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BOOSTING PRODUCTIVITY IN MALAYSIA

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By Hidekatsu Asada, Stewart Nixon and Vincent Koen

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ABSTRACT/RESUMÉ**Boosting productivity in Malaysia**

Productivity growth is essential to providing sustainable increases in living standards. Malaysia has reached a development stage where growth needs to be driven more by productivity gains than the sheer accumulation of capital and labour inputs. The 11th Malaysia Plan (2016-20) sets an ambitious labour productivity growth target of 3.7% per year, well above the 2% average growth recorded from 2011 to 2015. Co-ordinated structural reforms will be necessary to achieve the productivity improvements needed to attain high-income country status. Areas where reforms would deliver the greatest boost to productivity include increasing the quality of education and skills training, spurring innovation, adopting information technology more widely, fostering a well-functioning competition policy framework, improving the functioning of the labour market and the regulatory framework for small and medium-sized enterprises, fostering regional integration and raising public sector productivity.

This Working Paper relates to the 2016 *OECD Economic Assessment of Malaysia* (www.oecd.org/eco/surveys/economic-survey-malaysia.htm).

JEL classification: E20; F1; G3; H11; I0; K210; O1; O40; P48.

Keywords: competition, education, innovation, insolvency, productivity, public sector, performance review, regional integration, regulatory reform, skills, SMEs, structural reform, trade, TVET

Renforcer la productivité en Malaisie

Une amélioration soutenue du niveau de vie de la population n'est pas possible sans croissance de la productivité. Au stade de développement actuel de la Malaisie, la croissance doit reposer davantage sur des gains de productivité que sur l'accumulation des facteurs de production. Le 11ème Plan Malaisie (2016-2020) a fixé un objectif ambitieux de croissance de la productivité de 3,7% par an, bien au-dessus du taux de 2% enregistré entre 2011 et 2015. Des réformes structurelles coordonnées seront nécessaires pour réaliser les gains de productivité requis pour accéder au statut de pays à revenu élevé. Les réformes qui auraient le plus d'impact à cet égard touchent à la qualité de l'éducation et de la formation, à l'innovation, à un recours plus large aux technologies de l'information, à la politique de concurrence, au fonctionnement du marché du travail, au cadre réglementaire pour les petites et moyennes entreprises, à l'intégration régionale et à la productivité dans le secteur public.

Ce Document de travail se rapporte à l'Évaluation économique de l'OCDE de la Malaisie 2016 (www.oecd.org/eco/surveys/economic-survey-malaysia.htm).

Classification JEL: E20; F1; G3; H11; I0; K210; O1; O40; P48.

Mots-clés : concurrence, éducation, innovation, insolvabilité, productivité, secteur public, évaluation des performances, intégration régionale, réforme de la réglementation, compétences, réformes structurelles, PME, commerce extérieur, apprentissage professionnel

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BOOSTING PRODUCTIVITY IN MALAYSIA

By Hidekatsu Asada, Stewart Nixon and Vincent Koen¹

Introduction

Productivity growth in Malaysia averaged 2.3% per year since the first half of the 2000s, helping to raise per capita income to higher middle-income country levels (Figure 1). Growth was driven by increasing inflows of foreign direct investment (FDI) and industry restructuring that shifted resources to higher value-added sectors such as electronics and electrical (E&E) and petrochemical (APO, 2015). However, labour productivity has gradually decelerated since 2001, with Malaysia underperforming relative to some of its major regional peers. Factors contributing to this deceleration include a slowdown of capital deepening and global trade growth, and insufficient innovation.

For Malaysia to attain high-income country status, growth needs to be driven more by productivity gains, as opposed to the sheer accumulation of capital and labour inputs. Like in other East Asian emerging economies, productivity gains during Malaysia's early industrialisation period came from the reallocation of underutilised rural labour from the agriculture and mining sectors to the labour-intensive manufacturing sector, supported by capital accumulation and imported technology from increased foreign direct investment (FDI). Malaysia's competitive advantages are changing as labour is fully employed and real wage levels increase, with the price competitiveness of its lower value-added manufactures gradually declining. Gains from imported technology that used to underpin the growth of labour-intensive manufacturing are also contributing less than before as a result of intense competition for industry relocation within the region, most notably from China and increasingly the Philippines and Viet Nam. Continuous economic transformation is therefore needed to boost productivity by engaging in more high-technology and knowledge-intensive activities.

