men, women and children born in Malaysia? How many among them are skilled and can be considered as part of the brain drain? These are the questions that this section will attempt to address.

Estimating the magnitude of Malaysia's diaspora and brain drain is a complex undertaking. Over the last decade significant progress has been made in statistical efforts to document the cross-border flow of people and skills. In spite of this, international migration data remains spotty and imprecise, particularly compared to data on capital and trade flows. Underreporting of irregular migration, reporting lags in census data, and cross-country variations in the very definition of a migrant all affect the quality, availability, timeliness and comparability of the data. Statistical discrepancies remain an important limiting factor.

Given these complexities, quantifying Malaysia's diaspora and brain drain with a single point estimate would convey a false sense of precision. Instead, this chapter provides a ball-park range for extent of the diaspora and brain drain and it also provides a judgment as to which numbers are more likely than others. The estimates are constructed along the following steps:

- *A first glance at the data.* We first examine the numbers as they come in directly from national statistical offices and other reputable sources. Based on these, we measure the size of the Malaysian diaspora and brain drain, its key characteristics, and the evolution over the past three decades. We provide an updated picture on the basis of the most recent information available, including Singapore's census results which were released early 2011. The estimates derived in this way serve as a baseline for further analysis.
- *Scenario-based estimates.* Further analysis is required because of two critical missing pieces in the puzzle: first, the evolution of migrant stocks between the latest data release and 2010; and second, the share of Malaysian-born individuals in Singapore's nonresident population which makes up a quarter of Singapore's population. To address these gaps in our understanding, we extrapolate the latest numbers to 2010 using an assumption of moderate growth. We also construct scenarios to provide a structured and transparent view on the 'known unknowns' about Singapore's nonresident population. Based on these scenarios we arrive at a range of estimates of the diaspora and brain drain—worldwide and current as of 2010.

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<sup>51</sup> Docquier and Rapoport (2006).

## A First Glance at the Data

In what follows, we present the data as it presents itself—from national statistical authorities and alternative reputable sources. We first discuss the overall diaspora, disregarding the skill composition of migrants. Following this, we present the results on brain drain, zooming in on the subset of skilled migrants.

### *Diaspora Is Large, Mainly Concentrated in Singapore*

Table 3.3 provides a snapshot overview of the Malaysian diaspora—the full overview is presented in Appendix A. The table shows eight countries and lumps the other twenty-four countries for which we collected data into a residual category. The information is presented at decade intervals, starting in 1980. Most countries have information available up to 2000, as the 2010 census is still ongoing for most countries. However, some (most notably Singapore) have already completed this and others provide intermediate data based on by-censuses and surveys. In what follows, the aggregate numbers are analyzed according to two types of country samples: the balanced sample is for comparisons over time (including only countries that have data for the full 1980-2000 period); the unbalanced sample is for analysis within a year (including all countries reporting data for that year).

**Table 3.3. The Malaysian diaspora is spread out around the world, but concentrated in Singapore**

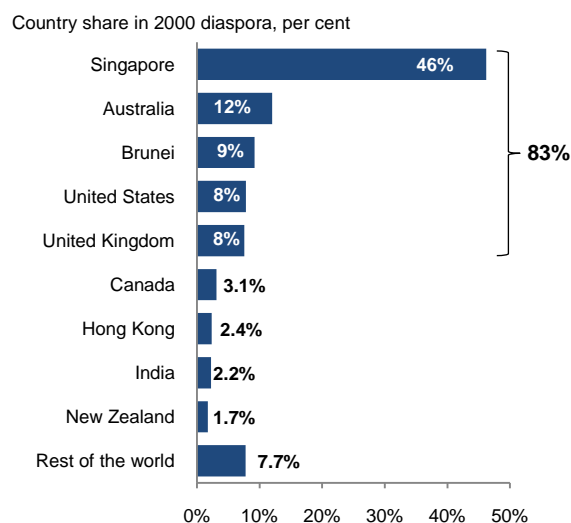
Size of the diaspora (age 0+), by country of destination and over time, numbers

	Historical series			Most recent	
	1980	1990	2000	value	year
Balanced sample total	285,623	431,292	611,809	..	..
Unbalanced sample total	286,102	452,109	657,574	..	..
Singapore (residents only)	120,104	194,929	303,828	385,979	2010
Australia	31,598	72,628	78,858	92,334	2006
Brunei	37,544	41,900	60,401	60,401	2000
United States	11,001	32,931	51,510	54,321	2005
United Kingdom	45,430	43,511	49,886	61,000	2007
Canada	5,707	16,100	20,420	21,885	2006
Hong Kong	..	12,754	15,579	14,664	2006
India	23,563	11,357	14,685	14,685	2001
New Zealand	3,300	8,820	11,460	14,547	2006
Other countries	7,855	17,179	50,947	..	..

Source: United Nations Population Department (UNPD) International Migration Database, Ozden, Parsons, Schiff and Walmsley (OPSW, 2011) and National Statistical Offices. See Appendix A for details.

Note: Complete dataset in Appendix Table A1. Diaspora refers to the stock of Malaysian-born migrants, regardless of skill profile. This table shows the diaspora numbers for those aged 0+. Balanced sample consists of all countries that have data for 1980, 1990 and 2000 (this should be used for comparison over time). Unbalanced sample is the simple in-year total. Data is based on country of birth, except for Singapore (1980). Observations for 1980 and 1990 may be of one year earlier or later depending on census. Entries in 2000 for Australia, Hong Kong, India, New Zealand and United Kingdom are as of 2001. The 2007 observation for United Kingdom is a survey estimate.

**Figure 3.3. In 2000, the five largest destination countries hosted 80 percent of the diaspora**



Source: Appendix Table A1 and World Bank staff calculations.  
Note: Rest of the world consists of all countries listed in the previous Table. For Singapore, resident population only.

**Table 3.4. Brisk growth in 1980s was followed by a decade of slower, but still strong, growth**

Annualized growth in migrant stock by destination, percent

	1980-1990	1990-2000
Balanced sample total	4.2	3.6
United States	11.6	4.6
Canada	10.9	2.4
New Zealand	10.3	2.7
Australia	8.7	0.8
Singapore	5.0	4.5
Brunei	1.1	3.7
United Kingdom	-0.4	1.4
India	-7.0	2.6
Other countries	2.1	8.6

Source: Appendix Table A1 and World Bank staff calculations.  
Note: Total refers to the balanced sample of countries for which data is available 1980 through 2000: countries shown and other countries (China, Germany, Indonesia, Pakistan, Sweden and Vietnam). Together they make up 93 percent of the world total.

A first observation from this overview is that the Malaysian diaspora is not only significant but also highly concentrated (Table 3.4 and Figure 3.3). The (unbalanced) sample total for 2000—which is the most recent year where information is consistently available across countries—indicates a diaspora of 657 thousand people. As of that year, Singapore alone represented 46 percent of the worldwide diaspora—and this accounts for just the Malaysian-born migrants that are registered as Singapore residents. The distant second is Australia, accounting for 12 percent, and the third spot is shared by Brunei, the United Kingdom and the United States, each with a share of about 8 percent. The five top destinations alone account for 83 percent of the entire diaspora.

### ***After Brisk Growth, Migration Momentum Slowed***

A further observation is that not only the numbers are large and concentrated, the diaspora has also expanded rapidly over time, even though momentum has decelerated somewhat (Table 3.5). The decade-on-decade growth numbers suggest the diaspora expanded rapidly in the 1980s and the 1990s at annualized rates of 4.2 and 3.6 percent, respectively. The diaspora in 1990 was some 50 percent larger than it was in 1980. This growth continued, although at a slightly slower pace, and in 2000 the diaspora was some 40 percent larger than it was in 1990.

These aggregates mask some remarkable fluctuations in the composition of the diaspora. The United States, Canada, New Zealand and Australia rose to prominence in the geographical reach of the diaspora, at 10-percent annual growth for a whole decade during the 1980s and outpacing Singapore by a considerable margin. In the 1990s, however, that pace slowed to more sustainable rates, even though it is still high for some. Growth in Singapore's resident migrant population, on the other hand, remained quite stable over these historical periods, growing at around 5 percent per year. These differential trends explain why Singapore's share in the diaspora fluctuated between 41 and 46 percent over these decades.

**Table 3.5. Migration to New Zealand, UK and Australia accelerated in 2000s, but slowed to Singapore**

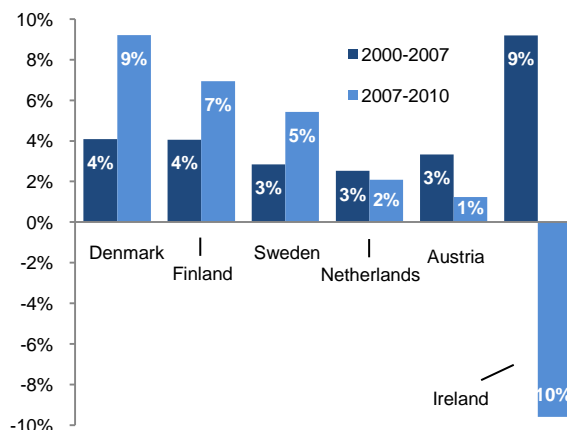
Annualized growth in migrant stock by destination, percent

	1980-1990	1990-2000	2000-latest
New Zealand	10.3	2.7	4.9
United Kingdom	-0.4	1.4	3.4
Australia	8.7	0.8	3.2
Singapore	5.0	4.5	2.4
Canada	10.9	2.4	1.2
United States	11.6	4.6	1.1
Hong Kong	..	2.0	-1.2

Source: Appendix Table A1 and World Bank staff calculations.  
Note: Periods for recent growth rates vary: 2000-05 for the United States, 2000-06 for Canada, 2001-06 for Australia, Hong Kong and New Zealand, 2001-07 for the United Kingdom and 2000-2010 for Singapore.

**Figure 3.4. Higher-frequency data for mainly smaller countries points to mixed effects of crisis**

Annualized growth in migrant stock by destination, percent



Source: Appendix Table A1 and World Bank staff calculations.  
Note: Different dates for Austria (2001-2007 and 2007-2009) and Ireland (2002-2006 and 2006-2010).

How did migration momentum evolve over the most recent period of the 2000s? We unfortunately do not have a comprehensive picture, but the recent information available is representative enough given that Singapore has released its 2010 census and the other main destination countries report intermediate data during the second half of the decade.<sup>52</sup> Table 3.5 is instructive in this respect. Importantly, growth momentum has slowed in Singapore—which is based on information spanning the full decade. Yet, for New Zealand, United Kingdom and Australia momentum picked up significantly. Canada and the United States, however, saw a deceleration.

Did the recent global and financial crisis affect migration momentum? This is an even harder question to address given the data constraints. However, we can shed some light on the issue by examining the time series of migration to a number of European countries which collect data on migrant stocks by country of birth on a higher-frequency basis (given the small sample sizes, results may not be representative). Considering the pre-crisis period of 2000-2007 and the crisis-period 2007-2010, Figure 3.4 suggests a mixed picture. Scandinavian countries, some of whom registered negative growth in the late 2000s, attracted more during the crisis-period—although admittedly from a low base. Austria and the Netherlands registered the slowdown one would expect. Ireland, which was also the most affected country in the sample, saw rapid pre-crisis growth completely reversed.

<sup>52</sup> Given that the recent information is not available at one common date, no common sample is constructed.

**Table 3.6. The brain drain is spread around the world, but concentrated again in Singapore**

Size of the diaspora and brain drain (both age 25+), by country of destination and over time, numbers

	1990		2000		2010	
	Diaspora	Brain drain	Diaspora	Brain drain	Diaspora	Brain drain
Balanced sample total	347,403	99,306	479,064	164,884	..	..
Unbalanced sample total	347,403	99,306	524,613	184,121	..	..
Singapore (resident only)	185,906	19,005	286,048	66,452	350,672	121,662
Australia	44,984	35,366	56,961	38,620	..	..
United States	17,725	13,745	36,994	24,085	..	..
United Kingdom	31,130	15,328	38,147	12,898	..	..
Canada	12,150	8,480	17,150	12,170	..	..
Brunei	49,439	3,142	36,216	6,438	..	..
New Zealand	6,069	4,239	7,548	4,221	..	..
Other countries	..	..	45,549	19,130	..	..

Source: SingStat (2011), Docquier, Marfouk, Özden and Parsons (2010), and Docquier, Lohest and Marfouk (2007).

Note: Complete data set is provided in Appendix Table A2. Diaspora refers to the stock of Malaysian-born migrants, regardless of skill profile. This table shows the diaspora numbers for those aged 25+. Brain drain refers to the stock of tertiary educated Malaysian-born migrants, aged 25+. Total skilled migrants in Singapore aged 25+ (121,662) is based on tertiary educated resident nonstudents aged 15+. This assumes that the 15-24 year old age group has not (or not yet) completed tertiary studies.

### ***But Brain Drain Was Magnified by Changing Patterns in Skill Selectivity***

If the diaspora is large, concentrated and expanding, what does this imply for brain drain?

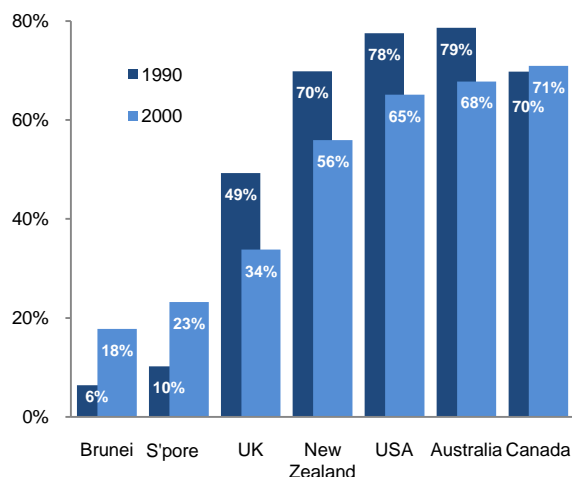
Table 3.6 provides the information available on skilled migration—the full overview is again available in Appendix A. The data presented here concerns the population that is 25 years old and above—the category commonly considered in the brain drain literature.<sup>53</sup> Note that the data reported from the sources referenced in the table above is also for the 25+ category, whereas in remainder of this Chapter the 0+ category is used. The table presents the 1990 data for seven countries (the key destination countries), the 2000 data for a larger group of twenty-six countries (full set in appendix) and the 2010 data for Singapore based on the recent census. The balanced sample consists of the seven countries reported in the table.

A few observations stand out when examining the aggregate numbers. It appears that the brain drain is not overwhelmingly large, especially when compared to the overall size of the diaspora. As of 2000, there were some 184 thousand tertiary-educated individuals among the 25+ population that at some point left Malaysia. Thus, about a third of the 25+ diaspora in 2000 can be considered as brain drain. During the 1990s, migration became more skill-intensive: the share of skilled migrants from 28.5 percent in 1990 to 34.2 percent in 2000 (using the balanced sample numbers). The absolute stock of skilled migrants rose rapidly, at 5.2 percent annually, which led to a 60 percent overall increase on the decade.

<sup>53</sup> The group aged 25+ thus excludes students who temporarily moved abroad to complete their studies. If the objective is to analyze the economic impact of migration, focusing on the 25+ group is appropriate since this group correlates well with the economically active part of the population.

**Figure 3.5. In traditional diaspora destinations, skill intensities are low, but catching up quickly**

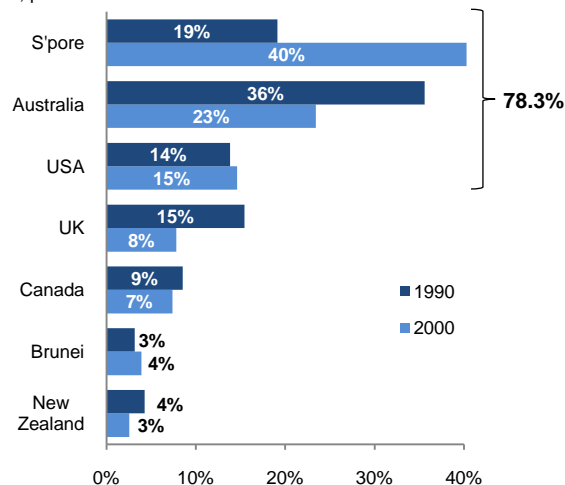
Share of skilled migrants at destination in total migrants at destination, 25+, percent



Source: Appendix Table A2 and World Bank staff calculations  
 Note: The latest observation for Singapore is 35 percent in 2010.

**Figure 3.6. Despite low skill intensity, Singapore accounts for most of the brain drain**

Share of skilled migrants at destination relative to total skilled migration, 25+, percent



Source: Appendix Table A2 and World Bank staff calculations.  
 Note: Aggregate is for 2000 value.

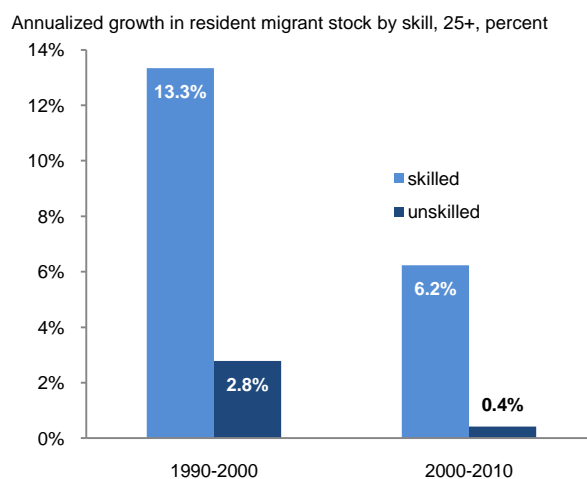
A number of noteworthy patterns emerge when looking underneath the aggregates (Figure 3.5):

- Skill intensity varies widely across destinations. Malaysian-born migrants in Brunei and Singapore are generally low-skilled, with only about a fifth of them tertiary. The low skill shares for Brunei and Singapore are what one might expect: more well-developed diaspora communities typically serve as a basin of attraction for lower-skilled migration—a result observed around the world. The results for Brunei and Singapore can be contrasted with those for OECD countries, where the skill intensity of migration is higher and ranges to levels around 70 percent.
- Skill shares evolved differently across destinations. For OECD countries there has generally been a decrease in the share of skilled labor, which means that low-skilled migrant stocks have risen more quickly. For Brunei and Singapore, the opposite results obtains, where migration is becoming more skill selective. This suggests that there is a degree of convergence in the skill-intensity of migratory patterns between OECD countries and the diaspora communities in Brunei and Singapore.<sup>54</sup>

Singapore is the main magnet for skilled migrants out of Malaysia, but this has not always been the case (Figure 3.6). Because of the large difference in skill intensity in 1990, Australia was the top destination country for skilled migration. However, as the skill intensities subsequently converged, skilled migration to Singapore saw an enormous increase. As a result, Singapore came to account for 40 percent of all the brain drain as of 2000, a marked increase from the 19 percent share a decade earlier. Therefore, as with the diaspora, brain drain is concentrated in just a few destination countries. Singapore, Australia and the United States account for almost 80 percent of the brain drain.

<sup>54</sup> The low skill share of the United Kingdom may be related to historical ties that have led to a significant diaspora community. It comes as a surprise however that the skill intensity did not increase.

**Figure 3.7. Migration to Singapore has recently slowed, but the rate of skilled migration remains high**



Source: Appendix Table A2 and World Bank staff calculations  
 Note: Rate of brain drain measured by growth of skilled migrant stock.

How has the rate of brain drain evolved? Unfortunately we only have one data point: Singapore. From Figure 3.7, it is clear that skilled migration continues to outpace unskilled migration by a significant margin. Even if skilled migration decelerated to half the pace observed in the 1990s, it remained very strong in the 2000s—at about 6 percent annual growth sustained over the decade. Unskilled migration decelerated much more quickly to about one seventh the pace of the 1990s. This large divergence means that skill intensity of the Malaysian diaspora in Singapore continued its ascent—from 10 percent in 1990 and 23 percent in 2000 to 35 percent in 2010. The brain drain is thus being magnified by rising skill selectivity. Box 9 highlights the profile of the Malaysian diaspora in Singapore.

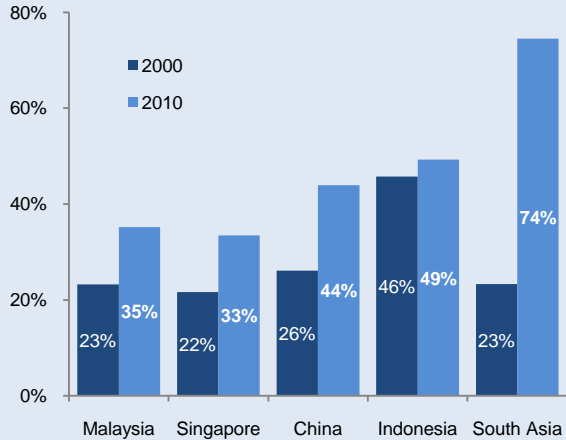
### BOX 9. THE MALAYSIAN DIASPORA IN SINGAPORE: A 2010 CENSUS PROFILE

Singapore's 2010 census sheds light on the age and skill profiles of the Malaysia-born resident immigrant population—the nonresident population will be discussed later on this Chapter. The data reveals that 35 percent of Malaysian-born residents are tertiary-educated—which refers to universities, polytechnics, and other tertiary institutions conferring professional qualifications and other diplomas (Figure 3.8). This is relatively low compared to other foreign-born resident immigrants, particularly from South Asia. However, compared to Singapore-born residents, this is roughly comparable. Despite the low share of skilled among the Malaysian-born, they still contribute many skilled residents to the Singaporean economy. Indeed, some 47 percent of all skilled foreign-born residents were born in Malaysia (Figure 3.9).