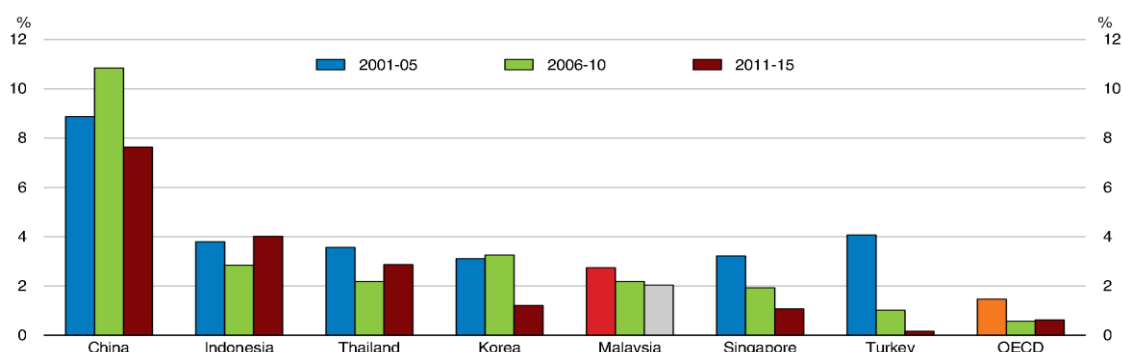
The 11th Malaysia Plan sets an ambitious target for labour productivity growth of 3.7% per year from 2016 to 2020, as against an outcome of 2% from 2011 to 2015. This reflects Malaysia's recognition that productivity improvements will be essential to achieving high-income country status. As the Plan suggests, raising productivity requires a comprehensive set of policies to increase human capital development, promote innovation, improve regulatory frameworks and further regional integration by liberalising trade and investment.

This paper focuses on the challenges Malaysia faces in raising the contribution of productivity to economic growth. These call for policy reform in areas including strengthening human capital through education and skills training, promoting innovation, enhancing the regulatory framework for SMEs by facilitating exit and entry, furthering regional integration and raising public sector productivity.

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Figure 1. Labour productivity growth has declined

Average of growth of real value added per employee per year



Note: The underlying employment data for Malaysia might underestimate the number of legal and undocumented foreign migrant workers.

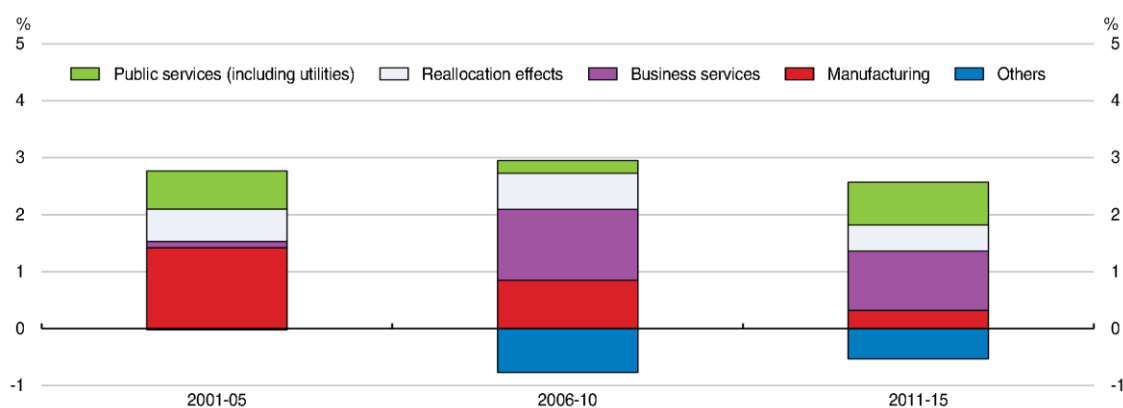
Source: OECD calculations based on data provided by national statistical office and OECD (2016), Productivity Statistics (database), <http://dx.doi.org/10.1787/data-00685-en>.

Malaysia's productivity performance and outlook

In the first half of the 2000s, productivity growth largely stemmed from the manufacturing sector (Figure 2). Slower capital deepening since the early 2000s held back productivity gains in manufacturing. Economy wide, so did a declining share of skilled workers in total employment, from 27.6% in 2010 to 25.7% in 2015 according to the latest Labour Force Survey. Meanwhile, inflows of low-skilled migrant workers increased their share of total employment from 9.5% to 15%.

Figure 2. Labour productivity growth by sectors

Average growth of real value added per employee per year at 2010 constant prices



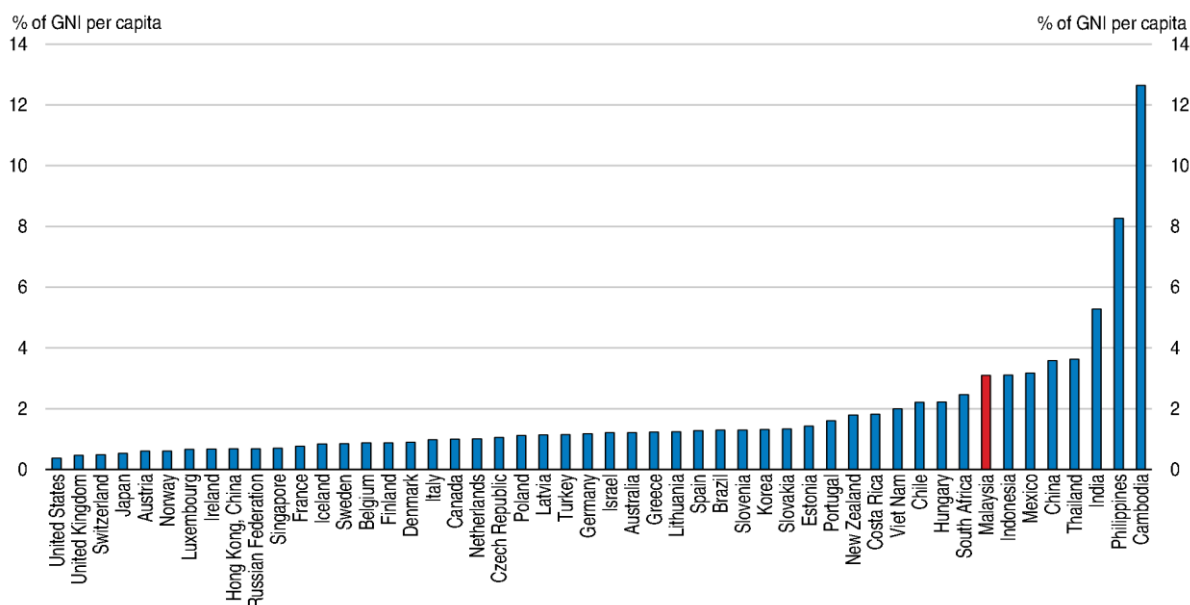
1. Due to the changes in the classification of sectors in 2010, data before and after 2010 are not entirely consistent.
 2. The underlying employment data for Malaysia might underestimate the number of legal and undocumented foreign migrant workers.
 3. Reallocation effects correspond to the impacts of movements of labour between sectors.
 4. Others include agriculture, fishery and forestry, mining and quarrying, and construction.
- Source: OECD calculations based on data provided by Department of Statistics, Malaysia.

The low level of innovation by domestic firms was another drag on productivity growth. Underlying causes included low innovation capability due to inadequate resources, the underdevelopment of institutional mechanisms to promote commercialisation of innovation, and insufficient development of technology infrastructure (OECD, 2015b). Despite adopting a National Broadband Initiative in 2010 which recognises high-speed Internet broadband as a critical enabler of business innovation, fixed Internet subscriptions remain very low at just 10.1% in 2014 (80th out of 189 countries) despite an overall Internet access rate of 65.5% (ITU and UNESCO, 2016). This reflects the high cost of broadband subscription in Malaysia compared to its regional peers, largely because government-linked Telekom Malaysia’s near complete ownership of fibre infrastructure impedes competition (Figure 3).

The 11th Malaysia Plan emphasises the need to boost productivity growth in the services sector, recognising its increasing contribution to GDP, employment and exports (Table 1). Productivity growth in the services sector between 2011 and 2015 benefited from strong growth in the information and communication, and financial intermediation subsectors (Figure 4). During this period, competition laws were implemented and restrictions on foreign investment in 18 services subsectors were lifted, including telecommunications and wholesale and retail trade. However, as the composition of the services sector is currently skewed towards subsectors that rely on low-skilled labour (notably wholesale and retail trade, and hotels and restaurants), overall productivity levels remain low (EPU, 2015a; MPC, 2015).

Industry value added upgrading and the automation of production processes has been slow, limiting productivity growth through changes in outputs produced. Malaysia’s contribution to global value chains (GVCs), particularly in manufacturing subsectors such as E&E now faces intense competition from other emerging economies such as China, the Philippines and Viet Nam. The slow transformation toward higher value-added activities has resulted in an overall declining share of Malaysian manufacturing exports in global trade (EPU, 2015b). A shift towards innovation-led growth, as seen in Korea, would help substantially in pursuing industrial upgrading.