Compared to a decade ago, when the 2000 census was done, the share of the tertiary-educated seems to have increased across the board. This is particularly noticeable among residents born in South Asia. The rise in educational qualification reflects partly the structural transformations Singapore has undergone towards the knowledge-driven economy. This trend is confirmed in the share of foreign-born residents with tertiary education by year of first arrival—i.e. more recent arrivals are more highly skilled than those who arrived in the more distant past (Figure 3.10).

**Figure 3.8. The share of Malaysian-born residents educated post-secondary is relatively low, but rising**

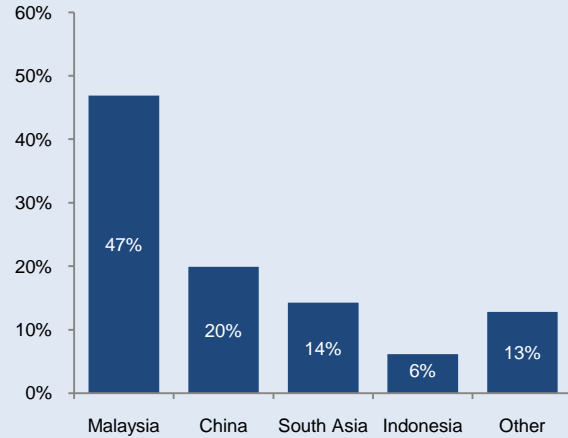
Share of tertiary-educated among resident non-students in Singapore aged 15+, within county of origin, 2000-2010 (percent)



Source: SingStat (2010).  
 Note: China statistics include Hong Kong SAR and Macao SAR. South Asia includes India, Pakistan, Bangladesh and Sri Lanka.

**Figure 3.9. Yet, Malaysia-born residents still make up a large share of skilled born outside Singapore.**

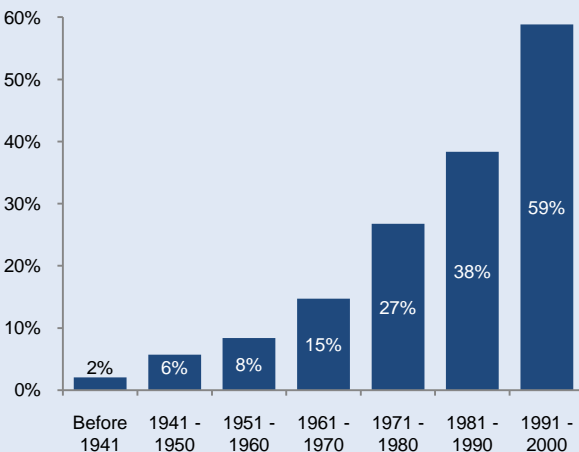
Share of tertiary-educated by country of birth in total foreign-born resident non-student population in Singapore aged 15+, 2010 (percent)



Source: SingStat (2010).  
 Note: China statistics include Hong Kong SAR and Macao SAR. South Asia includes India, Pakistan, Bangladesh and Sri Lanka.

**Figure 3.10. Educational standards among fresh arrivals are now much better than they used to be**

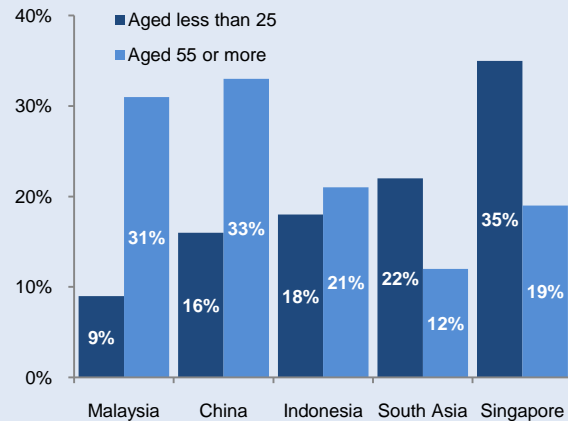
Share of tertiary-educated non-students aged 15+ born outside Singapore by year of first arrival (percent)



Source: SingStat (2010).

**Figure 3.11. The share of Malaysian-born residents aged 55 and over is relatively high**

Share of age group within residents of selected country of origin, 2010 (percent)



Source: SingStat (2010).  
 Note: China statistics include Hong Kong SAR and Macao SAR. South Asia includes India, Pakistan, Bangladesh and Sri Lanka.

The age profile for Malaysian-born resident is tilted towards the age 55-and-over category; the same pattern holds for China (Figure 3.11). The share of youngsters is low among Malaysian-born residents. This is likely related to the long history of migration from Malaysia and China to Singapore.



## Scenario-Based Estimates

Based on the information available, the previous part established a common baseline estimate for the magnitude of Malaysia's diaspora and brain drain. In what follows, we refine this baseline by considering ways to deal with two missing pieces of the puzzle:

- What are the stocks of Malaysian-born skilled and unskilled migrants as of 2010? For most countries information on the size of the diaspora is not up-to-date. For all countries, except Singapore, information on the skills break-down is missing.
- How significantly represented is the Malaysian diaspora and brain drain among the nonresident population of Singapore? The nonresident population in Singapore is large, but no information is available on the composition of the nonresidents.

To deal with these uncertainties, we extrapolate the baseline estimates to 2010 with an assumption of moderate growth. We also construct scenarios to estimate the likely magnitude of Malaysian-born nonresidents in Singapore. Based on these two extensions, we present estimates for the worldwide diaspora and brain drain as of 2010

### *Estimates Are Extrapolated to 2010 on the Basis of Moderate Growth*

Two further steps are required to estimate the 2010 diaspora numbers. First, we need to incorporate the most recent information that has been released already. As mentioned, most of the important destination countries have more recent information than 2000 and Singapore has released the 2010 data. Second, we need to extrapolate the latest information available into a 2010 number based on certain growth assumptions. This growth assumption is applied throughout the entire decade for those countries that report data only for 2000. In cases where we have more recent information, the growth assumption is applied to the rest of the decade.

In what follows, the numbers are extrapolated on the basis of a 2.4 percent growth rate. This number is motivated by several factors. First, resident migrants stocks in Singapore grew at this rate. Second, the most recent data available suggests that other destination countries have grown, on average, at a rate close to 2.4 percent. There has been some marked variation in growth patterns among these other destination countries—a point that will be discussed later—but this largely averages out and settles at a rate close to the assumed growth rate.

Estimating the 2010 brain drain requires additional manipulations. The first is to transform the 0+ diaspora estimate for 2010 into a 25+ estimate. Here we make a conservative assumption of a 75 percent scale factor (share of 25+ in 0+). This assumption is based on the information we have as of 2010 for Singapore (scale factor of 90.9 percent), 2006 for Australia (74.9 percent) and 2005 for the United States (85.5 percent). We choose the lowest among these, so as not to bias the results upwards. The second is to transform the 25+ diaspora population into the 25+ skilled diaspora population (brain drain). Here take advantage of the observed 25+ skill shares for 2000. It is thus assumed that over the course of the decade the skill share did not increase, which again is likely to bias the estimates to the downside.

**Table 3.7. Diaspora and brain drain estimates are extrapolated through 2010**

Size of the diaspora (age 0+) and brain drain (age 25+), by country of destination and over time, numbers

	Diaspora		Brain drain	
	2000	2010	2000	2010
Balanced sample total	639,896	808,018	184,014	276,558
Unbalanced sample total	657,574	827,387	..	..
Singapore (residents only)	303,828	385,979	66,452	121,662
Australia	78,858	101,522	38,620	51,556
United States	51,510	61,160	24,085	34,045
United Kingdom	49,886	65,498	12,898	16,609
Canada	20,420	24,063	12,170	12,807
Brunei	60,401	76,567	6,438	10,208
New Zealand	11,460	15,995	4,221	6,708
Other countries	81,211	96,602	19,130	22,962

Source: Docquier, Marfouk, Özden and Parsons (2010), Docquier, Lohest and Marfouk (2007), and World Bank staff calculations and simulations.

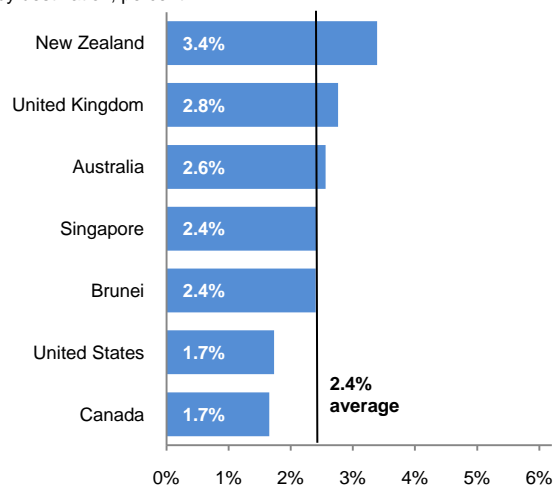
Note: Complete data set is provided in Appendix Table A3. Diaspora refers to the stock of Malaysian-born migrants, regardless of skill profile. This table shows the diaspora numbers for those aged 0+. Brain drain refers to the stock of tertiary educated Malaysian-born migrants, aged 25+. Diaspora projections based on constant annualized growth assumption of 2.4 percent following most recent observation through 2010. Brain drain projections based on constant 2000 skill shares and 0.75 scale factor (migrant stock age 25+/age 0+). Balanced sample = countries shown + China, Egypt, France, Germany, India, Indonesia, Ireland, Italy, Japan, Netherlands, Pakistan, Philippines, South Africa, Sweden, Switzerland, Taiwan, Thailand and Vietnam. Unbalanced sample = balanced sample countries + Austria, Denmark, Finland, Hong Kong, Norway, South Korea, Spain and Turkey. 'Other countries' includes the group of Austria to Turkey for total diaspora estimates, but not for brain drain estimates due to lack of information on skill shares.

Table 3.7 presents the results of the extrapolation exercise for both the diaspora and brain drain—with the full results again presented in Appendix A. The table shows the estimated 2010 magnitude of Malaysia's diaspora and brain drain for seven key destination countries. The full sample consists of 26 additional countries for the diaspora estimates and 18 countries for the brain drain estimates. Note that the diaspora results are presented in terms of the population aged 0+ (i.e., the entire population), since this is the common basis in which the data is collected for most of the diaspora countries. The brain drain estimates however apply to the 25+ population, in line also with earlier presentations of the data.

How large was the diaspora in 2010? Extrapolating the data to 2010 raises the total migrant stock by a significant amount. The (unbalanced) sample total for 2010 is estimated at 827 thousand, which should be close to reality if indeed growth occurred at a relative moderate pace (relative to previous decades) for those countries where recent information is missing. The growth rate for the diaspora is 2.4 percent, which lies well below the numbers we have seen for earlier periods (4.2 percent in the 1980s and 3.6 percent in the 1990s). This 'estimate' is hardly surprising since the number is influenced by Singapore's observed growth rate of 2.4 percent and the number is also based on an assumed growth rate of 2.4 percent for countries where no information is available. However, for those countries where recent information is available, there are some divergent patterns (Figure 3.12). New Zealand, the United Kingdom, and Australia continued to register rapid growth, but Canada and the United States registered a slowdown. This may reflect a reorientation in the geographical reach of the diaspora.

**Figure 3.12. Diaspora estimates suggest New Zealand, UK and Australia grew the fastest in 2010**

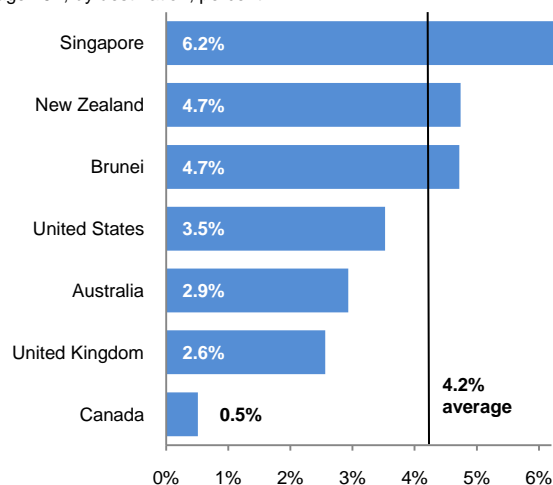
Estimated annualized growth over 2000-2010 in total diaspora, age 0+, by destination, percent



Source: World Bank staff calculations  
Note: Singapore numbers for resident population only.

**Figure 3.13. Brain drain continued to grow rapidly in Singapore and other destinations**

Estimated annualized growth over 2000-2010 in skilled migrant stocks, age 25+, by destination, percent



Source: World Bank staff calculations  
Note: Singapore numbers for resident population only.

How large was the brain drain in 2010? The brain drain continues to grow through 2010 in the extrapolated scenario. Skilled migration grows from 184 to 276 thousand, at 4.2 percent—a much higher pace than total migration. Interestingly, Singapore grows the fastest (actual data), followed by New Zealand, Brunei and the United States (estimates) (Figure 3.13). Except for Singapore, this growth derives mainly from a rise in the diaspora, not a rise in skill intensity which was pinned down at the 2000 level.

Brain drain estimates for individual countries are sensitive to assumptions. Brunei is a case in point. The Malaysian diaspora in Brunei in 2010 would be lower if the 2000 estimate of 60 thousand were too high, the growth after 2010 would have been lower than the assumed sample average growth rate of 2.4 percent (compared to 1.1 percent in the 1980s and 4.0 percent in the 1990s) the skill share would have dropped after 2000 (relative to 6 percent in 1980 and 18 percent in 2000), or the scale factor of 25+ to 0+ year-old would have been below the assumed sample average of 75 percent. Some of these conjectures may be likely, but others are not—cancelling out some of the bias. More importantly, such biases may wash out in the aggregate when the entire sample of countries is considered.

### ***Extent of Nonresident Diaspora in Singapore Could Surprise on the Upside***

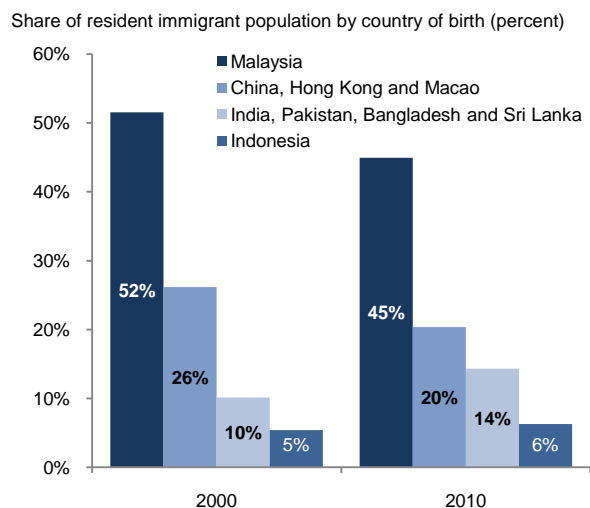
A second missing puzzle concerns Singapore's nonresident population which has risen rapidly over the last decade and which may constitute a significant portion of the Malaysian diaspora and brain drain. However, the analysis of Singapore's nonresident population is impaired by the lack of information published on the characteristics of this nevertheless important segment of the population.<sup>55</sup> To remedy this, we construct a number of scenario-based estimates, which should give a feel for the data.

<sup>55</sup> The World Bank submitted a data request to Singapore, but the response was that the data is not available.

**Table 3.8. Singapore's population comprises of an important and rapidly rising share of nonresidents**

Stocks in thousands and share in percent				
	1980	1990	2000	2010
<b>Stocks</b>				
Total population	2,414	3,047	4,027	5,076
Residents	2,282	2,735	3,273	3,771
Citizens	2,194	2,623	2,985	3,230
PRs	87	112	287	541
Nonresidents	131	311	754	1,305
<b>Shares</b>				
Total population	100	100	100	100
Residents	95	90	81	74
Citizens	91	86	74	64
PRs	4	4	7	11
Nonresidents	5	10	19	26

Source: SingStat (2010).  
Note: PRs = permanent residents.

**Figure 3.14. About half of the resident population not born in Singapore was born in Malaysia**

Source: SingStat (2010).  
Note: Resident immigrant = a resident not born in Singapore

### Singapore's Nonresident Population Has Risen Rapidly

As of 2010, Singapore's total population comprises 3.7 million residents and 1.3 million nonresidents (Table 3.8 and Figure 3.14). The resident population consists of Singaporean citizens and permanent residents (PRs). PRs are noncitizens who have been granted permanent residence in Singapore. While they are entitled to most of the rights and duties of citizens, they may not vote in general elections. The nonresident population consists of foreigners who were working, studying or living in Singapore but who were not granted permanent residence. These foreigners would hold passes for a short-term stay in Singapore, including the Employment Pass, Work Permit, Dependent's Pass and Long-Term Social Visit Pass. The nonresident population category excludes tourists and short-term visitors, labeled as the 'transients'. The statistics therefore do not include Malaysian workers who live in Malaysia and commute to Singapore to a daily basis.

How did Singapore's resident and nonresident population evolve over time?

- The resident population grew significantly on account of increases in permanent residency holders. PRs represented only 4 percent of total population in 1980, but in 2010 this was 11 percent. The resident immigrant population amounted to 860 thousand in 2010 compared to 590 thousand in 2000. This increase resulted in an increase in the resident immigrant population over the total resident population from 18 percent to 23 percent.
- Even more eye-catching is the large increase in Singapore's nonresident population, which rose tenfold over the short span of three decades. The share of nonresidents to Singapore's total population rose dramatically from 5 percent to 26 percent—compare this to the resident population which less than doubled. The growth in the nonresident population contributed about half of Singapore's population increment over the past two decades.

### Data Gaps Obscure Efforts to Measure Malaysia-Born Nonresidents

The United Nations Population Division's definition of immigrants, which we use, is based on country of birth and does not differentiate between resident immigrants and nonresident immigrants. Given the sheer size of Singapore's nonresident population, omitting nonresidents is likely to severely distort our overall estimates. But estimating the nonresident population is complicated by data gaps.

In the absence of official statistics, we need to resort to two sets of assumptions about parameter values: the first is on the share of Malaysia-born individuals classified as nonresidents; the second on the share of tertiary educated people among Malaysia-born nonresidents. Our scenarios will be based on the following ranges for these parameters values:

- *Share of Malaysia-born migrants: between 15 and 45 percent.* The upper boundary is based on the share of Malaysia-born residents in total foreign-born residents (which equals 45 percent). The lower boundary of 15 percent corresponds more closely to what we think is likely. The significant share of high-skill expatriates and low-skill foreign labor born outside of Malaysia are expected to account for a much larger share in the nonresident population than in the resident population. Also, many of the nonresident Malaysians working in Singapore are not even captured in the nonresident statistics, since they are transient day-workers crossing the border during the day and returning home in the evening.
- *Skill share among Malaysia-born migrants: between 15 and 30 percent.* A large share among nonresidents is non-tertiary educated—hence, it is also more difficult for them to obtain residency. As to the expatriate professional population, only 142 thousand in 2010 were granted an Employment Pass under the categories P1, P2 or Q—a proxy for high-skill qualifications. Compared to a total of 1.3 million nonresidents, this amounts to a skill share of only 10.8 percent (as reported in Kok, 2011).<sup>56</sup> The 15 percent lower boundary is motivated by these numbers. The upper boundary reflects the share of tertiary educated among Malaysia-born resident immigrants.<sup>57</sup>

Based on these ranges, we construct four scenarios: S1, S2, S3 and S4 (Table 3.9). S1 and S4 give the lowest and highest estimates, where S1 assumes the lowest parameter values for both variables and S4 the highest ones.<sup>58</sup> S2 and S4 are variations producing intermediate values, with S2 assuming a 15 percent share in nonresidents and a 30 percent skill share and vice versa for S3.

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<sup>56</sup> These low numbers are consistent with Yeoh (2007): where Singapore's nonresident workforce rose rapidly from 248 thousand in 1990 to 670 thousand in 2006, about 580 thousand foreign workers (or 86 percent) are considered lower-skilled. These work primarily in construction, service/manufacturing and marine industries or as domestic maids. The remaining 90 thousand are likely skilled employment pass holders. Apart from Malaysia, these likely come from China and India.

<sup>57</sup> In 2010, 121,662 were reported as being tertiary educated among Malaysian-born resident immigrants who are not students and 15 years of age or older. Assuming that most in the age group 15-24 would not (or not yet) have complete tertiary education, the relates to an overall 25+ population of 350,672 (34.7 percent) or an overall 0+ population of 385,979 (31.5 percent). The latter number motivates the assumption of 30 percent.

<sup>58</sup> To give an example, if there are 400 nonresidents in Singapore, then scenario S1 assumes there are 60 Malaysian-born migrants (15 percent), and among these, 9 of them (15 percent) are high-skilled.