Figure 3. Fixed broadband subscription prices are relatively high

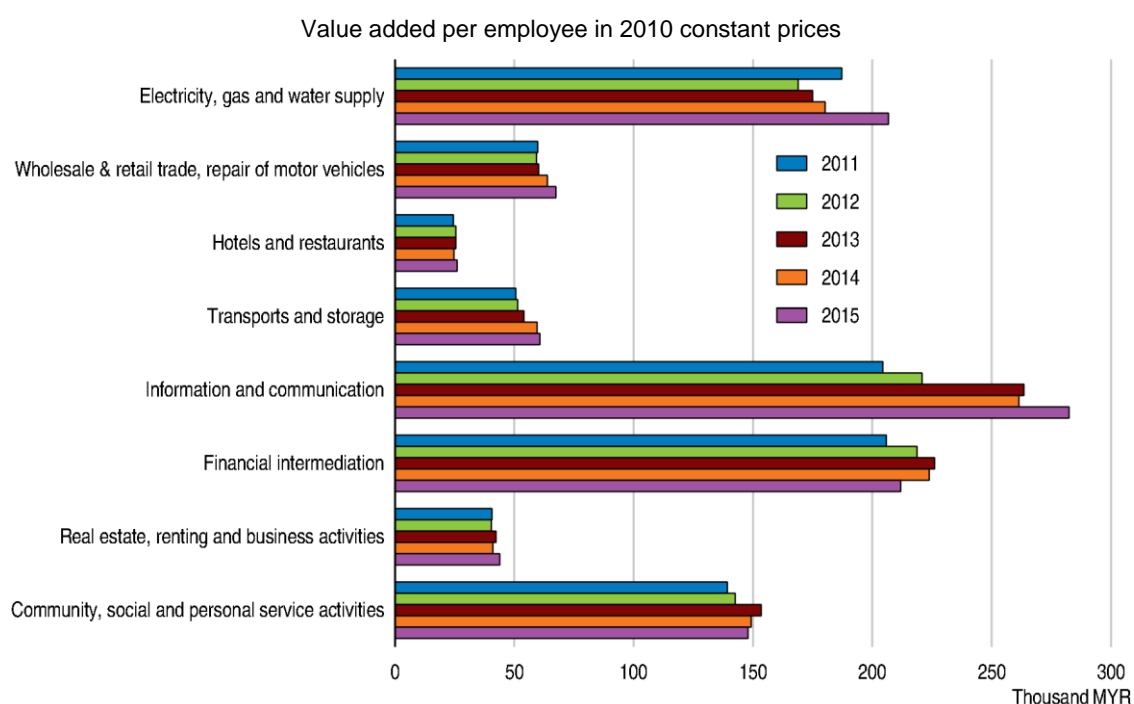


Source: ITU (2015), Measuring the Information Society 2015.

Table 1. Malaysia's ambitious sectoral targets for labour productivity growth

Sectors	Average annual growth (%)	
	2011-2015	2016-2020
Agriculture	2.2	3.6
Mining and quarrying	1.1	1.1
Manufacturing	0.9	2.6
Construction	9.6	9.6
Services	2.8	4.1

Source: Economic Planning Unit, Eleventh Malaysia Plan.

Figure 4. Labour productivity growth in services subsectors

Source: OECD calculations based on data provided by Department of Statistics, Malaysia.

Improving the quality of education

Universal access to quality education makes a critical contribution to the development of human capital and labour force productivity, driving medium to long-term gains in economic growth. It also

plays a crucial role in promoting inclusiveness, equal opportunity and intergenerational mobility of socio-economic status.

Malaysia's education policy has long focused on inclusiveness, and access to education has improved significantly in recent years. In line with the Millennium Development Goals, it has reached near-universal levels, with primary education enrolment at around 98% in 2015 and pre-school and secondary education enrolment at around 95% and 89% respectively according to Ministry of Education data. Malaysia has successfully addressed prior concerns with female education participation, for the most part exhibiting minimal gender differences in education access and performance levels. Malaysian schools try hard to encourage attendance through engagement with rural communities, under-enrolled schools remain open to ensure access, while numerous programmes cater to special-needs students and student welfare including malnutrition. The recently introduced District Transformation Programme has begun to narrow the urban-rural achievement gap but education outcomes are still influenced by socio-economic status.

Raising the quality of education to produce graduates with job-ready skills is the biggest challenge and potential reform area to boost productivity. Ambitious reforms are already underway in higher education to make the curricula more industry-relevant and to tie institution funding to performance indicators. Considerable efforts are also being made to increase the quality of basic education, including reversing a decline in English language proficiency that is affecting one of Malaysia's competitive advantages within the region by upgrading teachers' skills in this area (World Bank, 2013). Raising education quality would boost Malaysia's attractiveness to investors and skilled workers, increasing the value added of domestic businesses and their global value chain participation while easing concerns with talent migration patterns.

Raising the quality of basic education

Malaysian students have not performed well on the OECD's benchmark *Programme for International Student Assessment* (PISA) (Figure 5). Student scores for mathematics, science and reading were among the lowest of the 65 countries surveyed in 2012, with Malaysia outperformed by less developed regional neighbours such as Viet Nam. Scores for reading and science actually declined between 2009 and 2012, suggesting Malaysia's basic education system was struggling to keep pace with global benchmarks.