**Table 3.9. Estimates of the Malaysian diaspora and brain drain could well be much larger once the nonresident population in Singapore is taken into account**

Estimated size of the diaspora (age 0+) and brain drain (age 25+), for Singapore and over time, numbers

Year 2000	Baseline	S1	S2	S3	S4
Diaspora:	303,828	417,003	417,003	643,353	643,353
Resident	303,828	303,828	303,828	303,828	303,828
Nonresident	..	113,175	113,175	339,525	339,525
Brain drain:	66,452	83,428	100,405	117,381	168,310
Resident	66,452	66,452	66,452	66,452	66,452
Nonresident	..	16,976	33,953	50,929	101,858
Year 2010	Baseline	S1	S2	S3	S4
Diaspora:	385,979	581,729	581,729	973,229	973,229
Resident	385,979	385,979	385,979	385,979	385,979
Nonresident	..	195,750	195,750	587,250	587,250
Brain drain:	121,662	151,025	180,387	209,750	297,837
Resident	121,662	121,662	121,662	121,662	121,662
Nonresident	..	29,363	58,725	88,088	176,175
Assumptions	Baseline	S1	S2	S3	S4
Share Malaysian-born in NR	0	15	15	45	45
Skill share among NR	0	15	30	15	30

Source: SingStat (2011) and World Bank staff calculations and simulations.

Note: Diaspora refers to the stock of Malaysian-born migrants, regardless of skill profile. This table shows the diaspora numbers for those aged 25+. Brain drain refers to the stock of tertiary educated Malaysian-born migrants, aged 25+.

### Scenarios Point to a Potentially Large Diaspora Community Among Nonresidents

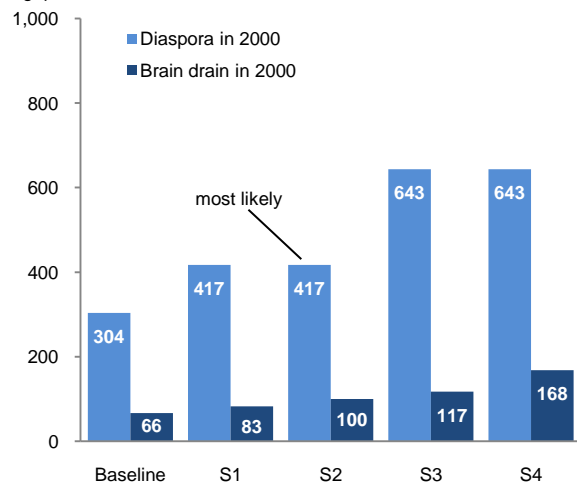
How does the magnitude of the Malaysian diaspora vary across these scenarios? Table 3.9 presents the full range of estimates. Adding nonresidents to the diaspora raises the 2010 estimate from 385 thousand to 385 thousand in the baseline to anywhere between 581 and 973 thousand. The latter figure corresponds to the assumption made in the 2011 Migration and Remittances Factbook (World Bank, 2011), which produces a comparable estimate of 1.06 million.<sup>59</sup> The scenarios also affect the 2000 numbers, since the baseline of 303 thousand back then did not consider the nonresident population either. Including this, the 2000 estimate ranges between 417 and 643 thousand.

How is the brain drain estimate affected? Table 3.9 also shows the brain drain estimates for 25+ olds. These range between 151 and 297 thousand. The most conservative estimate presented in Scenario S1 applies a 15-percent skill share to a low base (15 percent of nonresident population being Malaysian-born). Thus, if Malaysians are not significantly represented in the nonresident population and their education levels are rather low, then we obtain an estimate of 151 thousand. Scenario S4 turns this around and applies a high skill share of 30 percent to a high base (45 percent of nonresidents are Malaysian-born), hence the much larger estimate of 297 thousand. Scenarios S3 and S4 show variations that bring down the overall number to levels around 180-209 thousand.

<sup>59</sup> Indeed the Factbook extrapolates the resident Malaysian-born share to the nonresident population.

**Figure 3.15. Adding nonresidents raises best-case estimate of diaspora in Singapore by 30 percent in 2000**

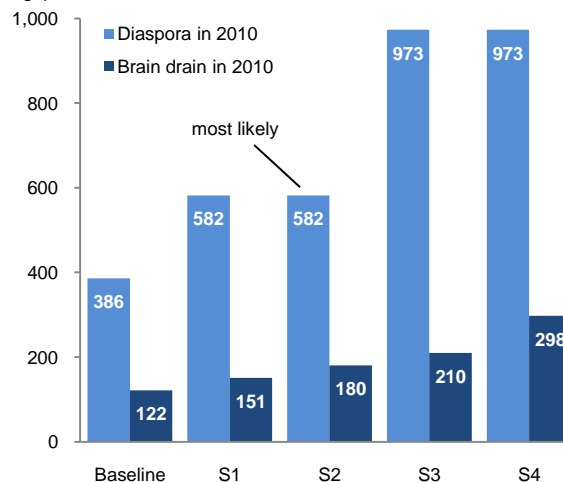
Diaspora (age 0+) and brain drain (age 25+) estimates, 2000, Singapore, thousands



Source: SingStat (2011) and World Bank staff calculations  
Note: For explanation of scenarios, see Table 3.9.

**Figure 3.16. The brain drain to Singapore in 2010 is likely 50 percent larger than resident numbers suggest**

Diaspora (age 0+) and brain drain (age 25+) estimates, 2010, Singapore, thousands



Source: SingStat (2011) and World Bank staff calculations  
Note: For explanation of scenarios, see Table 3.9.

Figure 3.15 and Figure 3.16 summarize the scenario-based estimates for 2000 and 2010. The estimates reflect a wide range of possibilities. On the lower end, we have the baseline estimate, which is to ignore the nonresident population and likely produces a downward bias. On the higher end, we have the estimates that replicate the properties of the resident population to the nonresident population, which likely produces an upward bias since the characteristics of the resident and nonresident population inherently differ.

The estimates we are most comfortable with are the ones in the middle, represented by scenario 2. These reflect a relatively low share of Malaysian-born in the nonresident population and a relatively high skill share. The low Malaysian-born share correlates with the significant share of high-skill expats and low-skill foreign labor born outside of Malaysia. The high skill share is consistent with the general rise in educational qualifications among the Malaysian population as well as the increased skill-intensity of labor demand in Singapore—as it moves up the value chain.

### ***Diaspora Likely Reaches One Million, a Third of Which Is Brain Drain***

In summary, what are the headline estimates for the Malaysian diaspora and brain drain? Table 3.10 and Figure 3.17 present the final tally, with the most likely scenario in our judgment highlighted.

- The diaspora has likely reached about one million people in 2010, compared to about 750 thousand in 2000. A considerable degree of uncertainty surrounds the 2010 estimates, from 800 thousand at the low end to 1.4 million at the high end.
- The brain drain is estimated at a third of the total diaspora. This translates into a number of 335 thousand in 2010, which is up from 217 thousand in 2000. The range is similarly large, from 184 thousand at the low end to 285 thousand at the high end.

**Table 3.10. Diaspora has likely reached one million, of which a third is brain drain**

Estimates of diaspora (age 0+) and brain drain (age 25+), by country of destination and over time, numbers

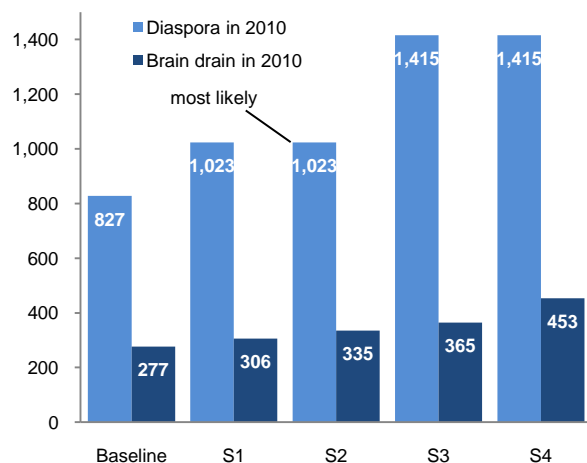
	Total diaspora		Brain drain	
	2000	2010	2000	2010
<b>Balanced sample total</b>				
Baseline	639,896	808,018	184,014	276,558
S1	753,071	1,003,768	200,990	305,920
S2	753,071	1,003,768	217,967	335,283
S3	979,421	1,395,268	234,943	364,645
S4	979,421	1,395,268	285,872	452,733
<b>Unbalanced sample total</b>				
Baseline	657,574	827,387	184,014	276,558
S1	770,749	1,023,137	200,990	305,920
S2	770,749	1,023,137	217,967	335,283
S3	997,099	1,414,637	234,943	364,645
S4	997,099	1,414,637	285,872	452,733

Source: World Bank Staff calculations.

Note: Complete data set is provided in Appendix Table A3. Details and complete data sets are provided in Appendix A. Diaspora refers to the stock of Malaysian-born migrants, regardless of skill profile. This table shows the diaspora numbers for those aged 0+. Brain drain refers to the stock of tertiary educated Malaysian-born migrants, aged 25+. For explanation of scenarios, see Table 3.9

**Figure 3.17. The Malaysian diaspora in 2010 likely totals 1 million people, a third of whom are skilled**

Diaspora (age 0+) and brain drain (age 25+) estimates, 2010, worldwide, thousands

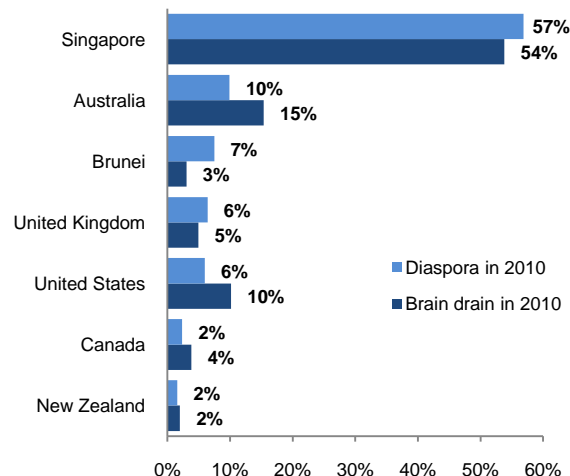


Source: World Bank staff calculations and simulations.

Note: For explanation of scenarios, see main text and Table 3.9

**Figure 3.18. In 2010, Singapore hosted 57 percent of the diaspora and 54 percent of the brain drain**

Diaspora (age 0+) and brain drain (age 25+) Scenario 2 estimates, 2010, worldwide, thousands



Source: World Bank staff calculations and simulations.

Note: For explanation of Scenario 2, see main text and Table 3.9

In Scenario 2—our most likely scenario—Singapore accounts for well over half the diaspora and brain drain (Figure 3.18). An estimated 57 percent of the diaspora and 54 percent of the brain drain are hosted in Singapore, the latter figure being lower due Singapore's lower skill intensity. This pattern also holds for other historically large communities in Brunei and the United Kingdom. As for the more recent rapid risers—the other countries shown in the Figure—the opposite pattern holds. As a result their role in the brain drain is more important than their role in the diaspora.



## ECONOMIC IMPACT OF BRAIN DRAIN

Has the brain drain been harmful to Malaysia's economic performance? Whereas the previous section established the magnitude of Malaysia's diaspora and brain drain, this section qualifies these numbers in terms of their likely impact on the Malaysian economy. We first examine how significant the brain drain is, then provide an overview of the channels through which brain drain affects economic outcomes, and conclude with an assessment how the potentially opposing effects are playing out on human capital formation in Malaysia.

### Significance of Brain Drain

How significant is Malaysia's brain drain? In other words, what do the numbers mean in terms of their likely importance for the Malaysian economy? A number of considerations will be relevant. First, how does the brain drain related to the human capital base of the economy? Clearly, any given magnitude of brain drain will be more costly the narrower is the human capital base. Second, how do emigration patterns differ from immigration patterns? If a large outflow of talent is compensated by inflows of similar magnitude and kind—as is the case in Singapore—then brain drain might be a less significant cause for concern. Third, to what extent have those leaving been educated at home? Emigration would be less costly if those that migrate acquire their education at destination rather than in the home country.

#### *Relative to Narrow Skill Base, Intensity of Brain Drain Is High*

More important than the magnitude of the brain drain as measured by the absolute numbers is the intensity of the brain drain, which is measured by the skilled emigration rate. The skilled emigration rate relates how many skilled migrants are leaving to initial skills base of the sending country—that is the stock of skilled people, which includes both the skilled resident population and the skilled migrants before migration. When the ratio is high, brain drain represents a more significant draw upon a nation's human capital than when it is low.

Malaysia's brain drain intensity is high (Table 3.11). At the surface, however, it seems as if brain drain does not present an issue. After all, as Figure 3.19 shows, other countries in the region have seen a more rapid increase in their respective diasporas over the period 1990-2000 (based on the OECD numbers reported by Docquier and Rapoport, 2010). Yet, when we examine Figure 3.20, a different picture emerges. Relative to the domestic skills base, Malaysia climbs up the rankings in the chart on brain drain intensity. This suggests that, despite slower emigration than elsewhere, Malaysia's stock of human capital domestically has not grown as fast as elsewhere. True, the level of brain drain intensity has fallen in Malaysia, as it has elsewhere in the world, but brain drain intensity remains high.

For every ten skilled Malaysians born in Malaysia, one of them elects to leave the country. This is double the world average. Superficially, it would appear that the numbers are more in line with what is observed among other countries within the region (Figure 3.20). But the high numbers for Hong Kong and Singapore distort the regional picture and their high numbers are also typical for relatively small and open economies.

**Table 3.11. Even though brain drain intensity has moderated, it remains at high levels**

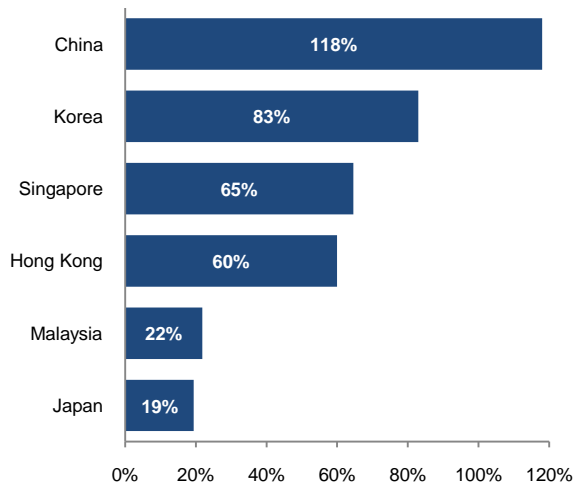
Numbers for brain drain to OECD countries only, thousands

	1990		2000		Brain Drain Intensity	
	High-Skill at Home	High-Skill Overseas	High-Skill at Home	High-Skill Overseas	1990	2000
China	11,593	359	19,893	783	3.0%	3.7%
Hong Kong	379	182	696	292	32.5%	29.5%
Japan	17,399	233	22,128	278	1.3%	1.2%
Korea	3,083	335	7,565	613	9.8%	7.5%
Malaysia	222	79	818	96	26.2%	10.5%
Singapore	84	28	279	47	25.3%	14.4%

Source: Docquier, Lowell and Marfouk (2007)

**Figure 3.19. Other countries have seen a much more rapid growth in skilled migration**

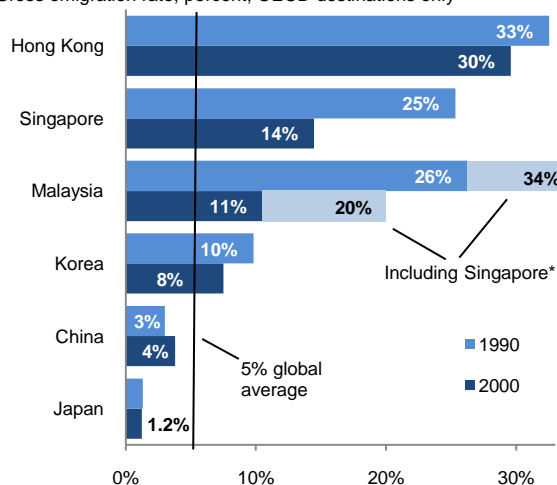
Decade-on-decade growth foreign-born high-skill migrant stock from selected country, 1990-2000, percent, OECD destinations only



Source: Docquier, Lowell and Marfouk (2007)

**Figure 3.20. Brain drain intensity fell, but remains high**

Gross emigration rate, percent, OECD destinations only



Source: Docquier, Lowell and Marfouk (2007).

Note: \* To illustrate that adding Singapore (residents) makes a big difference; not for international comparison since others are OECD only.

Including Singapore would double the estimates of Malaysia’s brain drain intensity. The preceding analysis is valid only for the 31 OECD countries whose data on migrants were used to construct the bilateral numbers and skill shares. Singapore—the premier migration destination—is not part of the OECD. Including the Malaysian-born resident migrants in Singapore would raise the high-skill emigration rate to close to 20 percent in 2000, compared to 34 percent in 1990.

Why is Malaysia’s brain drain intensity so high? Returning to OECD countries only, this appears to be related to ‘skill selectivity’. One can decompose the skilled emigration rate into its components of ‘openness’ and ‘skill selectivity’. Openness captures the overall rate of emigration for all migrants—skilled and unskilled. Skill selectivity is the ratio of the skill share for migrants and the skill share of the population. It appears that in Malaysia skill selectivity is the main driver of the emigration rate. Examining the sample of emigrants to OECD countries in 2000, the skilled are much more than proportionally represented in the migrant population (56 percent) as opposed to the overall population (8 percent) (Table 3.12).

**Table 3.12. Malaysia's brain drain is primarily a function of high skill selectivity**

Selected indicators, 2000, percent

	Emigration rate	=	Openness	X (	Skill selectivity		)
	share skilled emigrants in total skilled workers		share migrants in total workers		share skilled in total migrants /	share skilled in total workers	
Indonesia	2.0		0.4		34.6	5.2	
China	3.8		0.2		46.7	2.7	
Global average	6.5		1.7		47.1	12.2	
South Korea	7.5		3.9		50.9	26.7	
Malaysia	10.5		1.5		56.2	8.3	
Taiwan	12.8		3.4		79.2	21.0	
Philippines	13.6		5.0		66.2	24.4	
Singapore	14.5		3.2		53.7	12.0	

Source: Calculations based on Docquier and Marfouk (2006).

A few caveats apply. First, if we were to control for the quality of skills among the tertiary educated, the skills-adjusted selectivity factor would likely be even stronger. Typically, the highly skilled are prone to emigration, as they may have skills that are more easily marketed internationally, an effect called positive self-selection.<sup>60</sup> Second, the statistics above pertain only to migration to OECD destination countries. If Singapore was included, the selectivity factor may also be subject to a negative self-selection effect as the nearby diaspora facilitates low-skill migration.<sup>61</sup> Third, we need to remain cognizant of the fact that the wider set of numbers, including Singapore, are subject to a significant degree of uncertainty concerning the nonresident population as has been highlighted before.

Regardless of these caveats, international comparisons suggest that Malaysia's skill base is narrow. Given the lower skill base—as proxied by educational attainment—the impact of a person leaving should also be higher in Malaysia than elsewhere, keeping all else constant. The low skill base is inherently related to the challenges Malaysia faces in its education sector. Hence, the brain drain is also closely connected to Malaysia's domestic human capital development agenda. This is an important point when considering policy options to address the brain drain.

<sup>60</sup> Chiquiar and Hanson (2005). The highest performing high school student in Singapore in the last 2 years has hailed from Malaysia (Mohandas, 2011).

<sup>61</sup> McKenzie and Rapoport (2007) and Beine, Docquier, Özden (2011). Empirical studies for the migration corridor Mexico-USA suggest that with increasing diaspora communities (as in the case of the Malaysia-Singapore migration corridor), the average skill level of emigrants decreases, hence the observation of a negative self-selection effect due to lower emigration costs.

Encouragingly, however, we also know that—albeit from a low base—educational attainment did improve considering longer periods of time. Indeed, Malaysia’s universities have been churning out larger numbers of graduates over the years. This then also explains why the emigration rate has fallen over time, thanks to improvements in the skills base. As such, while many people have been leaving, the impact on the overall stock of skill Malaysians was lower than before and therefore the intensity of the brain drain appears to have lowered—even if it remains at a high level. Yet, the quality of education needs to be considered also. If a recent expansion in the provision of tertiary education was accompanied by a decline in standards, then the fall in the emigration rate due to an effect on numbers might not make a large difference. A larger stock of poorer-quality students may contribute to the economy in a similar way as a smaller stock of better-quality students.

### ***Brain Drain Is Not Alleviated By Compensating Inflows***

Malaysia is not just a sending country but, even more so, a receiving country. The World Bank’s 2011 Migration and Remittances Factbook estimates Malaysia’s overall immigrant population at 2.4 million, with the stock of Indonesian-born immigrants accounting for about 1.4 million. This places the Indonesia-Malaysia migration corridor among the largest migration corridors in the world (the 13<sup>th</sup> largest if one excludes the countries of the Former Soviet Union) and, compared to the Malaysia-Singapore corridor, the Indonesia-Malaysia corridor is about a third larger.<sup>62</sup>

Immigration could in principle alleviate some of the brain drain. However, as documented further in Box 10, the overall patterns of immigration are such that immigrants are mostly poorly educated and are employed in low-skill occupations in assembly-based industries, low-end services and extractive industries. The upshot is that migratory patterns exert downward pressure on the skill composition of the domestic human capital base. The outflow of both skilled and unskilled Malaysians seems to have been overwhelmed by the inflow of low-skilled foreign labor.

These patterns are likely exacerbated by illegal immigration. The in- and outflow of high-skill individuals tends to be generally well-documented since the highly-skilled tend to migrate legally. But this is not the case of for low- or unskilled migration where illegal migration is more prevalent. Estimates of the number of illegal immigrants in Malaysia vary widely, but it is clear that the total number is high—ranging from half a million to one million, and up—and it can be safely assumed that virtually all of the illegal immigrants are low-skilled (Tham, 2010). Once illegal migration is taken into account, it becomes clear that the impact of immigration on the domestic skills base is skewed much further to the low end of the spectrum than official statistics would suggest.

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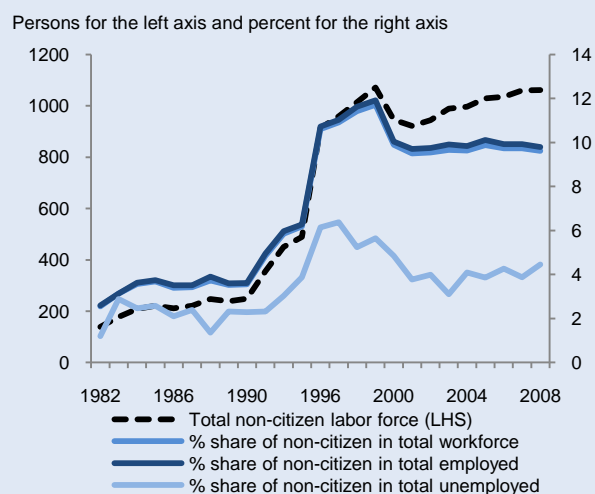
<sup>62</sup> As mentioned in the previous section, where we estimate the magnitude of the brain drain, the Factbook assumes that the share of Malaysia-born residents applies to total foreign-born residents, which results in a high estimate of about 1.1 million Malaysian-born migrants in Singapore.

## BOX 10. IMMIGRANT WORKERS IN MALAYSIA

### *Foreign workers have stabilized at a high share of the labor force*

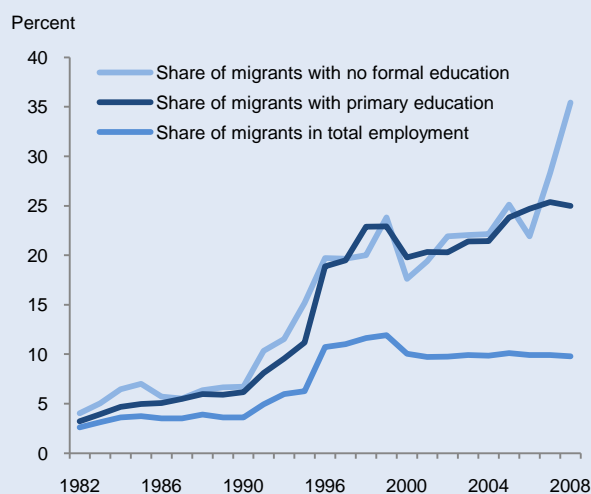
The share of migrants in the Malaysian labor force has stabilized since 2000. Migration grew initially very rapidly in the 1990s, doubling as a share in the labor force in the middle of the decade. Then the Asia crisis struck and the share stabilized at roughly 10 percent (Figure 3.21). As the unemployment rate among the migrant workers remained very low and much lower than for Malaysian citizens, it appears that the increased flow of migrants was in response to higher demand.

**Figure 3.21. Following rapid increase, the share of migrants in the labor force has stabilized**



Source: EPU and World Bank staff calculations.

**Figure 3.22. The share of low-skill migrants in total migrants continued to rise however**



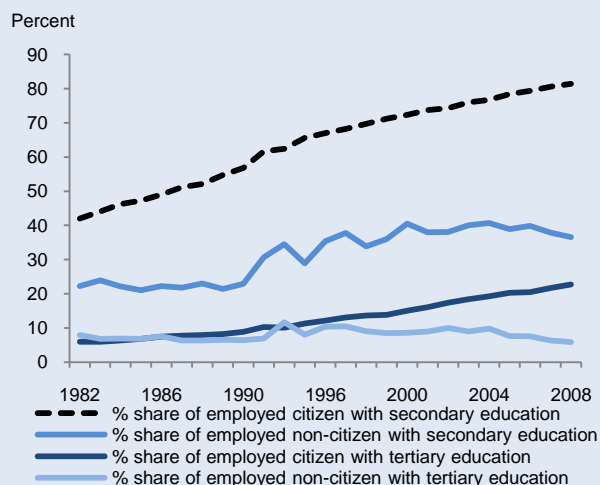
Source: EPU and World Bank staff calculations.

### *Education levels of foreign workers are generally low*

Migrants are typically low-skilled. Only 40 percent of employed migrants received secondary education and about 10 percent obtained tertiary education. The share of less educated migrants has been rising especially in recent years: nearly 40 percent of migrants had no formal education at all in recent years (Figure 3.22). A large number of migrants also report 'not applicable' as their education level. Furthermore, labor force surveys are generally better at catching higher skilled workers. Both of these factors should bias the actual education level of migrants further downward.

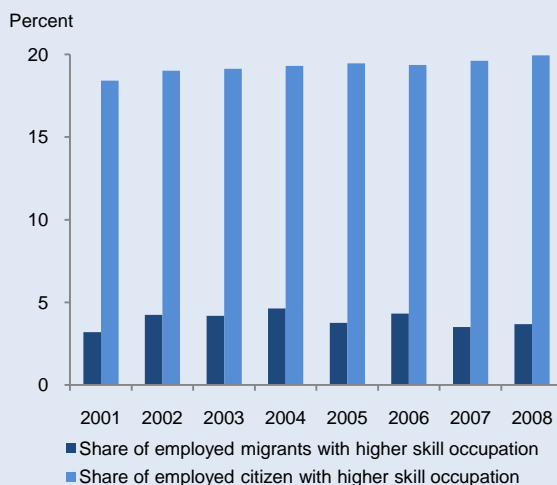
Relative to citizens, the levels of educational attainment of migrants are significantly lower. Migrants' education level has remained much the same since 2000. The share of tertiary education even fell slightly in recent years. But, citizens' education level has risen steadily (Figure 3.23). As a result, the gap is widening over time, especially for higher education. This indicates that migrants are filling the demand for unskilled labor in the Malaysian economy as the overall skill level of the natives is increasing.

**Figure 3.23. Secondary educated Malaysian workers rose rapidly, unlike migrants**



Source: EPU and World Bank staff calculations.

**Figure 3.24. Very few migrant workers work in skilled occupations**

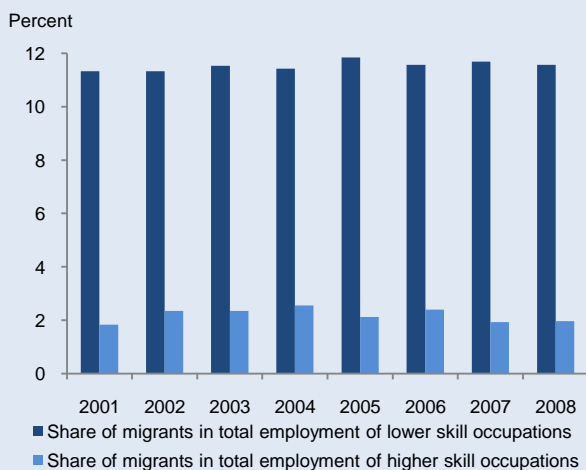


Source: EPU and World Bank staff calculations.

**Few Foreign Workers Work in High-Skill Occupations**

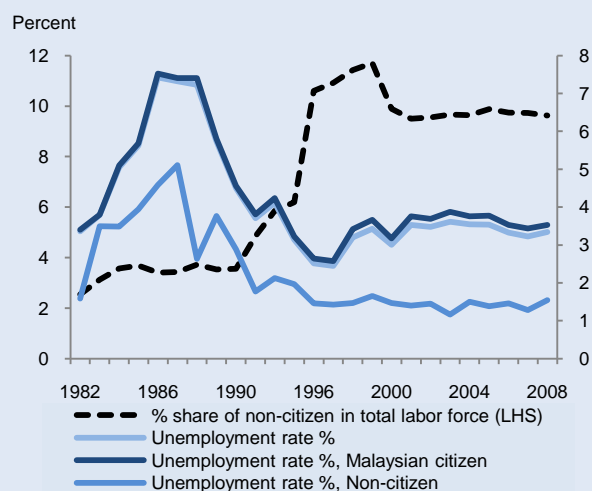
As may be expected from education levels, the majority of migrants are active in occupations with lower skill levels. If clerical workers, technicians and associated professionals, professionals, and legislators, senior officials and managers are defined as high skilled occupations and the rest as lower skill occupations, less than 5 percent of migrants work in higher skill occupations (Figure 3.24). This has not changed much since 2001. In contrast, about 20 percent of citizens identify themselves as belonging to these occupations. As a result, the share of migrants in the total employment of higher skill occupations has been less than 2 percent while their share in lower skill occupations is over 11 percent (Figure 3.25).

**Figure 3.25. In total employment, few foreign workers have high-skill jobs**



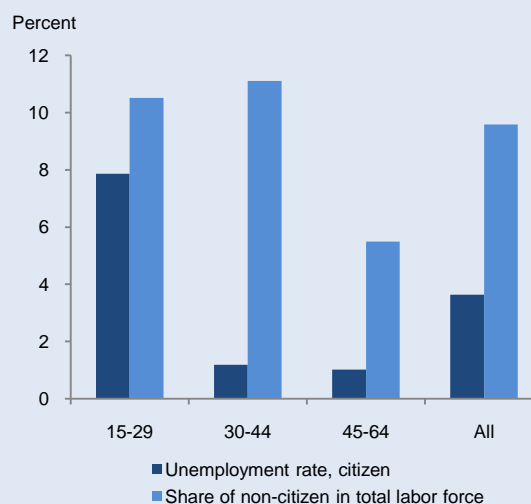
Source: EPU and World Bank staff calculations.

**Figure 3.26. Immigration does not seem have raised unemployment**



Source: EPU and World Bank staff calculations.

**Figure 3.27. Unemployment rates and immigrant presence do also not correlate well across age groups**



Source: EPU and World Bank staff calculations.

### ***As Immigration Numbers Rose, Malaysian Unemployment Remained Stable***

A key question of interest is the effect of migration flows on employment and unemployment of local workers. Aggregate data suggests there is no link between migration rates and domestic unemployment. In fact, the unemployment rate of citizens appears to be negatively correlated with the share of migrants with a coefficient at about -0.34, although this is not statistically significant. This is indicated in Figure 3.26, where unemployment rates of Malaysian citizens significantly declined from the mid 1980s at a time when migration was increasing. Looking also across age groups, unemployment rate of citizens and the shares of migrants are not related (Figure 3.27). Note that unemployment is high among the young—which for the highly-skilled partly reflects that they are able to wait to find a job that they see as appropriate.

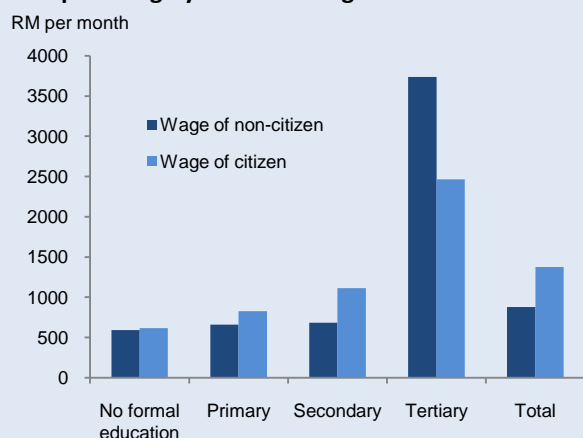
There seems to be some evidence of a mismatch between education levels and job opportunities requiring higher skills, particularly for Malaysian workers. While the share of citizens with tertiary education level went up considerably from 16 percent in 2001 to 22 percent in 2008, the fraction of citizens with higher skill occupations only changed slightly from 18.4 percent to 19.9 percent during the same period. Similarly, despite a sharp decline in the share of migrants in skilled occupations from the peak level of 10 percent in 2002 to 5.8 percent in 2008, the share of migrants with tertiary education level exceeds the share of migrants with higher skill occupations. This means many migrants are employed in occupations below their skill levels.

The fact that the share of high skilled occupation has not matched the growth of education implies that the growth of domestic employment demand is insufficient to absorb people with higher education. It, in turn, forces them to take jobs with lower skill requirement. On the other hand, it may also indicate that the curriculum of higher education and market demand are misaligned. Despite higher education levels, citizens seem to less than fully meet the needs of higher skill occupations.

### Skilled Migrants Earn Much More than Citizens, But Unskilled Migrants Much Less

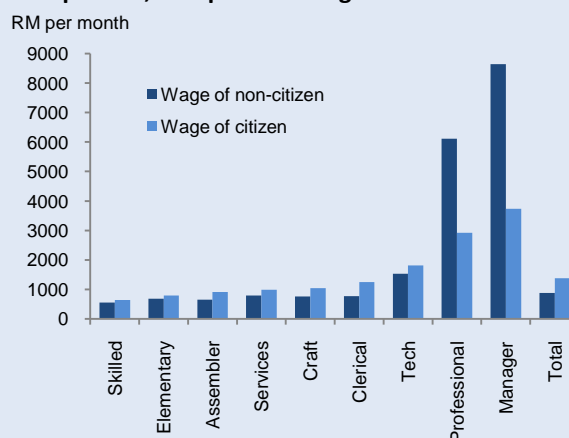
Based on 2006 data on wage rates, migrants on average earn significantly less than citizens. The pattern reverses itself for migrants with tertiary education. These migrants earn 50 percent more on average (Figure 3.28). This may reflect the scarcity premium of tertiary educated migrants over the Malaysian tertiary educated workers. However, below tertiary education, there is little return to education for migrant workers. For migrants with at most secondary education, the wage rate does not go up with education levels.

**Figure 3.28. Migrant wages are generally lower, except for highly-educated migrants**



Source: EPU and World Bank staff calculations.

**Figure 3.29. Migrant wages are lower across occupations, except for the high-skill ones**



Source: EPU and World Bank staff calculations.

A similar story appears when we look at occupational structure. Migrants earn less than citizens across all lower skill occupations and two higher skill occupations (clerical, technician). But, for the most skilled, professionals, and legislators, senior officials and managers, migrants' wage rates are double those of citizens (Figure 3.29). Thus, most migrants are employed in lower skill and lower pay jobs.

### Large Share of Diaspora Acquired Education Overseas

Turning back to emigration, where did Malaysian-born skilled migrants acquire their education? Migration data identifies skill levels with education level and without regard to whether the education took place in the home or host country. One could however use the age of entry of immigrants as a proxy for where the education has been acquired. Beine, Docquier and Rapoport (2006) find that, for 2000, 68 percent of the global brain drain is accounted for by emigration of people aged 22 or more upon arrival. This presents a problem since ideally the brain drain should only consider people with home-country higher education.

Foreign-educated migrants have been on the rise in Malaysia (Table 3.13). Consider the 1990 data and recall that this concerns migration to the OECD. The emigration rate for the 0+ age group was close to 25 percent, whereas this was only 11 percent for the 22+ group. A similar result obtains for 2000. In terms of the ratio between the two migration rates, the 22+ migration rate is a third lower in both 1990 and 2000 and the discrepancy is significantly larger than the global average.



This implies that Malaysia has had to bear lower costs of (tertiary) education for those people. But the other side of this coin is that people who spent the formative years of their lives abroad may be less inclined to return. The trend also indicates that the emigration phenomenon in Malaysia becomes ‘younger’, as more people below the age of 23 emigrate. The international comparison shows that, except for Vietnam, there is no other country in this benchmark group that has more skilled emigrants leaving the country at early age.

The large share of Malaysia-born foreign-educated migrants correlates with quality issues in Malaysia’s education system. The transferability of human capital across borders is an important factor in determining whether high-skilled workers can be easily assimilated at destination and hence can earn high wages. Workers who are trained at destination get better wages and are more likely to be employed, particularly if the education system at source is of low quality (Coulombe and Tremblay, 2009). Data from the US New Immigrants Survey suggests that sending countries with low skill prices are much less successful in bringing these students back (Rosenzweig, 2008).

**Table 3.13. Controlling for age of entry makes a large difference**

Skilled OECD emigration rates of adult population by country of origin who arrived at selected age or above (percent)

	Brain drain 0+		Brain drain 12+		Brain drain 18+		Brain drain 22+	
	1990	2000	1990	2000	1990	2000	1990	2000
China	3.1	3.8	2.9	3.6	2.7	3.3	2.5	3.1
Hong Kong	32.5	28.8	28.3	24.8	24.6	21.2	21.5	18.0
India	2.8	4.3	2.7	4.0	2.5	3.9	2.2	3.4
Indonesia	3.9	2.1	3.5	1.8	3.2	1.7	2.8	1.4
Korea	9.4	5.6	7.7	4.4	7.0	3.9	6.4	3.5
Malaysia	24.7	11.1	21.3	9.5	18.9	8.4	16.1	6.9
Philippines	13.0	13.7	11.8	12.6	10.9	11.6	9.7	10.3
Singapore	24.8	15.2	21.0	12.7	19.1	11.4	16.5	9.7
Taiwan	15.2	12.7	13.8	11.6	12.6	10.5	11.7	9.7
Thailand	2.4	2.4	2.1	2.1	1.9	1.9	1.6	1.7
Vietnam	24.5	27.1	21.1	23.2	17.5	19.0	14.7	15.8

Source: Beine, Docquier and Rapoport (2006).

## Channels of Impact

The common perception is that brain drain depletes a country’s human capital stock and imposes negative externalities on those remaining. Theories of these negative impacts are well developed—they featured prominently in the literature of the 1970s as well as in the early literature on endogenous growth. The most recent literature offers a more balanced and empirically-grounded perspective: depending on circumstances, the net effect of brain drain on development and welfare may be either positive or negative. So, contrary to popular belief, skilled migration is not just associated with costs, but also with benefits—some of which, while perhaps not immediately obvious, may build up over time through technology transfers, trade and capital flows introduced by ‘brain circulation’ and might eventually overturn any detrimental effects.

### ***Brain Drain Can Erode Skill Base and Depress Innovation***

Brain drain could create a vicious circle that may trap a country into an undesirable equilibrium with low levels of human capital and a large technology gap. In this sense, brain drain could contribute to rich countries becoming richer at the expense of poorer countries. Two key factors are responsible for bringing about this trap (Docquier and Rapoport, 2011):

- *The domestic human capital base shrinks.* The most direct effect of skilled emigration on the human capital base at origin is that those who migrate will no longer be there to actively contribute to domestic production.
- *The capability to innovate is eroded.* The lower skill base may have an important spill-over effect on productivity growth as innovation—which is one of the key driving factors of sustained productivity improvement—rests on a solid base of human capital.

Reinforcing these negative effects are the following channels. Productivity at destination may be raised, magnifying pull effects. This would occur in circumstances where the brain drain is substantial enough to boost productivity growth in the destination economy, which would provide further incentives for people at source to migrate. The technology gap may also widen further, which boils down to the same effect (Mountford and Rapoport, 2011).<sup>63</sup>

Also, unemployment may rise for all skill levels. If wages are determined non-competitively, then the employment prospects for the remaining skilled workers may—counterintuitively—increase as the skilled migrate. This mechanism relies on the internationally mobile highly-educated bargaining for higher wages, which leads also low-skilled workers to raise their wage demands and a situation where the only way to offset these demands will be higher unemployment (Bhagwati and Hamada, 1974).

Finally, occupational shortages may drive economy-wide productivity down. Shortages in certain important sectors and professions (such as teachers, engineers, physicians and nurses) may affect the productivity of others or reduce the pace of human capital accumulation in the country (Kremer, 1993).

### ***But Incentive Effects May Boost Human Capital Formation***

A fundamental weakness in the preceding discussion is that there are no feedback effects on human capital formation. It is assumed that the prospect of emigration does not affect the stock of human capital before migration takes place or, when it does, the additional human capital created fully ends up abroad. The more recent literature allows for such feedback effects, where the prospect of migration raises the expected return on human capital and this in turn incentivizes investment in human capital. However, probabilistically, not all who respond to this incentive leave and this offsets or compensates for the loss of those who do leave (Docquier and Rapoport, 2011). However, the extra human capital accumulated may not be useful at origin. One type of ‘brain waste’ would occur youngsters who may anticipate migration chose a field of study in areas that are in need at destination but not at source.<sup>64</sup>

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<sup>63</sup> Some of this may be mitigated if indeed additional growth trickles back into external demand for the source economy or when technological progress subsequently trickles down.

<sup>64</sup> Indeed, “people contemplating migration may choose to study geriatrics instead of pediatric, meaning that if they end up not migrating, their skills are likely to be partly wasted.” (Docquier and Rapoport, 2011)

Theory suggests that two conditions need to be satisfied for brain drain to have an overall positive effect on human capital formation.<sup>65</sup> First, the differential in skill prices should be large enough so that there is a strong incentive effect. However, at the same time, the differential should not be overly large in that it constraints potential migrants in financing additional years of education. Second, the probability of skilled migration should be sufficiently low, i.e. a large enough proportion of those who taken on additional education end up staying.