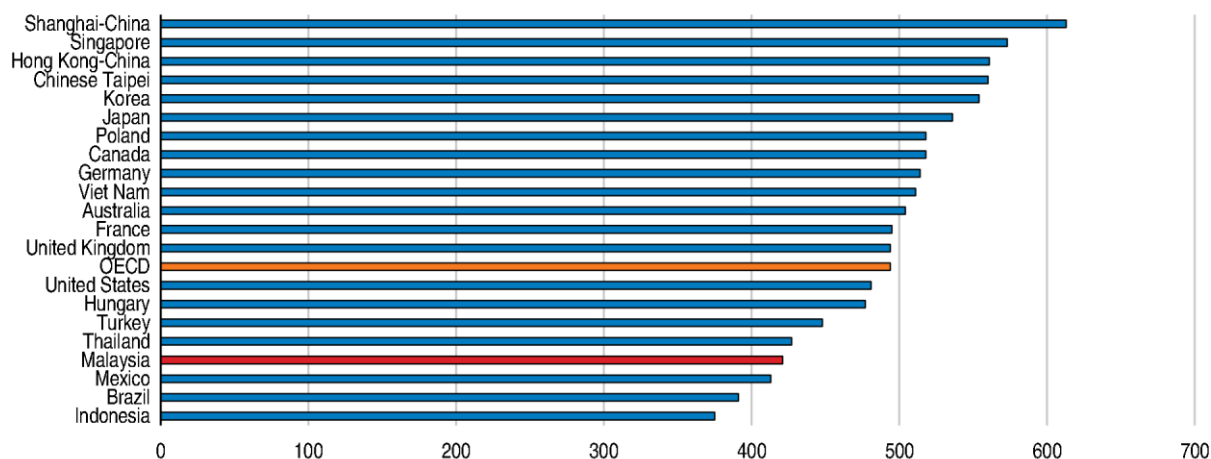
The impact of socio-economic differences on student performance is high, with almost 70% of disadvantaged Malaysian students categorised as low performers in mathematics on PISA. This compares to about 30% of advantaged students, with the 40 percentage point differential well above the gaps found in participating Southeast Asian countries and 12 percentage points higher than the OECD average (OECD 2016b, Figure 6).

While cognisant of PISA and other international benchmarks, Malaysia introduced its own system of Literacy and Numeracy Screening (LINUS) in 2010 to improve foundational learning for early primary school students. Six-monthly LINUS testing in Bahasa Melayu (Malay language), English and numeracy from first to third grade has helped tailor teaching support to students. According to LINUS results, near-universal basic literacy and numeracy was achieved by the end of third grade. In addition, teaching and national examinations for secondary school students have increasingly incorporated Higher Order Thinking Skills (HOTS), but student outcomes are too recent to make a full assessment.

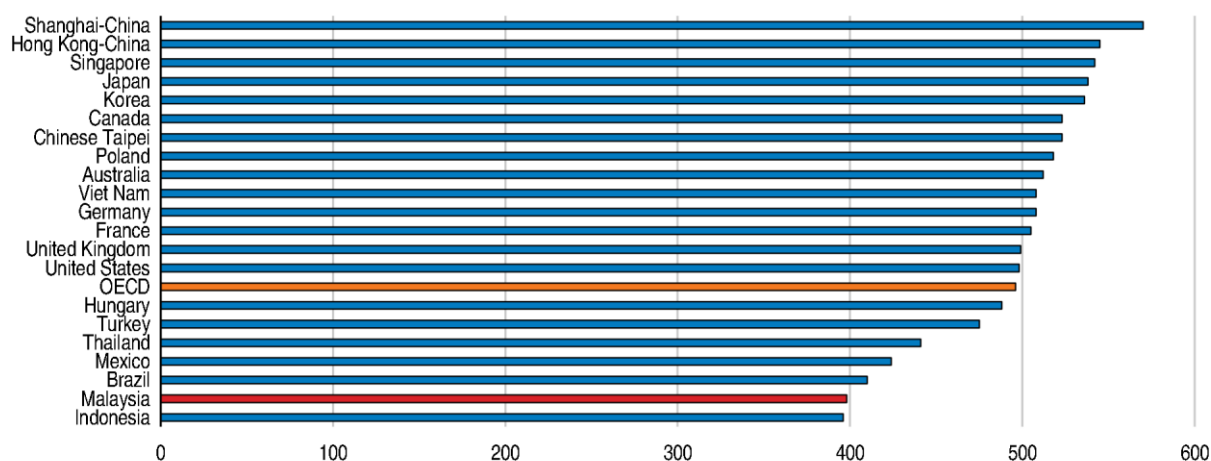
Figure 5. Student performance on PISA is low

2012

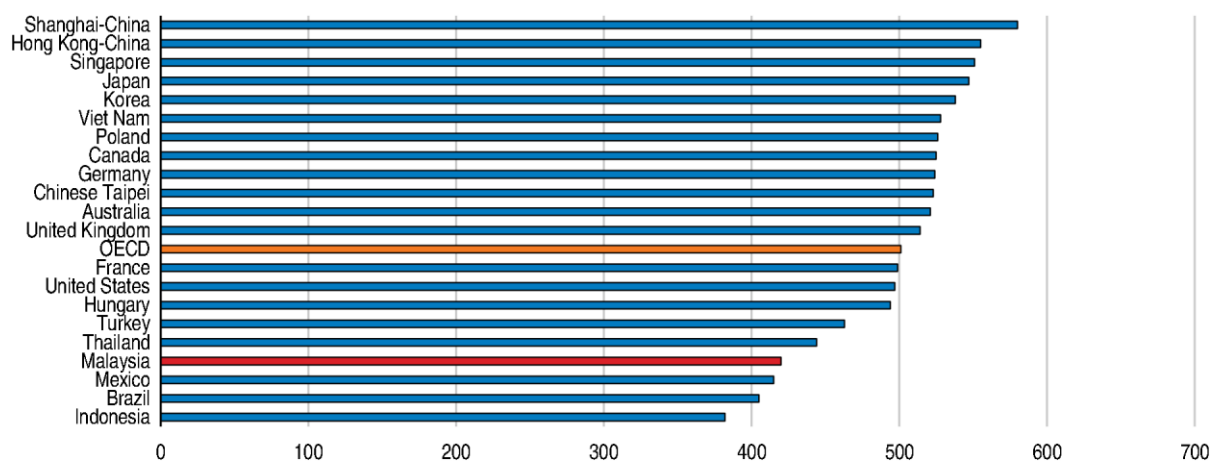
A. Mathematics



B. Reading



C. Science

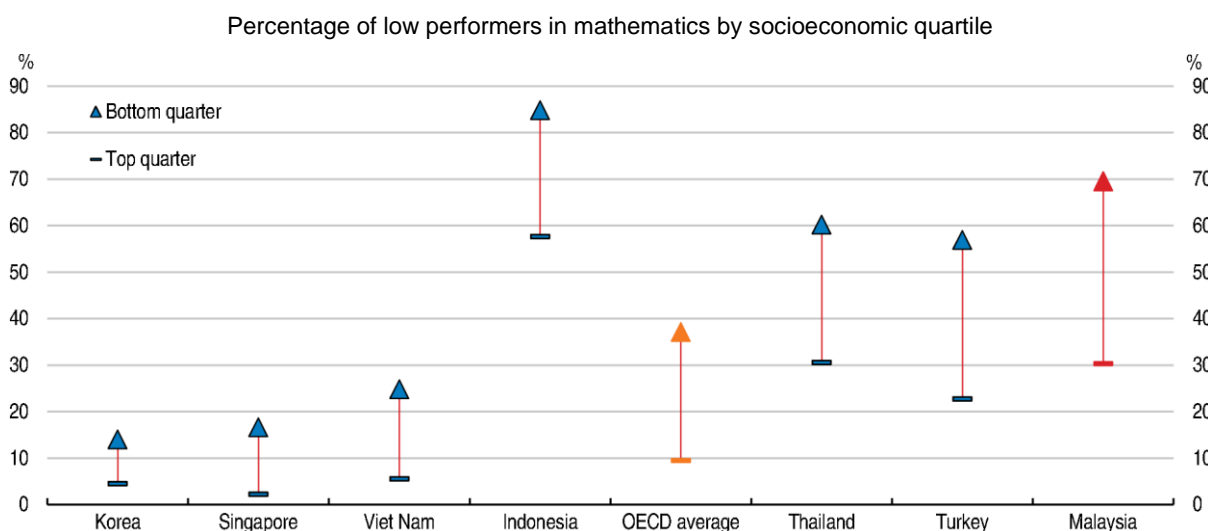


Source: OECD (2016), PISA: Programme for International Student Assessment, OECD Education Statistics (database), <http://dx.doi.org/10.1787/data-00365-en>.

Recent analysis by the OECD and others has identified several factors contributing to the relatively poor education outcomes in Malaysia:

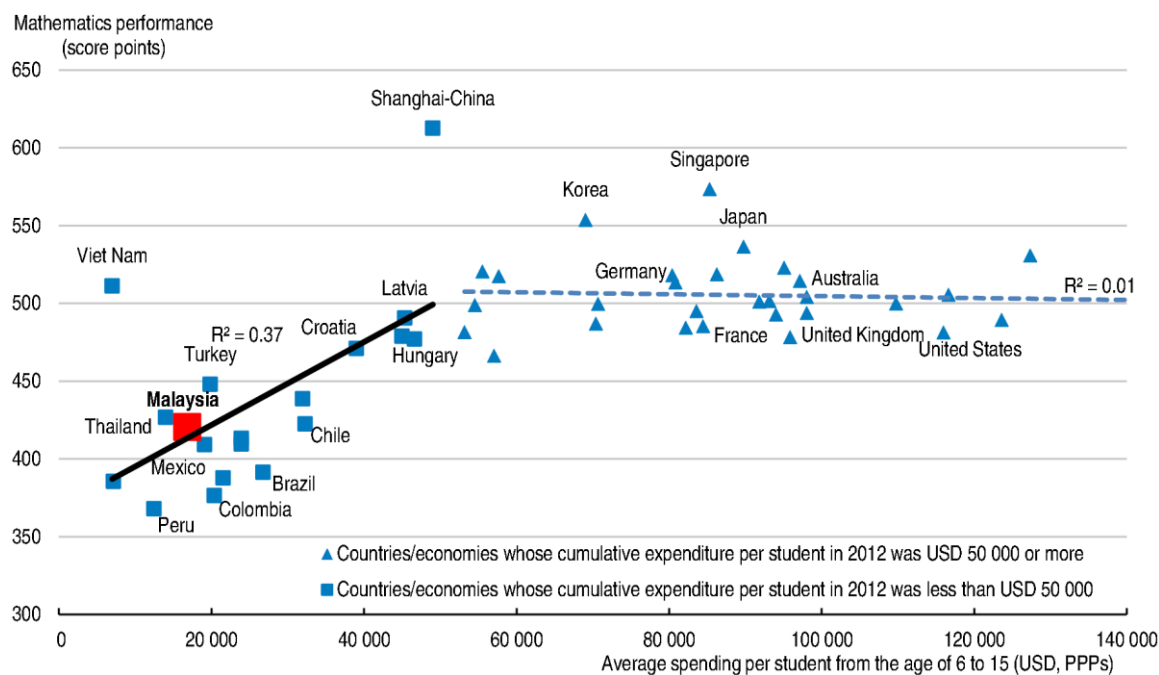
- *Over-emphasis on tertiary education spending relative to primary and secondary education may impact performance* – education and training has commanded around 22% of the national budget in recent years but primary and secondary education spending per student together has been around half that of spending per tertiary student, with PISA results indicating Malaysia first needs to reinforce its basic education system. OECD analysis has found a positive relationship between cumulative education spending up to USD 50 000 per student and PISA scores in mathematics (Figure 7)
- *Teachers need more than high salaries to support student outcomes* – despite exceptionally high job satisfaction and self-belief, Malaysian teachers spend comparatively little time on actual teaching (instead dealing with administrative tasks) and report the need for further training in critical information technology skills (OECD Teaching and Learning International Survey, 2013). Malaysian teachers are well paid on average relative to their international peers (at almost 2.1 times GDP per capita in 2012, compared to a 1.2 times average for PISA countries), suggesting there are financial incentives available to encourage a career in teaching. That high average salaries have not delivered strong student outcomes may indicate the need for a greater proportion of education funding to be directed to complementary infrastructure, teaching materials and specialised administrative staff.
- *Declining English proficiency of younger teachers is an area of particular concern* – Malaysian teachers are younger on average than in other countries (OECD Teaching and Learning International Survey, 2013), which combined with declining rates of English language proficiency in younger generations provides cause for concern (World Bank, 2013). Malaysia’s low effective retirement age exacerbates this problem in the short term before professional upskilling of English language teachers takes full effect (Nixon et al., 2016)

Figure 6. Socioeconomic status affects PISA performance in mathematics



Source: OECD (2016b), *Low-Performing Students: Why They Fall Behind and How to Help Them Succeed*, <http://dx.doi.org/10.1787/9789264250246-en>.

Figure 7. Higher per capita spending on basic education would benefit students



Source: OECD (2013b), PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices, <http://dx.doi.org/10.1787/9789264201156-en>.

- *Education is mainly a national government responsibility, which may hamper service delivery* – education systems involve significant complexity and heterogeneity at school and classroom level, which are difficult to manage through centralised control. Malaysia is an outlier among countries participating in the *OECD Teacher and Learning International Survey* in terms of education system centralisation. Schools have minimal decision-making power in regard to hiring and firing teachers, budget formulation and allocation and curriculum choice (*OECD Teaching and Learning International Survey*, 2013).
- *Centralised decision-making inhibits competition, accountability and continuous improvement at school level* – limiting schools' flexibility to respond to parental pressure for improvements, neutralising the competitive pressures and reducing accountability (World Bank, 2013).

Malaysia is responding to many of these concerns through substantial reforms. In addition to changes in the examinations and in benchmarking related to LINUS and HOTS, Malaysia is implementing a revised curriculum based on international benchmarks; a comprehensive framework for teacher evaluation, training and career development; increased use of key performance indicators (KPIs) for teachers and education officials; and investments in digital learning and internet connectivity for schools. Financial support for children of low-income households and programmes to reduce malnutrition have also been expanded in recent years, which aim to reduce the influence of socio-economic disadvantage. For example, the scope of the Supplementary Food Programme, which has long provided recess meals students from poorer families and currently covers around 550 000 students, was to be broadened in 2016.

Raising English language standards has also been a particular focus of recent reforms, in recognition of the need to bolster this critical area of comparative advantage. Reforms seek to improve the

standards of English language proficiency through the English Roadmap, to step up professional upskilling of English language teachers under the ProELT programme, to increase international benchmarking of English language proficiency and to elevate English language requirements for graduating students (under the Literacy and Numeracy Screening Programme). The English Enhancement Programme for Secondary Schools established in 2014 provides targeted interventions for “hotspot” schools in need of additional assistance. Also, two additional programmes were implemented in 2016 to increase the usage of English language in schools, the Highly Immersive Programme for creating an immersive English language school environment and the Dual Language Programme for English-language teaching of science and mathematics.