### ***Other Benefits Accrue From Remittances, Return Migration and Diaspora Effects***

In addition the positive incentive effects on human capital formation, there are other potential benefits that together may transform what initially was seen as a brain drain into a brain gain.

- *Remittances may compensate for the loss of talent.* Remittances from the highly-skilled that left the country may assist at origin in alleviating liquidity constraints, stimulating education investment, as well as reducing poverty.
- *Return migration may bring additional benefits.* Brain drain may lead to brain gain if migrants who upgraded their skills abroad return to the home country. Return migration may also boost entrepreneurship and innovation, if returning migrants put to good use additional knowledge and financial capital gained abroad. A net benefit is more likely to be obtained if the fraction of time spent abroad is not too large.
- *High-skill diasporas could benefit in various ways.* Migration may lead to a reduction in international transaction costs, facilitating the exchange of goods, factors and knowledge between origin and destination countries. Diasporas could contribute to better technology diffusion, by the creation of scientific and business networks, and stimulate trade and FDI. They could also contribute to improving institutions in the home country.

## **Effect on Malaysian Human Capital Base**

### ***Brain Drain Does Not Appear to Have Eroded Stock of Tertiary-Educated***

Whether the overall effect is positive is ultimately an empirical question. Beine, Docquier and Rapoport (2008) estimate the impact for a large set of countries on the basis of a counterfactual experiment. The authors find that doubling the skilled emigration rate raises human capital formation by 5 percent among the overall population (including both residents and emigrants). Based on this result, a counterfactual experiment is constructed, where the high-skill emigration rate is equated to the low-skill emigration rate. The counterfactual human capital stock then consists of the initial stock of human capital less the increment that would have happened if the high-skill migration rate were to rise from the counterfactual high-skill migration rate (set at the low-skill migration rate) to the observed high-skill migration rate using the 5 percent coefficient obtained from cross-country regressions. The difference between the observed human capital stock (taking into account emigration and the incentive effect) and the counterfactual one (removing both these effects) constitutes then the net impact of the brain drain.

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<sup>65</sup> Beneficial brain drain in this context occurs when the positive (ex ante) incentive effect dominates the negative (ex post) direct emigration effect on the human capital stock that arises when people leave.

The results suggest that Malaysia has so far been spared from the detrimental type of brain drain that depletes the domestic stock of human capital. As Table 3.14 shows, even though brain drain has caused a reduction in the overall labor force (relative to counterfactual in 2000), the skilled labor force remains almost constant and the share of highly-skilled remains virtually the same (a modest increase of 0.1 percent). On the positive side, this evidence suggests that the brain drain has not had a significant detrimental effect in reducing the stock of the educated workforce. On the negative side, the brain drain has also not been beneficial as it has been in some of the other countries in the region, where the incentive effect was even larger.<sup>66</sup>

**Table 3.14. The impact of skilled migration on human capital formation is positive in Malaysia**

Total labor force and skilled labor force (thousands) and other shares of skilled (percent)

	Effect on			90 percent confidence	
	total labor	skilled labor	share of skilled	min	max
Beneficial brain drain:					
Thailand	-83	318	1.0	0.2	1.8
Indonesia	-99	451	0.4	0.1	0.8
China	-741	1,440	0.2	0.0	0.4
Philippines	-1,008	-176	0.1	-1.5	1.8
Malaysia	-92	-1	0.1	-0.5	0.6
Detrimental brain drain:					
Cambodia	-45	-23	-0.4	-0.7	-0.1
Vietnam	-458	-289	-0.7	-1.1	-0.4
Laos	-48	-37	-1.7	-2.0	-1.4

Source: Beine, Docquier and Rapoport (2008).

Note: Results show country specific impact of skilled migration on human capital counterfactual experiment where the skilled emigration rate is set equal to the unskilled emigration rate. Effect on the labour force (population aged 25 and more): observed labour force minus counterfactual labour force. Effect on the skilled labour force (with post-secondary education): observed skilled labour force minus counterfactual skilled labour force. Effect on the proportion of skilled (BG): observed proportion minus counterfactual proportion (brain gain)

### ***But Skills Shortages Point to Concerns about Quality of Human Capital***

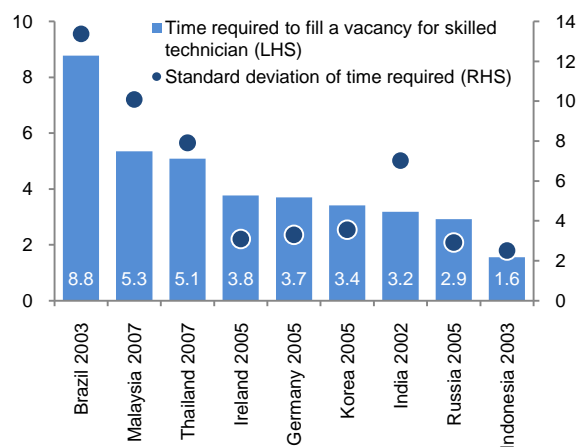
Brain drain—as will be discussed later in Box 11—is subject positive selection effects. Migrants typically have higher than average skills and therefore the best and brightest are more likely to be overrepresented among migrant. As a result, even if the domestic stock of tertiary-educated continues to be replenished quickly enough in comparison to the outflows measured by the numbers, it is well possible that the quality of the human capital base declined due to these composition effects.

There is ample evidence to support the argument that the domestic human capital base in Malaysia does not adequately meet the demand from the market. The base appears too narrow and employers are concerned about the quality of educational qualifications.

<sup>66</sup> Country characteristics that make it most likely for beneficial brain drain to occur are low level of human capital and a low emigration rate of skilled workers. In countries, where the migration rate is well above 20 percent and/or the share of people with higher education is greater than 5 percent, the brain drain is likely to exert an overall negative effect.

**Figure 3.30. Finding a qualified technician in Malaysia takes long when compared internationally**

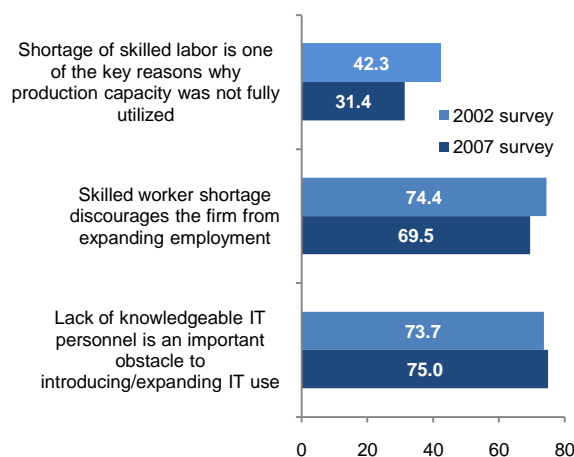
Number of weeks for both axes. Years after country names denote survey period.



Source: World Bank's global investment climate survey database

**Figure 3.31. Lack of skilled workers dampens current and potential firm growth and productivity**

Percent of surveyed manufacturing firms which viewed that...



Source: World Bank (2009a)

The World Bank's most recent investment climate assessment suggests that Malaysia continues to face a tight labor market for skills and that this is affecting firm productivity (World Bank, 2009a). In a 2007 survey of Malaysian manufacturing firms, the average time spent to recruit a professional worker was reported to be a lengthy period of six weeks. The situation also deteriorated slightly from 2002, the date of the previous investment climate assessment. From a cross-country perspective, it takes a long time in Malaysia to hire a skilled technician—and there is also greater uncertainty about how long it takes (Figure 3.30).

Moreover, it appears that the lack of skilled workers not only prevented firms from operating at their maximum capacity but also deterred them from scaling up employment (Figure 3.31). The human capital shortages observed in Malaysia also dampen firm productivity. For example, the lack of knowledgeable IT staff and consultants to design IT-based solution systems has discouraged firms from adopting and/or expanding the use of IT, which could greatly enhance productivity (Figure 3.31).

These skill shortages are likely to have been exacerbated by the brain drain due to positive selection effects. Because of the lack of return migration thus far the brain drain has also not contributed to alleviating these skills shortages by adding to the stock of human capital individuals who have enhanced their capabilities through an overseas experience.

## POLICY APPROACHES TO BRAIN DRAIN

The human capital agenda is of paramount importance as Malaysia embarks upon its journey towards a high-income nation. This journey will require Malaysia to significantly strengthen the domestic human capital base, which is too narrow to meet current demand and will likely fall short to an even greater extent as growth becomes more skill-intensive. Developing human capital domestically will be one important objective, but so will be the objectives of attracting and retaining talent.

Relative to the presently narrow base of human capital, the brain drain has been intensive. Universities continue to churn out graduates, alleviating the erosion in the number of tertiary-educated remaining in Malaysia. Yet, the widespread skill shortages continue to point to significant quality issues in the domestic human capital stocks. Brain drain is likely to have amplified these concerns about the quality of the human capital base. On the one hand, as elsewhere around the world, positive selection effects imply the best and brightest leave, causing a decline in average quality. On the other hand, concerns about the quality of the education system constitute a push factor driving migration decisions.

How can policymakers reverse these patterns and realign the migration of talent with the high-income aspiration? This section will first argue that brain drain is a symptom, driven by underlying factors, rather than necessarily a problem in itself. This entails three sets of policy implication, which are subsequently examined. First, the fundamental factors need to be identified that account for the brain drain and incentivize the decisions to migrate. Second, the policy suggestions need to reflect the fundamental factors, not the symptoms. Third, approaches that target the flow of talent directly may complement, but cannot not substitute for, comprehensive approaches that address the fundamental drivers of brain drain.

### Fundamental Drivers of Brain Drain

Brain drain is a symptom of underlying factors. Individuals respond to incentives and to understand what is fundamentally driving the brain drain so as to be able respond with policies, one needs to understand these incentives. In what follows, we follow two complementary approaches to understand the incentives for Malaysia's brain drain. The first is a review of the generic push and pull factors advocated in the brain drain literature, coupled with an interpretation of how these may play out in the Malaysian context. The second is a presentation of a survey that we conducted among the Malaysian diaspora, with the objective of getting a 'qualitative feel' for the factors that mattered in actual decisions of migration.

#### *Push and Pull Factors Drive the Migration Decision*

To the extent that the brain drain is a global phenomenon, one would presume that the set of underlying drivers of brain drain is similar across countries that experience brain drain (see Box 11). As suggested by Docquier and Rapoport (2006): "The causes of [the] growing brain drain are well known. On the supply-side, the globalization of the world economy has strengthened the tendency for human capital to agglomerate where it is already abundant and contributed to increase positive self-selection among migrants. And on the demand side, host countries have gradually introduced quality-selective immigration policies and are now engaged in what appears as an international competition to attract global talent."

## BOX 11. DETERMINANTS OF BRAIN DRAIN: CROSS-COUNTRY EVIDENCE

Explanations for the marked cross-country differences that are observed around the world in the degree of brain drain intensity traditionally center around push and pull factors. Push factors that disincentivize a potential migrant to stay and pull factors that the potential migrant to go. Recall that the emigration rate of high-skill individuals, which measures brain drain intensity, can be split up into two components: openness (that is the emigration rate regardless of skill) and selection bias (that is the skill share in those that migrate relative to the skill share in the total population including migrants).

The impact of push and pull factors on high-skill emigration rates can thus be decomposed into the impact on openness and selectivity. For developing countries these effects typically play out as follows (Docquier, Lohest and Marfouk, 2007):

- *Openness*, that is the general tendency to emigrate regardless of skill, is larger when the origin and destination countries are nearby and when the country of origin is small or more developed.
- *Selectivity* is not so much affected by distance, which makes sense since the highly-skilled may face less financial constraints in migration. Religious fractionalization at country of origin exerts a strong push effect. Greater development at origin reduces selectivity, as well as brain drain intensity (since the negative effect for selectivity is larger than the positive one for openness).

Two further patterns are noteworthy in empirical studies of brain drain:

- *Positive selection* occurs when migrants have higher than average skills. This tends to occur when there are large skill-related differences in earnings between source and destination countries (Grogger and Hanson (2011). However, the existence of a large diaspora overseas not only increases the size of migration flows but also lowers the average educational level of migrants, amounting to *negative selection* (Beine, Docquier and Ozden, 2011).
- *Positive sorting* reflects the tendency for high-skill migration to be absorbed by countries where the returns to skill are high. The larger the earnings differential is between high and low-skilled workers at destination, the larger the relative stock of high-skilled migrants in the destination country is (Grogger and Hanson (2011).

Researchers distinguish generically between push and pull factors for migration. In what follows, we provide an overview of the general empirical evidence in cross-country studies and discuss their relevance for Malaysia. The analysis of push and pull factors on skilled emigration proves difficult, since differences in personal backgrounds create significant ambiguities. Based on the literature (see Box 11) and the various interviews we conducted in Malaysia, Singapore, and the United States for the purpose of this study, we identify the following factors:<sup>67</sup>

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<sup>67</sup> See Belot and Hatton (2008), Lee (1966), Docquier, Lohest and Marfouk (2007), Grogger and Hanson (2008), McKenzie and Rapoport (2010), Beine, Docquier and Ozden (2010).

- *Less attractive salary / benefits than overseas after adjustment for cost of living.* For those who have the means to migrate, low salary levels and benefits provide a powerful incentive to do so.<sup>68</sup> This applies particularly to the highly-skilled. The prospect of higher wages may serve as one, but not the only, motivation for the skilled to emigrate. As people grow accustomed to higher real wages abroad, this factor even further gains weight. A hypothetical return may then be associated with losses in income and status.
- *Lack of career prospects / unavailability of opportunities in specific fields.* A lack of suitable high-productivity employment opportunities in the professional field an individual would wish to work in provides a strong incentive for migration. A range of professional occupations may not be offered in much depth in Malaysia. The lack of depth and breadth of the job market, particularly in knowledge- and skill-intensive sectors, provides both an incentive to emigrate and a disincentive to return-migrate.
- *Sense of social injustice.* Perceptions of social injustice appear to feature prominently in the decision to migrate or return-migrate. Malaysia's diaspora has a strongly ethnic dimension—as will be discussed later on. Factors such as unequal access to scholarships and higher education seem to be of significant concern, particularly among the younger population within the non-Bumiputera community.
- *Quality of life factors.* Differences in quality of life matter both in the decision to emigrate and the rationalization of the decision to remain abroad. As part of this, safety and security issues are likely to be an important component. In the Malaysian context, stories of kidnappings and armed robberies appear to be shared widely in the diaspora community and form a narrative to justify the decision to remain abroad.
- *Access to high-quality education.* Emigrants perceive both an access issue with respect to quality education and a quality gap between domestic and foreign institutions of primary through tertiary education. While the lack of access seems to serve as a strong push factor, the quality aspect serves as a deterrent to return.
- *Country size and diaspora network.* The proximity to Singapore and presence of many Malaysians there seem to play key roles in attracting skilled emigrants. The proximity allows them to stay in touch with family left behind in Malaysia, whereas the presence of Malaysians in high-productivity jobs in Singapore contributes to the powerful narrative of emigration.

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<sup>68</sup> Perhaps counterintuitively, a large compensation differential does not necessarily raise migration rates. If the differential is the result of low compensation domestically that limit the means to migrate, then openness would suffer and emigration may not occur.



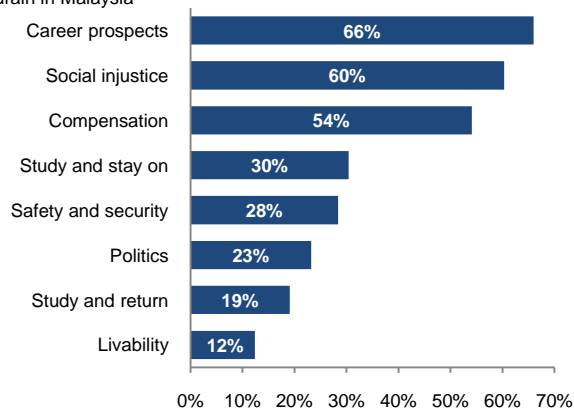
### ***Economic Incentives and Social Disincentives Matter Most***

To get a more structured response than solely feedback based on interviews, an online survey was administered at Qualtrics. The survey received 194 responses over a period of 3 weeks mid-February 2011. The survey was designed to provide a more human dimension to the quantitative data that made up a big part of the report's discussion so far. While the results of the survey are corroborated by other surveys (such as Wong, 2010) as well as the various qualitative interviews we have conducted, the small sample size implies that the results need to be interpreted with caution.

The demographic profile of the respondents—shown in Appendix B—is skewed towards the younger population of Chinese ethnicity. About half of respondents are students and the most of the remainder are working. Given the large share of students, about half of them are age 24 and below. The remainder is concentrated in the age 25-40 bracket. The respondents are mainly of Chinese ethnicity (81 percent). The concentration of the sample on young people of Chinese descent might be considered as biasing the results. Countering this, however, are the following two arguments. First, Malaysia's diaspora has a strongly ethnic dimension. Most of the diaspora is of Chinese ethnicity and this will be discussed further later on. Second, the focus on young people offers a worthwhile perspective from the point of view of designing policies. If Malaysia wishes to reattract, tap into or engage with the diaspora, the future will lie in the hands of these young people.

**Figure 3.32. Economic conditions and social injustice are considered as the top three drivers of brain drain**

Share of respondents listing item as one of three top reasons for brain drain in Malaysia



Source: Survey among the diaspora.

What does the survey suggest? The results suggest that economic incentives and social disincentives matter most (Figure 3.32). 'Better career prospects overseas' topped the list, with two thirds of respondents listing this as their top-three concern. 'More attractive salary / benefits overseas' was the number three, listed by over half of the respondents. Some 60 percent of respondents considered a 'sense of social injustice' as one of the top three reasons for brain drain. The importance of both economic incentives and social disincentives has been underscored in other surveys as well. Wong (2010) finds similar results in an online survey (of a larger sample of 854 respondents but with a similar demographic).<sup>69</sup>

<sup>69</sup> See [pluggingthebraindrain.wordpress.com](http://pluggingthebraindrain.wordpress.com). Note that this survey is also geared towards young Malaysians of Chinese ethnicity: 90 percent are younger than 27 and 85 percent are of Chinese ethnicity. This survey rates the

## Comprehensive Approaches

For Malaysia to fulfill its aspiration to become a high-income economy by 2020, it will be important to consider the underlying factors that lie at the heart of individuals' migration decisions.<sup>70</sup> The previous discussion showed that productivity (a catch-all for economic incentives) and inclusiveness (a catch-all for social disincentives) are two key factors driving emigration decisions. Boosting productivity and strengthening inclusiveness will therefore be key and on this front the Government of Malaysia has announced—and is in the course of implementing—major transformative initiatives. Most notably, the Government Transformation Programme (GTP) and Economic Transformation Programme (ETP) embody the principles of the comprehensive approaches outlined below. The discussion below will serve to underline the relevance of these approaches as well as the importance to implement them.

### *Boosting Productivity*

The productivity challenge is an interplay between human capital development issues (affecting the supply of skill) and broader investment climate issues (affecting firms' productivity and the demand for skill). The concern is that this interplay has caused the Malaysian economy to be stuck in an undesirable low-skill low-productivity equilibrium, where the supply and demand deficiencies reinforce each other.

#### **Education Policies to Foster the Supply of Skills**

One reason why productivity is constrained relates to the human capital base in Malaysia, where as mentioned earlier the current base may be too narrow and of insufficiently high quality to support the needs of the high-growth model. The risk is that, as the demand for skilled labor picks up when investment climate issues are tackled, existing skill shortages would become even more binding.

The World Bank's recent investment climate assessments highlight the concerns of firms about the quality of the skills base. Some 40 percent out of 1,400 firms sampled in a recent survey reported the skills issue as a top investment climate obstacle.<sup>71</sup> It also appears that the concern about human capital is held across the board, regardless of the region where the firm operates, the size of its operations, its export orientation, its ownership structure or the industry it belongs to.

The concerns about quality apply across the entire skills spectrum and includes both cognitive and non-cognitive (Figure 3.33 and Figure 3.34). Firms are particularly concerned about the skills of local production workers, especially in manufacturing but also in services. The key concerns are in the area of technical/professional, communication, IT, leadership and English language proficiency skills for manufacturing, and technical/professional, IT, communication, social, leadership, creativity/innovation skills for services. Firms also report skills deficiencies at the local professional level, especially creativity/innovation and IT skills in manufacturing and creativity/innovation, leadership, problem solving, and communication skills in services.

determinants of migration on a scale of 0 (does not at all affect) to 5 (greatly affects), with the share of respondents rating the following factors at 4 or 5 listed in brackets: economic situation in Malaysia (56 percent), political situation in Malaysia (69 percent), human rights and media freedom (55 percent), inter-racial harmony (58 percent), quality of education (63 percent), crime rate (63 percent).

<sup>70</sup> These factors, incidentally, also apply to the cross-border flow of physical and financial capital, where Malaysia has seen significant outflows as well.

<sup>71</sup> World Bank (2009c).

**Figure 3.33. Skill deficiencies for local production workers**

Percent of managers considering the listed skill of local skilled production workers as 'poor' or 'very poor'.



Source: World Bank (2005 and 2009c).

**Figure 3.34. Skill deficiencies for local professional workers**

Percent of managers considering the listed skill of local professionals as 'poor' or 'very poor'.



Source: World Bank (2005 and 2009c).

These skills problems harm productivity growth as firms have no other choice than to hire someone who is less than ideally qualified for the job. Employee surveys confirm these suboptimal hiring policies. Only 7 percent of manufacturing workers (15 percent in services) feel that the ideal field of education best suited for their job is the one they possess. As much as 17 percent of manufacturing workers (15 percent in services) feel the ideal field is completely different from their own.

Looking ahead, to ensure the demand for skill can be satisfied, efforts will be required to improve both the quantity and quality of skilled labor.<sup>72</sup> This requires attention to incentives, competition, and merit-based recruitment in education, as well as curriculum development, better teacher training, and leveraging efforts with the help of the private sector—topics which have been discussed in previous issues of the *Malaysia Economic Monitor*.

### Growth Policies to Boost the Demand for Skills

Firms are concerned about the quality of education, but an alternative explanation may lie in the unwillingness of firms to offer higher wages to attract the best and brightest. This unwillingness may result from a lack of productivity caused by factors other than human capital. In other words, even if firms could find the right skills, they cannot afford to pay higher wages given other constraints.

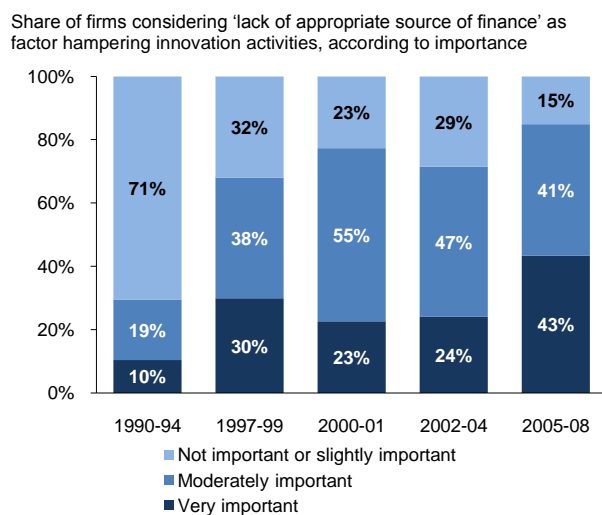
Indeed there is ample evidence to suggest that Malaysia's economic structure over the last few decades has remained largely centered on low- and semi-skilled production modes (assembly-based manufacturing), which has dampened the demand for skilled labor.<sup>73</sup> We also see that the services sectors remains highly protected, removing the incentive of firms to innovate and upgrade along the value chain, reducing the need for skills further.

<sup>72</sup> Besides from promoting productivity growth which reduces the incentive to emigrate, education policies can also mitigate migration more directly since quality of education is considered as one of the factors motivating the decision to seek overseas education.

<sup>73</sup> See World Bank (2010a).

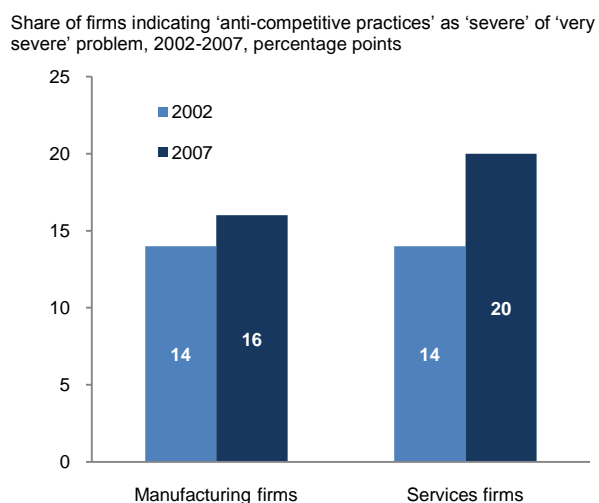
How to raise the demand for skills? Improvements to the enabling environment can facilitate this through the building of an internally-competitive and business-friendly economy, the provision of appropriate soft and hard infrastructure to support the knowledge economy and the adequate provision of bank finance and venture capital for innovation. Focused technology, innovation and urbanization policies can nurture niches of growth by building on existing strengths—and this is indeed the route being followed through Malaysia’s National Key Economic Activities. Greater specialization will assist in accelerating growth and create demand for skilled labor—and increase social and private returns to education and skills upgrading.

**Figure 3.35. Lack of finance appears to be constraining innovation**



Source: World Bank (2010a).

**Figure 3.36. Firms have become increasingly concerned about anti-competitive practices**



Source: World Bank (2005 and 2009c).

Of particular importance will be the need to smooth the flow of capital to innovating firms and to unleash the forces of competition within the economy. As Figure 3.35 shows, firms consider a lack of appropriate finance as a top bottleneck hampering innovation activities. As of the latest innovation survey, some 43 percent considered this a 'very important factor'. To activate innovation, Malaysia will also need to unleash the forces of internal competition, which is the driving force of private sector-led innovation. However, the competitive landscape in Malaysia is not even.<sup>74</sup> Manufacturing is exposed to international competition, but many services subsectors lack both international and domestic competition. World Bank surveys of Malaysian firms suggest that anti-competitive practices in the services sector were considered of major—and rising—concern (Figure 3.36).<sup>75</sup>

<sup>74</sup> As the New Economic Model puts it, “Malaysia’s major obstacle is the absence of fairer competition to raise competitiveness within the nation. The existing restrictions on equity holdings and operations as well as slow liberalization and deregulation policies make it difficult for domestic and global entrepreneurs to invest in Malaysia, undermining the efforts of local players to improve themselves through competition.” (NEAC,2010b).

<sup>75</sup> World Bank (2009c).

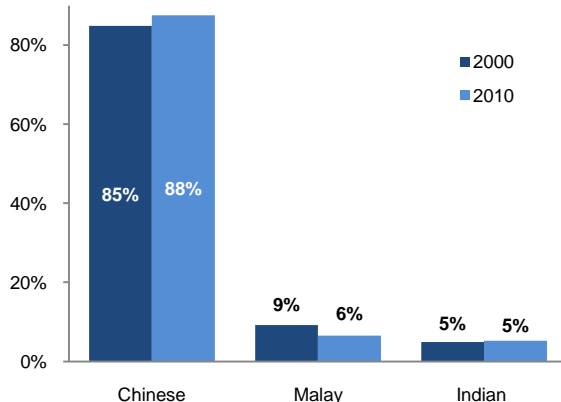
## Strengthening Inclusiveness

In addition to economic incentives, social disincentives have played an important role in the migration decision, particularly among the non-Bumiputera communities (see Box 12 below). As acknowledged in the Roadmap of the Government Transformation Programme:

*“An unintended outcome of the National Economic Policy (NEP) was a sense of deprivation, discrimination and even resentment felt by the non-Bumiputeras, which was attributed to the over-zealous attitude and approach in implementation by some officers in certain agencies. There has also been a widening of the income gap within the Bumiputera community, leading to rising discontent amongst certain segments of that community. These factors have pushed many Malaysians, especially professionals, to work and reside overseas, in economically more advanced countries with attractive pull factors such as higher income, wider exposure and opportunities, better quality of life and education for their children. Many have chosen to settle permanently, and there are signs that this brain drain has become increasingly serious. It is imperative that these issues [...] are addressed, as not only is our economy’s competitiveness, stability and sustainability at stake, but continued widening and rising disparities will jeopardize national unity.”* (Pemandu, 2010; p. 76)

**Figure 3.37. The share of ethnic Chinese among the Malaysian diaspora in Singapore is high and rising**

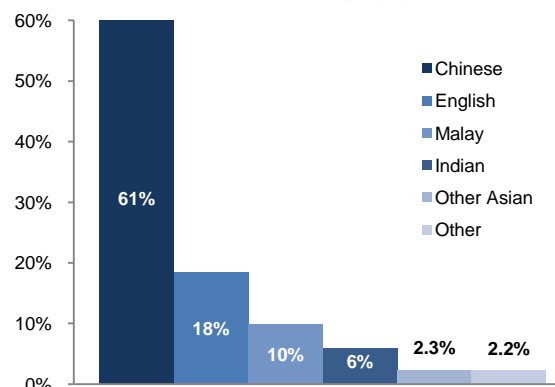
Share of Malaysia-born resident population according to ethnicity, 2010 (percent)



Source: SingStat (2010).

**Figure 3.38. Among the Malaysian diaspora in the US, 10 percent speak Malay**

Share of Malaysian adults in the US by language group, 2000, percent



Source: Lucas (2008) based on US Census 2000 data in IPUMS.

Even if economic incentives play an important role as well, the observation that social disincentives have mattered correlates with the Malaysian diaspora having a strongly ethnic dimension. By 2010, the share of ethnic Chinese in the diaspora residing in Singapore has risen to almost 90 percent, with the share of ethnic Indians flat at 5 percent (Figure 3.37). Among the Malaysian diaspora residing in the US in 2000, 10 percent reported Malay as their mother tongue, while over 60 percent report one of the Chinese languages and 6 percent report on of the Indian languages (Figure 3.38). Other data is scarce and less reliable, but nevertheless suggestive. For example, based on a limited sample out of the Australia’s longitudinal immigrant survey in 2000, Lucas (2008) reports that among Principal Visa Applicants born in Malaysia and admitted to Australia between September 1999 and August 2000, 73

percent were ethnic Chinese and 15 percent ethnic Indian.<sup>76</sup> These numbers suggest that the non-Bumiputera are highly overrepresented in the diaspora relative to their population shares (26 percent for the Chinese ethnicity and 7.7 percent for the Indian ethnicity).

Strengthening inclusiveness is an important policy priority in the Government of Malaysia's reform agenda. The objective of unity in diversity and inclusiveness, while ensuring fairness for all, lies at the heart of the 1Malaysia principle and is also anchored in the Federal Constitution of Malaysia. As Prime Minister Dato' Sri Najib Razak has recently remarked:

*"It is important that we first acknowledge the tremendous progress that we, as a nation, have made in creating a more united and inclusive Malaysia. Nevertheless more needs to be done, and it is my belief that Malaysians have reached the level of maturity necessary to discuss some of the tougher issues that we face. These issues often do not have a solution and represent polarities that require compromises to be made by all parties."* (Pemandu, 2010; p. 64).

The need for change is echoed in a quote of former Deputy Prime Minister Tun Musa Hitam:

*"We must now begin to pay heed to questions as to whether our redistributive economic policies are indeed holding us back competitively compared with the rest of the world. Race-based economic policies do not sit well with the realities of globalization and free trade. Malaysia must find a way to create race-neutral space within itself and find the correct formulae to harness the qualities necessary to compete on a global level"* (Pemandu, 2010; p. 76).

The need to update Malaysia's inclusiveness strategies reflects both new realities and new challenges. The new reality is that poverty is no longer the key issue when thinking about inclusive growth. Poverty still exists—and pockets of poverty remain deep, concentrated and geographically biased—but inequality is now in the spotlight and is presenting a tremendous challenge. The other new reality is that inequality is no longer what it was four decades ago. Nowadays over 90 percent of the level of inequality is explained by differences within ethnic groups rather than differences between these groups (World Bank, 2010b). Individual socio-economic characteristics, such as activity status, sector of employment, urban versus rural stratum, and educational attainment are now the capital explanatory factors, no longer ethnicity.

Malaysia's high-income aspiration is also raising a whole new set of challenges. High-income economies tilt the demand for labor in favor of the skilled, sharpening income inequality across the skills spectrum. They tend to specialize in product niches and concentrate activity in narrow geographical clusters, raising challenges to retrain people and move them around to where the new jobs are. They are also open to competitive forces, creating challenges for those who are unable to compete or unlucky as a result of such competition.

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<sup>76</sup> The stratified sample consists of only 64, so these results should be interpreted with extreme caution. The longitudinal survey is available from Dept. of Immigration and Citizenship Australia (2000).

What could an updated inclusiveness strategy consist of? The previous issue of the *Malaysia Economic Monitor* proposed a three-pillar approach (World Bank, 2010b):

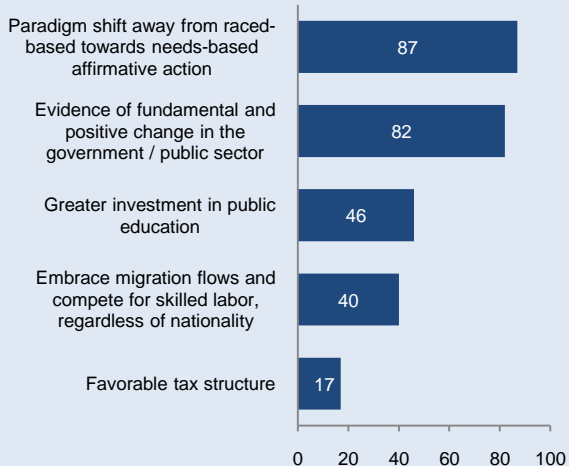
- *Increasing economy-wide income-earning opportunities.* Malaysia's steady growth has benefitted many. However, there are those who are being excluded because growth has not translated into steady employment or has not turned self-employment from a desperate last resort to an opportunity to become an independent and creative entrepreneur. In this respect policies would be welcome to reduce the costs of and barriers to labor mobility, increase competitiveness in the labor market to push up wages, and reduce the rigidities in labor market regulations. Together, these measures would help to raise the level of employment, strengthen the labor market matching process, and reduce the degree of informality.
- *Promoting investment in human capital.* Many Malaysians cannot take advantage of income-earning opportunities because they lack the skills to do so. Some never got them in the first place, despite the massive investments that Malaysia has made in its education system. In the case of others, the skill needs of the Malaysian economy have changed more quickly than the educational and training opportunities that are available to them. Policies could address these challenges by reducing disparities in the availability of quality basic education among states and between rural and urban areas, restructuring the vocational training system, and ensuring that the skills being produced match the needs of the market.
- *Providing social protection for the poor and vulnerable.* Some Malaysians will not be able to avail themselves of opportunities to increase their incomes or their human capital because of disability, old age, or other factors. Others may require temporary support because of factors beyond their control such as natural disasters or the financial crisis. In this respect policies would ensure that benefits get to the right people and provide sufficient protection to allow them to take the prudent risks needed to participate fully in today's global economy.

### BOX 12. SUGGESTIONS FROM THE DIASPORA

The survey that we organized earlier this year led to a wealth of suggestions from those who left Malaysia and are considering whether to return. While the responses below reflect the opinions expressed and should not be construed as necessarily representative, they provide a valuable input for debate. In a close-ended question where respondents are asked to rank policy initiatives which they view as critical in attracting emigrants back to Malaysia, social and governance issues such as affirmative action, government effectiveness, and education quality were considered as important factors (Figure 3.39).

**Figure 3.39. Social/public administration policies are important for return migration**

Percent of respondents who viewed that these policy initiatives may entice a migrant to return to Malaysia



Source: Survey among the diaspora.

Open-ended questions reveal suggestions about inclusiveness, corruption, career opportunities, and access to education. Here is a summary of the suggestions made:

Government-related	Private sector-related
<p><b>Inclusiveness and social justice</b></p> <ul style="list-style-type: none"> <li>- Ensure equal opportunities based on merit, not race or religion</li> <li>- Embrace Malaysia's multi-culture nature and promote tolerance and acceptance of people</li> <li>- Strengthen public dialogue and debate on political issues</li> <li>- Allow dual citizenship</li> </ul>	<ul style="list-style-type: none"> <li>- Practice meritocracy in race-blind way in hiring and daily workplace activities</li> <li>- Reduce top-down management</li> <li>- Adjust wages based on qualification, not age</li> <li>- Create awareness of civil rights and corporate responsibility</li> </ul>
<p><b>Governance and anti-corruption</b></p> <ul style="list-style-type: none"> <li>- Increase transparency in policy making and procurement through open tenders, clear selection criteria</li> <li>- Reduce corruption especially in enforcing agencies</li> <li>- Strengthen the role of the media</li> </ul>	<ul style="list-style-type: none"> <li>- Demand for more transparency from government</li> <li>- Be proactive and advocate for policy changes</li> <li>- Participate more actively in unions and associations</li> </ul>



**Economic management and career prospects**

- Reduce government intervention in the economy
- Open up services sectors such as legal services to foreign firms
- Improve labor regulations
- Promote the creation of high-paid, high-productivity job opportunities
- Ensure wage increases to keep up with rising cost of living
- Improve physical public infrastructure, e.g. electricity and broadband
- Let the ringgit appreciate more strongly
- Adopt systems of international standards in pay and benefits
- Recruit Malaysians studying overseas to return with competitive remuneration packages, internship, training, career advancement opportunities, and work-life balance
- Create global business competitions linked to scholarship awards
- Create partnerships to allow foreign-educated Malaysian students to work with foreign partners for a few years prior to returning to Malaysia to serve out their contracts
- Encourage environment for creativity and collaboration

**Education**

- Disconnect racial issues from tertiary education
- Open up the opportunities for non-Bumiputera students to join the local university based on meritocracy
- Strengthen teaching and research quality of personnel at tertiary education institutions

**Living conditions**

- Ensure safer communities through stronger law enforcement
- Promote affordable housing and public transportation
- Improve healthcare service quality
- Improve natural resources management to preserve nature

**Targeted Approaches**

While comprehensive approaches to boost productivity and inclusiveness are necessary, they may not be sufficient. For Malaysia to retain, attract or re-attract the best and brightest in support of the high-income objective it also needs to proactively participate in the global competition for talent. In addition, Malaysia can also engage with the diaspora in other ways than influencing the flow of talent.

***Competing for Talent***

Participating in today's global competition for talent requires developing Malaysia into a location of choice, where people want to live, work, raise a family and retire. Given the expanded set of options available in today's globalized world, talented individuals may be choosing a location first before they choose a job. As a result, the source of competitiveness of a region has become increasingly tied to quality of life considerations and the ability of the region to attract on this basis talented individuals.<sup>77</sup>

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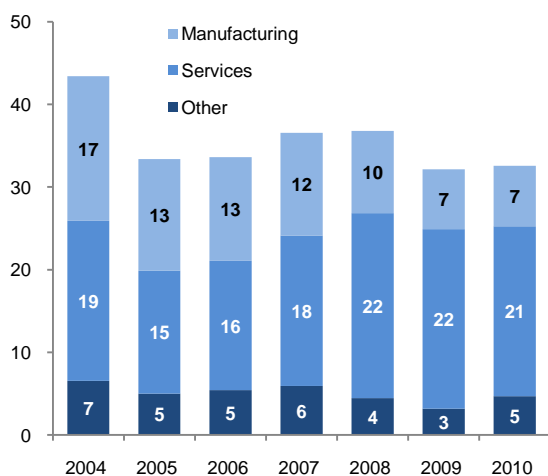
<sup>77</sup> A key factor here is to transform urban areas, where economic activity tends to be concentrated, into sticky places that spur creativity and innovation. These sticky places serve as magnets for creative and high-skilled individuals. This must go beyond addressing bads such as crime and congestion, but transform the city fundamentally into a livable and sustainable space.

However, once the enabling conditions are satisfied and Malaysia offers an attractive value proposition in terms of productivity-linked wages, social inclusion, quality of life and other factors—through the comprehensive approach discussed earlier—then the question becomes how Malaysian can best facilitate the flow of talent across borders in the most effective and efficient way.

In this regard, talent management policies could play a potentially pivotal role, which is corroborated by our survey. As Box 13 shows the attitudes of migrants surveyed in our samples reveal a strong sense of attachment to Malaysia. Many of them remain connected in one way or the other. This level of attachment is particularly strong among migrants who have recently migrated. This suggests that the time window within which migrants consider to return migrate shrinks rapidly as the length of time spent abroad increases—a result that is picked up in the survey as well. This is encouraging news as it suggests that, providing the enabling conditions are right, targeted talent management policies could flip the balance over to Malaysia’s advantage, transforming the brain drain into an overall brain gain.

**Figure 3.40. The number of expatriates in Malaysia has fallen, primarily in manufacturing**

Number of expatriates by sector employed, thousands



Source: Department of Immigration Malaysia.  
Note: Peninsular Malaysia only.

**Table 3.15. Among the main source countries, the decrease was particularly large for Japan**

Number of expatriates by country of origin, numbers and percent

	Level		Share 2010	Growth 2004-10
	2004	2010		
All countries	43,406	32,583	100%	-25%
India	9,609	5,888	18%	-39%
China	4,414	3,206	10%	-27%
Japan	5,397	2,248	7%	-58%
United Kingdom	2,290	1,964	6%	-14%
Bangladesh	563	1,878	6%	234%
Philippines	1,905	1,835	6%	-4%
Indonesia	1,794	1,735	5%	-3%
Pakistan	1,424	1,406	4%	-1%
South Korea	1,504	1,399	4%	-7%
Singapore	3,091	1,249	4%	-60%
Australia	1,396	1,023	3%	-27%
United States	1,006	874	3%	-13%
Iran	240	706	2%	194%
Taiwan	1,400	589	2%	-58%

Source: Department of Immigration Malaysia.  
Note: Peninsular Malaysia only.

But in addition to enticing the diaspora to return, Malaysia could also tap more fully into the global pool of talent (Figure 3.40 and Table 3.15). To date, it seems that Malaysia has yet to reap the benefits of importing foreign talent. In fact, the number of expatriates declined by a quarter over the period 2004-2010, with much of this decline apparent in the expatriates employed in the manufacturing industries of Malaysia. This is consistent with the decline registered in expatriates from Japan, given the significant presence of Japanese multinationals and affiliates in the manufacturing industry. However, the magnitude of the decline is somewhat disconcerting, as the expatriate population from Japan was halved over the period considered. The decline was substantial as well among other higher-income countries but much less pronounced for lower-income countries.

A few qualifications are in order before we can interpret the decline in expatriate statistics. Expatriates are defined as professional or skilled foreign workers that stay or remain temporarily in Malaysia for the purpose of employment. They are issued an Employment Pass or Work Pass (in the case of Sabah) for a minimum period of two years and entitled to a salary of not less than RM1,200 per month. However, the minimum salary requirement has been changed to RM5,000 starting from 2008. However, following this change, some sectors, such as in ICT, health (nurses), education (international school teachers), could not afford to hire expatriates at this salary level, where other, such as in oil and gas, could not comply with the period of two years (in some cases, their contract lasts for only 6 months). To address such cases, the Immigration Department issued a Temporary Visit Pass. The statistics shown comprise of both categories. However, they only consist of the expatriate population on the peninsula.

How to interpret the decline in the expatriate population resident in Malaysia? Clearly, one factor has been the global economic crisis, which affected not only the movement of capital across borders (particularly FDI) but also that of professional workers. Indeed, following an initial decline after 2004, the numbers were growing steadily, a process that was interrupted in 2009. The Malaysian authorities also report that the decline may be a result of stricter enforcement by the expatriate committee (JKPD) to minimize fraudulent cases. At the same time rigid conditions and criteria in applying for an Employment Pass may have played a role as well.<sup>78</sup>

Looking ahead, as skills demand in the Malaysian economy is expected to rise, it will be important to reverse these trends. In this respect, it is important to discard the idea that foreign and Malaysian skilled workers are perfect substitutes. On the contrary, they are strong complements. Knowledge workers interact with one another in ways that lead to exponential benefits and increase the productivity of all (rather like the internet—the more the number of users, the more powerful is the web).

Visa and restrictive employment requirements on foreign skilled workers are proving to be a critical and binding constraint preventing companies from accessing the skills needed to move up the value chain. Therefore, it is helpful to introduce a fast-track procedure for work permits for high-tech and high-skilled businesses and individuals, and for work in research and universities. At this moment the tardiness of getting for example foreign lecturers approved means that by the time they are given the approval they have picked another job elsewhere.

Returning migrants are most likely to be attracted by programs which welcome them and their families to stay, provide security through granting permanent residency, and offer them an environment in which they can innovate and build a new business. Overregulation of the services sector, in particular, is a major barrier for returning migrants. Qualifications obtained abroad are not recognized domestically and criteria other than quality may be applied. All pharmacists getting a license to work in Malaysia must first work for the government for three years. Such measures discourage those who have gone abroad from coming home.

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<sup>78</sup> Based on feedback received from Department of Immigration and Economic Planning Unit. Note that the rigidities with respect to the Employment Pass are now being addressed—see a bit further in the text.

Malaysia could also allow for the greater inflow of foreign students in universities, which can provide a welcome source of revenue and also deepen linkages with local providers of services to the university. Elite universities can be important exporters of services and can be significant revenue generators for the local economy. Also important are the potential spillover effects. University teaching and research in the life sciences has the potential to generate synergies with the hospital sector, where Malaysia is a growing exporter of medical services. Finally, once foreign students graduate they could be offered the opportunity to put their skills to good use in Malaysia.

Malaysia has recently established the Talent Corporation, which has been tasked to coordinate efforts in these areas. Two recent initiatives target expatriate and returning migrants respectively:

- *Residence Pass (RP)*. RP holders can work and live in Malaysia up to ten years and can change employers without having to renew the pass. Any foreign talent who has been living and working in Malaysia for at least 3 years on a continuous basis. Preference would be given though to experts in areas relating to the National Key Economic Activities (NKEAs), as well as ICT, aeronautics and biotech.<sup>79</sup> The RP would allow foreigners who are posted in Malaysia with a multinational to have the option to stay longer at the end of their tour of duty. The RP would also provide an option to come back to those who may no longer be Malaysian, such as children of Malaysians who have moved overseas for education.
- *Returning Experts Programme (REP)*. Malaysian professionals working abroad are offered a flat income tax rate of 15 percent for five years. The low tax rate would ensure greater competitiveness with respect to other countries, which have lower marginal tax rates (but also different tax brackets) such as Hong Kong and Singapore. Diploma holders with at least 10 years of overseas work experience would qualify for the REP if they have the relevant industry experience in any of the NKEAs. In the past these efforts were managed under the Expert Scheme introduced in 2001, which up till the end of 2010 managed to attract 750 people with expertise in various fields.

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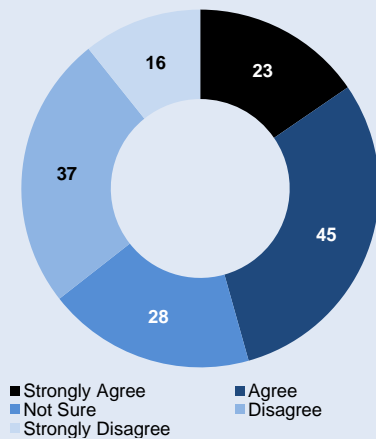
<sup>79</sup> The NKEAs consist of 11 economic sectors (oil, gas and energy; palm oil; financial services; tourism; business services; electronics and electrical; wholesale and retail; education; healthcare; communications content and infrastructure; agriculture) and 1 geographical sector (greater Kuala Lumpur and Klang Valley).

**BOX 13. ATTITUDES TOWARDS RETURN MIGRATION**

Turning again to the survey, a number of revealing attitudes can be observed among the diaspora. Figure 3.41 suggests that almost half of the Malaysians based overseas who responded to the survey feel a strong sense of attachment to their country, with another 20 percent undecided. This seems to suggest that many Malaysians remain connected to home even though they are living or studying abroad. On the other hand, Figure 3.42 seems to suggest a great level of comfort in their current country of residence. While this demonstrates that high-skilled migrants have generally been successful in their pursuits outside of Malaysia, it reveals a more challenging question that policymakers will need to address when thinking about wooing its talented nationals back home: leveraging and strengthening existing ties enough to tip the balance in favor of return migration.

**Figure 3.41. I feel a strong sense of patriotism for, and / or emotional attachment to, Malaysia**

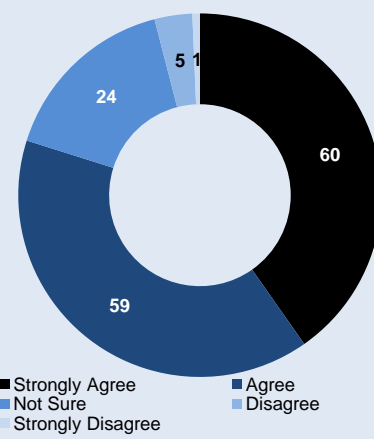
Count of of survey respondents



Source: Survey among the diaspora.

**Figure 3.42. My professional goals have been met through migration out of Malaysia**

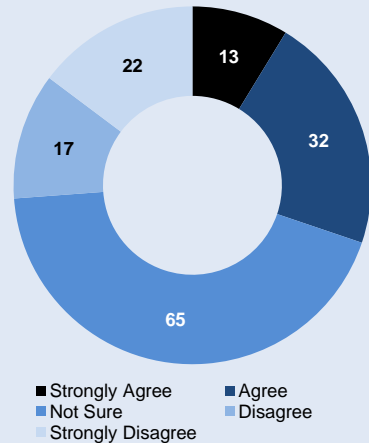
Count of of survey respondents



Source: Survey among the diaspora

**Figure 3.43. I intend to return to Malaysia for good at some point in my life**

Count of of survey respondents

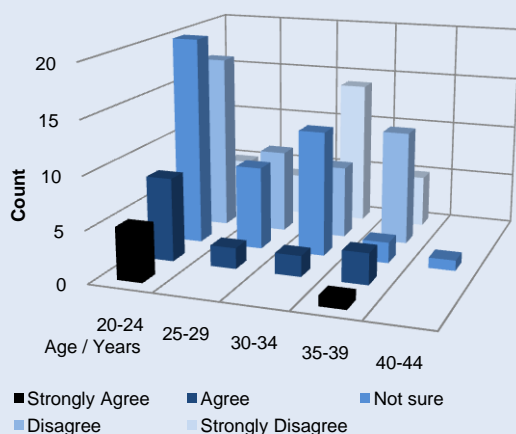


Source: Survey among the diaspora

Finally, a third insight that can be drawn from the survey results is the time window within which migrants are considering return migration. Figure 3.44 and Figure 3.45 show the responses to 2 questions broken down by age of respondents. Both questions follow an interesting pattern: as the age of respondents increases from left to right, the number of positive ('Strongly Agree' or 'Agree') responses decreases, while the number of uncertain or negative responses clearly increases.

**Figure 3.44. If nothing about Malaysia changes, I will still return home and contribute positively to the economy**

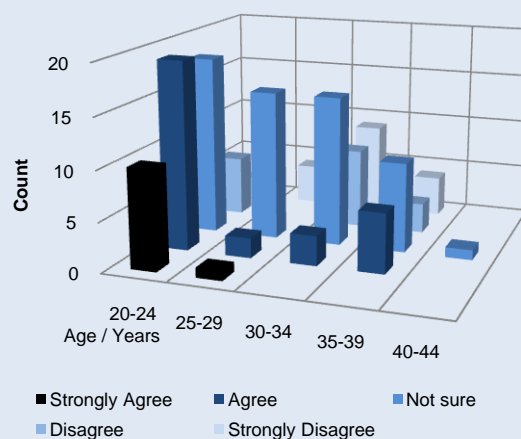
Count of of survey respondents, by age group



Source: Survey among the diaspora

**Figure 3.45. I intend to return to Malaysia for good at some point in my life**

Count of of survey respondents, by age group



Source: Survey among the diaspora

As Malaysia develops new initiatives to tap into the diaspora by encouraging return migration, it will be helpful to consider policies that are not too tightly conditioned on the migrant's permanent return. Countries around the world focus on the mobility of migrants, which encompasses virtual, short-term and permanent return, and gives the diaspora members also the freedom to go home and return to their host country without losing legal status or citizenship (Plaza and Ratha, 2011).

### Engaging with the Diaspora

Malaysia could also leverage more fully on the diaspora community in other ways than enticing them to physically return migrate to Malaysia. Case studies from around the world suggest that diaspora communities can contribute to trade, foreign direct investment and knowledge spillovers. The diaspora can play a positive role in supporting development, particularly in the context of encouraging high-tech industries. Diaspora members can act as bridges between foreign technology and markets and local entrepreneurs, and complement and strengthen local market-based institutions. The diasporas of Taiwan (China), Chile and Israel have helped develop high-tech industries, and more recent examples include China and India (Leipziger, 2008).

The diaspora can contribute significantly to developing trade. At one level, this is reflected in the demand from diaspora members for ‘nostalgic products’—i.e., Malaysia-specific products that are not produced overseas—even though the impact of this might be limited since these products would have been consumed as well if no migration had taken place. At another level, diaspora members can assist exporters from Malaysia to find buyers, improve their knowledge of the market, and comply with government requirements and standards. Activities around the world have included: the creation of Diaspora Trade Councils and participation in trade missions and business networks (Plaza and Ratha, 2011).

Members of the diaspora are also sought after to facilitate foreign multinationals and other firms to invest in Malaysia. Diaspora members can provide context and resolve uncertainty as foreign multinationals approach them. Diaspora members themselves can also invest directly in Malaysia—and they might be willing to take more risk doing so for their home country as they are also better placed to evaluate opportunities and possess contacts to facilitate the process (Lucas, 2001). Business forums could be established overseas and investment promotion agencies could engage more actively with the diaspora.

Malaysia could also engage by developing direct and indirect financial linkages. An example of the latter is the creation of the diaspora investment funds, where the diaspora could actively contribute in the development of particular domestic sectors. An example of the former would be to engage with foreign venture capital firms. There are various firms in, for example, Silicon Valley who focus on exporting entrepreneurial ecosystems and providing seed-, early- and growth-stage capital for innovative ventures coupled with local entrepreneurial talent.<sup>80</sup>

The ability to hold dual or multiple citizenship provides an essential link between the diaspora and the home country. Citizenship and residency rights are important determinants of a diaspora’s participation in trade, investment and technology transfer with the origin country (Cheran, 2004). Some origin countries do not allow dual citizenship but offer identity card schemes in destination countries, which could also help. Similarly, the granting of voting rights could also help strengthen links with the diaspora. Some countries even reserve a specific number of seats in parliament for diaspora representatives (Plaza and Ratha, 2011).

The diaspora can thus act as ‘global search networks’ for developing local industries. For example, key members of the Taiwanese government and leading overseas engineers in Silicon Valley played such a role in the establishment of a successful venture capital industry in Taiwan (China). However, harnessing the enthusiasm, commitment and resources of the diaspora can be challenging. Creation of a robust diaspora network requires time, patience and institutional capabilities. Furthermore, it can be challenging to turn ‘discussions’ (e.g. through conferences, websites and online communications) into ‘projects’. (Kuznetsov and Sabel, 2008).

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<sup>80</sup> In the context of an ongoing World Bank study on how Malaysia can move up the value chain in its manufacturing industries, we have met with a group of Arab-American venture capitalists, who intend to expand their operations around the world—including Malaysia.

Given that it may be easy to initiate but more difficult to sustain contact, it is important that diaspora engagement efforts maintain a transaction focus. Talent Corporation could in this regard provide selective incentives, organize events and competitions for ideas that reach out to the diaspora and connect them to Malaysia. Awards could be provided in the form of recognition and promotion of these projects or provision of funds in collaboration with external partners.

Bottom-up initiatives could complement top-down ones. For example, in Scotland, an agency connected with about 300 high profile diaspora members, three quarters of which agreed to engage and became the founding members of this network and reached out to other diaspora colleagues via invitations (World Bank Institute, 2006). The 'by invitation'-initiative gained popularity and proved more fruitful than a top-down effort of 'getting registered by the state'. Rather than developing new technical platforms governed by a government agency, one could also bring concepts to existing networks: such as Facebook, Linked-In, Xing and other non-internet based networking solutions within the diaspora community. This makes these efforts more cluttered over the internet and less centralized, but also more participatory.

## CONCLUSION

Brain drain—the migration of talent across borders—touches upon the core of Malaysia's aspiration to become a high-income nation. Human capital is the bedrock of the high-income economy. Sustained and skill-intensive growth will require talent going forward. For Malaysia to stand success in its journey to high income, it will need to develop, attract and retain talent. Brain drain does not appear to square with this objective: Malaysia needs talent, but talent seems to be leaving.

This Chapter has shown that the Malaysian diaspora is large and expanding, as well as geographically concentrated and ethnically skewed. The brain drain represents about a third of the total Malaysian-born migrant population, which is conservatively estimated at around 1 million.

Malaysia's brain drain is intensive, not necessarily because too many are leaving but because the skills base is too narrow. This is aggravated by the lack of compensating inflows, since the skill profile of immigrants in Malaysia is geared to the low end. The intensity of the brain drain is mitigated by the fact that a substantial share of the skilled diaspora acquired their education overseas—lowering fiscal costs for Malaysia but also making it less likely for them to return as they have spent their formative years abroad.

Brain drain does not appear to have eroded the number of graduates available domestically to the Malaysian economy as universities have managed to replenish the outflows. But it is likely to have eroded the quality of the human capital stock. As anywhere else around the world, brain drain is prone to positive selection: the best and brightest leave first. But given the narrow skills base in Malaysia this is particularly worrisome. The concern is also reflected on the demand side of the skills market: firms in Malaysia raise the quality of the skills base as a top concern, as successive investment climate assessments have indicated. While brain drain is not the only factor affecting quality, it has likely been an important one.



Brain drain is a wave to be ridden, not a tide to be turned. Brain drain reflects the forces of globalization that make the world a smaller place. Brain drain is not unique to Malaysia and neither is it avoidable or to to be avoided. The challenge for Malaysia, as for many other countries, is to embrace the global mobility of talent. As Malaysia needs talent, it will need to turn the brain drain to its advantage.

To address the brain drain, Malaysia will need to tackle the underlying determinants of brain drain. Brain drain is symptom—an outcome of underlying, more fundamental factors. Individuals respond to incentives and disincentives—these are the push and pull factors that drive the migration decision. Identifying these factors constitutes the first step towards formulating policy responses to brain drain. Among the factors that matter in Malaysia are differences in earnings potential, career prospects, quality of education and quality of life, relative to overseas locations. However, discontent with Malaysia's inclusiveness policies is a critical factor too—particularly among the non-Bumiputeras who make up the bulk of the diaspora.

The productivity and inclusiveness agendas are well understood and policy frameworks have been well articulated in Malaysia's transformation programs. Forceful implementation of these programs should assist in strengthening both the demand and supply side of the market for talent, so that productivity and wages levels can rise in tandem. This will also reduce the incentive to emigrate and help attract talent from abroad. Progress on updating Malaysia's inclusiveness strategies will be equally important as this is perceived by the diaspora as a key push factor that fuels the incentive to leave and serves as a deterrent to return.

Once the enablers are in place, targeted measures are helpful to further facilitate the flow of talent and engage with the diaspora in other ways than through the physical flow of people. However, these targeted measures cannot substitute for more comprehensive measures outlined earlier. Malaysia's Talent Corporation is developing new initiatives and recent measures, such as the Residence Pass and Returning Experts Programme, are encouraging. The challenge going forward will be to also find effective ways to connect with the diaspora—as interest is more easily raised than sustained. One immediate example of engaging might be to seek the diaspora's input on how Malaysia can make a leap forward in embracing the globalization of talent and turning brain drain to its favor.

## APPENDIX A. MIGRANT STOCK DATA AND ESTIMATES

Table A1. The Malaysian diaspora (1980-2010)

Size of the diaspora (age 0+), by country of destination and over time, numbers

	Historical series			Most recent		Source
	1980	1990	2000	value	year	
Singapore	120,104	194,929	303,828	385,979	2010	NSO
Australia	31,598	72,628	78,858	92,334	2006	UNPD
Brunei	37,544	41,900	60,401	60,401	2000	UNPD; 2000: OPSW
United States	11,001	32,931	51,510	54,321	2005	UNPD
United Kingdom	45,430	43,511	49,886	61,000	2007	UNPD ( IPUMSI)
Canada	5,707	16,100	20,420	21,885	2006	NSO; 1980: OPSW
Hong Kong	..	12,754	15,579	14,664	2006	NSO
India	23,563	11,357	14,685	14,685	2001	UNPD
New Zealand	3,300	8,820	11,460	14,547	2006	UNPD
China	937	548	7,278	7,278	2000	OPSW
Taiwan	..	191	6,635	6,635	2000	OPSW
Japan	..	5,047	5,849	5,480	2005	NSO
Viet Nam	299	821	4,813	4,813	2000	OPSW
Philippines	..	270	3,991	3,991	2000	OPSW
Indonesia	2,654	3,417	3,146	3,146	2000	OPSW
Germany	49	1,724	2,945	2,945	2000	OPSW
Netherlands	..	2,217	2,739	3,471	2010	UNPD; EuroStat
Ireland	..	..	2,398	2,277	2010	UNPD; EuroStat
Egypt	..	..	1,944	1,301	2006	UNPD
France	..	..	1,718	2,276	2005	UNPD; EuroStat
Pakistan	3,128	2,015	1,618	1,618	2000	OPSW
Thailand	..	..	1,290	1,068	2003	UNPD
Sweden	309	591	961	1,370	2010	UNPD; EuroStat
Switzerland	..	..	916	916	2000	UNPD
South Africa	479	..	393	393	2001	UNPD
Denmark	..	..	390	672	2010	UNPD; EuroStat
South Korea	..	156	353	353	2000	UNPD
Austria	..	..	332	414	2009	UNPD; EuroStat
Norway	..	182	304	436	2007	UNPD
Turkey	..	..	266	266	2000	UNPD
Spain	..	..	230	535	2010	UNPD; EuroStat
Finland	..	..	224	362	2010	UNPD; EuroStat
Italy	..	..	214	275	2007	UNPD; EuroStat

Source: UN Nations Population Department (UNPD) International Migration Database, Ozden, Parsons, Schiff and Walmsley (OPSW, 2011), Integrated Public Use Micro-Data Series International (IPUMSI), EuroStat, and the following national statistical offices (NSOs): Hong Kong Census and Statistics Department, Singapore Department of Statistics, Statistics Bureau of Japan, and Statistics Canada.

Note: Diaspora refers to the stock of Malaysian-born migrants, regardless of skill profile. This table shows the diaspora numbers for those aged 0+. Data is based on country of birth, except for Italy, Japan, Singapore (1980), Switzerland and Thailand, where country of citizenship is used. Observations for 1980 and 1990 may be of one year earlier or later depending on census timing. Observations for 2000 are as of 2002 for Ireland, 2001 for Australia, Austria, Hong Kong, India, Italy, New Zealand, South Africa and United Kingdom, 1999 for France, and 1996 for Egypt. The 2007 observation for United Kingdom is a survey estimate.

**Table A2. The Malaysian diaspora and brain drain (1990-2000)**

Size of the diaspora and brain drain (both age 25+), by country of destination and over time, numbers

	1990		2000	
	Diaspora	Brain drain	Diaspora	Brain drain
Singapore	185,906	19,005	28,6048	66,452
Australia	44,984	35,366	56,961	38,620
United States	17,725	13,745	36,994	24,085
United Kingdom	31,130	15,328	38,147	12,898
Canada	12,150	8,480	17,150	12,170
Brunei	49,439	3,142	36,216	6,438
New Zealand	6,069	4,239	7,548	4,221
Philippines	..	..	6,323	2,974
Taiwan	..	..	5,686	2,916
China	..	..	5,255	2,655
Egypt	..	..	2,657	1,588
Viet Nam	..	..	3,599	1,517
India	..	..	4,569	1,509
Thailand	..	..	2,061	1,071
Japan	..	..	3,864	961
Germany	..	..	1,810	783
Ireland	..	..	1,397	685
Netherlands	..	..	2,303	560
Indonesia	..	..	1,449	393
France	..	..	1,086	381
Switzerland	..	..	1,005	358
Pakistan	..	..	636	297
Sweden	..	..	830	210
South Africa	..	..	314	193
Italy	..	..	340	79

Source: Docquier, Marfouk, Özden and Parsons (2010); Docquier, Lohest and Marfouk (2007).

Note: Diaspora refers to the stock of Malaysian-born migrants, regardless of skill profile. This table shows the diaspora numbers for those aged 25+. Brain drain refers to the stock of tertiary educated Malaysian-born migrants, aged 25+.

**Table A3. The Malaysian diaspora and brain drain (2000 and 2010 estimates)**

Size of the diaspora (age 0+) and brain drain (age 25+), by country of destination and over time, numbers

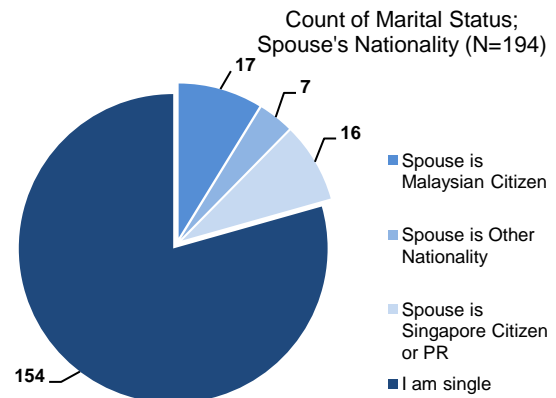
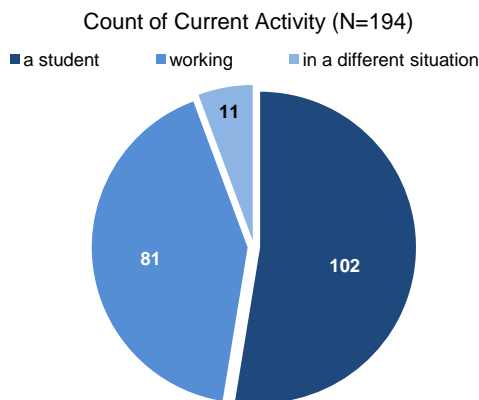
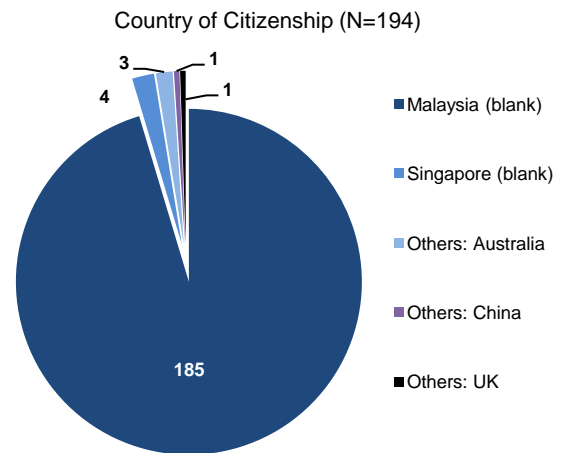
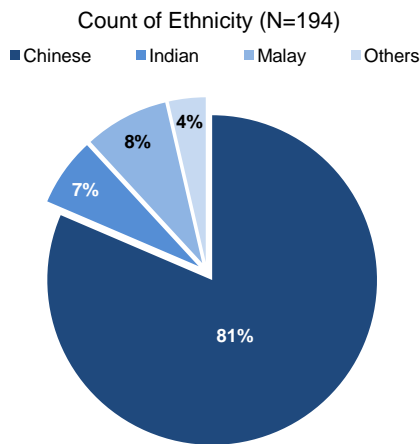
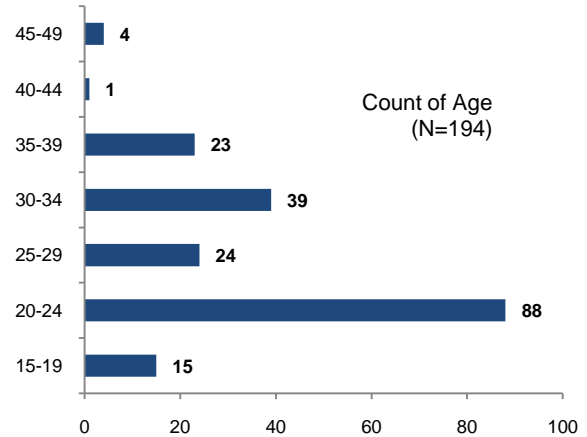
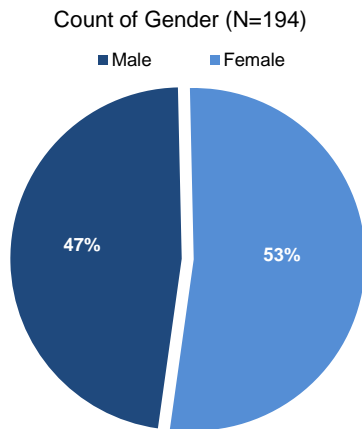
	Diaspora (0+)		Brain drain (25+)	
	2000	2010	2000	2010
Balanced sample total	639,896	808,018	184,014	276,558
Unbalanced sample total	657,574	827,387	184,014	276,558
Singapore	303,828	385,979	66,452	121,662
Australia	78,858	101,522	38,620	51,556
United States	51,510	61,160	24,085	34,045
United Kingdom	49,886	65,498	12,898	16,609
Canada	20,420	24,063	12,170	12,807
Brunei	60,401	76,567	6,438	10,208
New Zealand	11,460	15,995	4,221	6,708
India	14,685	18,179	1,509	4,503
China	7,278	9,226	2,655	3,496
Taiwan	6,635	8,411	2,916	3,235
Viet Nam	4,813	6,101	1,517	1,929
Philippines	3,991	5,059	2,974	1,785
Germany	2,945	3,733	783	1,211
Japan	5,849	6,170	961	1,151
Ireland	2,398	2,277	685	837
Indonesia	3,146	3,988	393	811
Pakistan	1,618	2,051	297	718
France	1,718	2,563	381	674
Egypt	1,944	1,430	1,588	641
Netherlands	2,739	3,471	560	633
Thailand	1,290	1,261	1,071	491
Switzerland	916	1,161	358	310
Sweden	961	1,370	210	260
South Africa	393	487	193	224
Italy	214	295	79	51
Hong Kong	15,579	16,123	..	..
Denmark	390	672	..	..
Norway	304	468	..	..
Korea	353	447	..	..
Finland	224	362	..	..
Austria	332	424	..	..
Turkey	266	337	..	..
Spain	230	535	..	..

Source: Docquier, Marfouk, Özden and Parsons (2010), Docquier, Lohest and Marfouk (2007), and World Bank staff calculations and simulations.

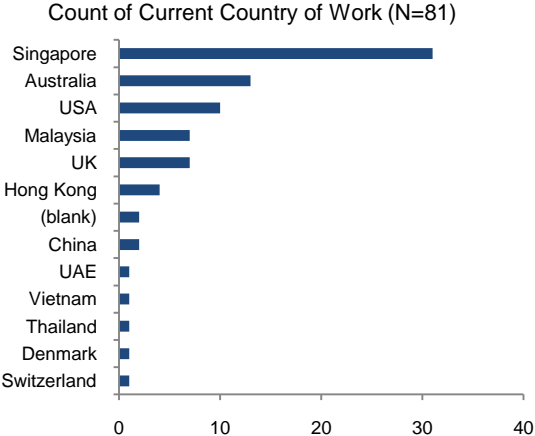
Note: Diaspora refers to the stock of Malaysian-born migrants, regardless of skill profile. This table shows the diaspora numbers for those aged 0+. Brain drain refers to the stock of tertiary educated Malaysian-born migrants, aged 25+. Diaspora projections based on constant annualized growth assumption of 2.4 percent following most recent observation through 2010. Brain drain projections based on constant 2000 skill shares and 0.75 scale factor (migrant stock age 25+/age 0+). Balanced sample = countries shown for which data is available for both diaspora and brain drain estimates. Unbalanced sample = all countries with data available in a given year.

## APPENDIX B: DEMOGRAPHIC PROFILE OF SURVEY RESPONDENTS

The key features are as follows. Slightly more women responded to the survey than men. Most of the respondents were students currently pursuing tertiary education outside Malaysia. The ethnic composition reflected mostly Chinese Malaysians, in line with the ethnic breakdown of Malaysian-born emigrants in the Australia and US. Almost all were Malaysian citizens.



Many respondents earned salaries of six figures. The respondents reported a wide range of countries in which they were currently working.



## REFERENCES

- Asian Development Bank (2011). *Asian Development Outlook: South-South Economic Links*. Asian Development Bank, Manila, April.
- Athukorala, Prema-Chandra and Wing Thye Woo (2011). *Malaysia in the Middle Income Trap*. Paper presented at the Asian Economic Panel Conference.
- Australia Department of Immigration and Citizenship (2000). *The Longitudinal Survey of Immigrants to Australia*.
- Barro, Robert and Jong-Wha Lee (2010). *A New Data Set of Educational Attainment in the World, 1950-2010*. NBER Working Paper No. 15902.
- Bhagwati, Jagdish and Koichi Hamada (1974). *The Brain Drain, International Integration of Markets for Professionals and Unemployment*, Journal of Development Economics, 1(1), 19-42.
- Beine, Michel, Frédéric Docquier and Çağlar Özden (2011). *Diasporas*, Journal of Development Economics, 95(1), 30-41.
- Beine, Michel, Frederic Docquier, Hillel Rapoport (2008). *Brain Drain and Human Capital Formation in Developing Countries: Winners and Losers*, Economic Journal, 118, 631-652.
- Belot, Michèle V.K. and Timothy J. Hatton(2008). *Immigrant Selection in the OECD*. CEPR Discussion Paper No 6675, February.
- Carrington, William J. and Enrica Detragiache (1998). *How Big is the Brain Drain?* IMF Working Paper WP/98/102. International Monetary Fund, Washington D.C.
- CIMB (2011a). *Monetary Policy: Rate Hikes Remain On The Cards*, Economic Update, March.
- CIMB (2011b). *Oil Prices: Will Rising Oil Prices Derail Malaysia's Growth?*, Economic Focus, March.
- Cheran, Rudrhamoorthy (2004). *Diaspora Circulation and Transnationalism as Agents for Change in the Post-Conflict Zones of Sri Lanka*. Policy paper submitted to the Bergh of Foundation for Conflict Management, Berlin.
- Chiquiar, Daniel and Gordon H. Hanson (2005). *International Migration, Self-Selection, and the Distribution of Wages: Evidence from Mexico and the United States*, Journal of Political Economy, University of Chicago Press, 113(2), 239-281.
- Coulombe, Serge and Jean-François Tremblay (2009). *Migration and Skills Disparities Across the Canadian Provinces*, Regional Studies, 43 (1).

- Credit Suisse (2011). *Malaysia: Rising Commodity Prices - Boon Or Bane?*, February.
- Defoort, Cécily (2008). *Tendances de Long Terme des Migrations Internationales: Analyse à Partir des Six Principauxpays Receveurs*, Population, 63e Année, No. 2, pp. 317-351.
- Docquier, Frédéric, Olivier Lohest and Abdeslam Marfouk (2007). *Brain Drain In Developing Countries*, World Bank Economic Review, 21(2), 193-218.
- Docquier, Frédéric, B. Lindsay Lowell and Abdeslam Marfouk (2009). *A Gendered Assessment Of The Brain Drain*, Population and Development Review, 35(2), 297-321.
- Docquier, Frédéric and Abdeslam Marfouk (2006). *International Migration By Educational Attainment (1990-2000)*, in C. Ozden and M. Schiff (eds). *International Migration, Remittances and Development*, Palgrave Macmillan: New York.
- Docquier, Frédéric and Hillel Rapoport (2004). *Skilled Migration: The Perspective of Developing Countries*, World Bank Policy Research Working Paper No. 3382.
- Docquier, Frédéric and Hillel Rapoport (2006). *Brain Drain*. Palgrave. October.
- Docquier, Frédéric, Abdeslam Marfouk, Özden Çaglar, and Christopher Parsons (2010). *Geographic, Gender and Skill Structure of International Migration*. Mimeo. November.
- Docquier, Frédéric and Hillel Rapoport (2011). *Globalization, Brain Drain and Development*, Journal of Economic Literature. Forthcoming.
- Dumont, Jean-Christophe, Gilles Spielvogel and Sarah Widmaier (2010). *International Migrants in Developed, Emerging and Developing Countries: An Extended Profile*, OECD Social, Employment and Migration Working Papers No.11. Available at: [www.oecd.org/els/workingpapers](http://www.oecd.org/els/workingpapers).
- Dustmann, Christian and Yoram Weiss (2007). *Return Migration: Theory and Empirical Evidence From The U.K.*, British Journal of Industrial Relations, 45(2), 236-56.
- Gibson, John and David McKenzie (2011). *Eight Questions About Brain Drain*, Journal of Economic Perspectives. Forthcoming.
- Gooch, Liz (2010). *Loss of Young Talent Thwarts Malaysia's Growth*. New York Times. October 1, 2010. Available at: [www.nytimes.com/2010/10/02/business/global/02brain.html](http://www.nytimes.com/2010/10/02/business/global/02brain.html)
- Grogger, Jeffrey and Gordon H. Hanson (2011). *Income Maximization and the Selection and Sorting of International Migrants*, Journal of Development Economic, 95 (1).
- International Monetary Fund (2011). *World Economic Outlook: Tensions from the Two-Speed Recovery, Unemployment, Commodities, and Capital Flows*. International Monetary Fund, Washington D.C., April.



- Kok, Melissa (2011). *Singapore to Apply Tighter Criteria for Work-Pass Applicants*. Straits Times. 10 March 2011. Available at: [www.thejakartaglobe.com/home/singapore-to-apply-tighter-criteria-for-work-pass-applicants/427931](http://www.thejakartaglobe.com/home/singapore-to-apply-tighter-criteria-for-work-pass-applicants/427931)
- Kremer, Michael (1993). *The O-Ring Theory Of Economic Development*, Quarterly Journal of Economics, 108(3), 551-75.
- Kuznetsov, Yevgeny and Charles Sabel (2008). *Global Mobility of Talent from a Perspective of New Industrial Policy: Open Migration Chains and Diaspora Networks* in Andres Soliman, ed., *The International Mobility of Talent: Types, Causes and Development Impacts*. Oxford University Press.
- Lee, Everett (1966). *A Theory of Migration*, Demography, 3(1), pp. 47-57.
- Leipziger, Danny (2008). *Brain Drain and the Global Mobility of Skilled Talent*. PREM Notes 123. Washington, D.C.: The World Bank. September.
- Lucas, Robert (2001). *Diaspora and Development: Highly Skilled Migrants from East Asia*. The Institute for Economic Development Working Papers Series 120. Massachusetts: Boston University.
- Lucas, Robert (2008). *The Malaysian Diaspora*. Mimeo. Massachusetts: Boston University.
- Mohandas, Vimita (2011). *CHIJ St. Nicholas Girls' Does It Again*, Singapore News, 10 January 2011. Available at: [www.channelnewsasia.com/stories/singaporelocalnews/view/1103728/1/.html](http://www.channelnewsasia.com/stories/singaporelocalnews/view/1103728/1/.html).
- Mountford, Andrew and Hillel Rapoport (2011). *The Brain Drain and the World Distribution of Income*, Journal of Development Economics, 95(1), 4-17.
- McKenzie, David and Hillel Rapoport (2007). *Network Effects And The Dynamics Of Migration And Inequality: Theory And Evidence From Mexico*, Journal of Development Economics, 84, 1: 1-27.
- National Economic Advisory Council (2010a). *New Economic Model for Malaysia Part 1*. Putrajaya, Malaysia: NEAC.
- National Economic Advisory Council (2010b). *New Economic Model for Malaysia Concluding Part*. Putrajaya, Malaysia: NEAC.
- Ozden, Caglar, Christopher R. Parsons, Maurice Schiff and Terrie L. Walmsley (2011). *Where on Earth is Everybody? The Evolution of Global Bilateral Migration 1960-2000*, World Bank Economic Review. Forthcoming.
- Parsons, Christopher R., Ronald Skeldon, Terrie L. Walmsley, and Alan L. Winters (2007). *Quantifying International Migration: A Database of Bilateral Migrant Stocks*, World Bank Policy Research Working Paper 4165, Washington, D.C.
- Pemandu (2010). *Government Transformation Programme Roadmap*. Performance Management and Delivery Unit. Prime Minister's Department. Malaysia.

- Plaza, Sonia and Dilip Ratha (2011). *Harnessing Diaspora Resources for Africa*, in *Diaspora for Development*, edited by Plaza and Ratha. Chapter 4, Forthcoming.
- Ratha, Dilip and William Shaw (2007). *South-South Migration and Remittances*, World Bank Working Paper Number 102, Washington, D.C.
- Rosenzweig, Mark (2008). *Higher Education and International Migration in Asia: Brain Circulation*, in F. Bourguignon, ed. ABCDE World Bank Conference. Oxford University Press.
- Singapore Department of Statistics (2010). *Census of Population 2010*. Advance Census Release.
- Singapore Ministry of Manpower (2008). *Employment of Singapore Citizens, Permanent Residents and Foreigners, 1997 to 2006*.
- Talent Corporation (2011). *Malaysia's Got Talent*. Interview with The Star. February 12.
- Tham, Siew Yean (2010). *Institutions and Governance Regime: Managing Foreign Workers in Malaysia*. Mimeo.
- UNCTAD (2011). *Global and Regional FDI Trends in 2010*. Global Investments Trends Monitor 5. January 17, 2011. Available at: [www.unctad.org/en/docs//webdiaeia20111\\_en.pdf](http://www.unctad.org/en/docs//webdiaeia20111_en.pdf)
- US Census (2000). Table FBP-1. Profile of Selected Demographic and Social Characteristics: 2000, Population: Malaysia.
- World Bank (2008). *Measuring the Contribution to GDP and Productivity of the Malaysian Services Sector*, Washington D.C.: The World Bank.
- World Bank (2009a). *Malaysia Productivity and Investment Climate Assessment Update*, Poverty Reduction and Economic Management Sector Unit, East Asia and Pacific Region Report No. 49137-MY. Washington, D.C.: The World Bank.
- World Bank (2009b). *Malaysia Economic Monitor—Repositioning for Growth*. Washington, D.C.: The World Bank. November. Available at: <http://www.worldbank.org/my>
- World Bank (2010a). *Malaysia Economic Monitor—Growth Through Innovation*. Washington, D.C.: The World Bank. April. Available at: <http://www.worldbank.org/my>
- World Bank (2010b). *Malaysia Economic Monitor—Inclusive Growth*. Washington, D.C.: The World Bank. April. Available at: <http://www.worldbank.org/my>
- World Bank (2010c). *Stepping Up Skills for More Jobs and Higher Productivity*. Washington D.C.: The World Bank.
- World Bank (2010d). *Investing Across Borders 2010: Indicators of Foreign Direct Investment Regulation in 87 Economies*, Washington, D.C.: The World Bank.

- World Bank (2011a). *Global Economic Prospects*, Washington, D.C., January. : The World Bank.
- World Bank (2011b). *East Asia and Pacific Update*, Washington D.C., March.: The World Bank.
- World Bank (2011c). *Migration and Remittances Factbook 2011*. Second Edition. Washington, D.C.: The World Bank.
- World Bank Institute (2006). *Diaspora Networks and the International Migration of Skills*, edited by Yvgeny Kuznetsov. WBI Development Studies. Washington, D.C.: The World Bank.
- Wong, Evelyn (2010). *Will You Come Back to Malaysia? Results of An Online Survey*. Available at: [pluggingthebraindrain.wordpress.com](http://pluggingthebraindrain.wordpress.com)
- Yeoh, Brenda (2003). *Migration, International Labour and Multicultural Policies in Singapore*. National University of Singapore. Mimeo. November. Available at: [www.ihakka.net/hakka2003/Big5/word/01.doc](http://www.ihakka.net/hakka2003/Big5/word/01.doc)
- Yeoh, Brenda (2007). *Singapore: Hungry for Foreign Workers at All Skill Levels*, Migration Policy Institute website. Mimeo. Available at: [www.migrationinformation.org/Profiles/display.cfm?ID=570](http://www.migrationinformation.org/Profiles/display.cfm?ID=570)
- Yusuf, Shahid and Kaoru Nabeshima (2009). *Tiger Economies Under Threat. A Comparative Analysis of Malaysia's Industrial Prospects and Policy Options*, Washington, D.C.: The World Bank.