These reforms do target pressing concerns but implementation needs to be monitored and continuously evaluated. Moreover, reforms to increase decentralisation, competition and accountability in the education system are necessary over the long term to maximise incentives for continuous innovation and effective resource utilisation. A strong focus on equity should also be retained, ensuring reforms to improve quality do not exaggerate differences between regions or socioeconomic groups. Implementation of poorly designed KPIs for example, could lead to clustering of good teachers in areas of socio-economic advantage, where students would be expected to perform better.

Graduate employability and labour force skills demand

The OECD Skills Strategy highlights the vital role of education and skills in generating jobs and boosting productivity. Continuous human capital development is critical to increasing Malaysia’s competitiveness in attracting investment in higher value-added activities. Overall higher education enrolment increased 70% from 2004 to 2014, with Malaysia third only to Singapore and Thailand among the countries of the Association of South East Asian Nations (ASEAN) in terms of tertiary enrolment rates. Despite producing an increasing number of graduates, higher education in Malaysia is not producing enough job-ready young professionals with the skills required by industry. A 2014 business survey uncovered a serious mismatch between higher education graduate skills and labour force skills demands, with particular deficits in practical training and communication skills (World Bank and TalentCorp, 2014). A mismatch between graduate skills and labour force requirements is contributing to underemployment of graduates in semi-skilled professions and around 25% of graduates are unemployed six months after graduating (MOE, 2015). Regular data collection capturing adult skill levels would help monitor developments in this area, for which Malaysia may wish to consider joining the next round of the OECD Programme for the International Assessment of Adult Competencies.

Improving the quality and appeal of technical and vocational education and training (TVET) in Malaysia has been an ongoing recommendation of the OECD’s *Southeast Asian Outlook* series over the past few years, while the *OECD Reviews of Innovation Policy: Malaysia 2016* makes several important recommendations to improve the performance of the higher education sector in producing better science, technology and mathematics graduates (OECD 2013a, 2014a, 2016a, 2016c). Recent reforms have improved collaboration between industry and tertiary educators to align curricula to industry specifications and internationally recognised qualifications, while also increasing opportunities for work placements during and after the completion of studies. Examples include the CEO faculty programme, which involves industry leaders lecturing at public universities, and 2u2i, a new degree programme where students spend two years at university followed by two years in an industry placement. The 11th Malaysia Plan includes the establishment of a single system for coordinating and monitoring TVET adopted by the Malaysian Qualification Agency and the Department of Skills Development. The recent establishment of the Human Capital Council – a high level committee chaired by the Prime Minister – will provide high-level oversight of reforms to address critical human capital needs, including curricula and programme improvements and TVET sector alignment with workforce requirements.

Efforts are also ongoing to increase the appeal of TVET as a pathway to a fulfilling career, both to attract recent school leavers and to improve workforce participation rates through upskilling of unemployed, female and elderly workers, taking inspiration from the experience of countries such as Australia, Austria and Korea that implemented evidence-based and well-targeted skills strategies (OECD, 2013c). The Malaysia Board of Technologists was established in 2015 to assist TVET graduates to become professional technologists and qualified technicians, while also providing an avenue for workforce upskilling through life-long learning opportunities. The role of TalentCorp in providing policy oversight for Malaysia's development and sourcing of demand-driven skills is also increasingly important to reduce labour market skills mismatches (Nixon et al., 2016). Moreover, the Malaysia Training Scheme (SLIM) has enhanced graduates' employability through collaboration with public and private sector companies in providing soft skills training and industry placement. The scheme targets participants from rural areas, urban poor and low-income households, with participating companies given a double tax deduction incentive on allowances and training expenses. These initiatives are important to increase life-long learning and second-chance opportunities for graduates and adults, to improve their marketable skills.

Increased collaboration with industry will help address skills mismatches in the current labour market but human capital development must not lose sight of longer-term development goals. The focus of collaboration should be improving the quality of tertiary graduates, avoiding an overemphasis on meeting short-term demands that risks reinforcing labour market distortions that impede Malaysia's industrial upgrading and development of skilled jobs (Nixon et al., 2016). Ongoing curricula improvements should target the development of future innovators and thought leaders with global employability, sensitive to the changing needs of the Malaysian economy as it continues to develop. This in turn would improve the competitiveness of Malaysia's higher education institutions in attracting talented local and international students, consistent with Malaysia's ambitions to become a regional education hub and to maximise skilled migration (Box 1).

Tertiary education reforms must complement further improvements to basic, and in particular secondary education. That higher tertiary sector enrolment rates are not translating into sufficiently qualified graduates not only reflects a need to improve the quality of tertiary education but earlier stages of education, with PISA scores suggesting many secondary school graduates are not sufficiently prepared for tertiary education.

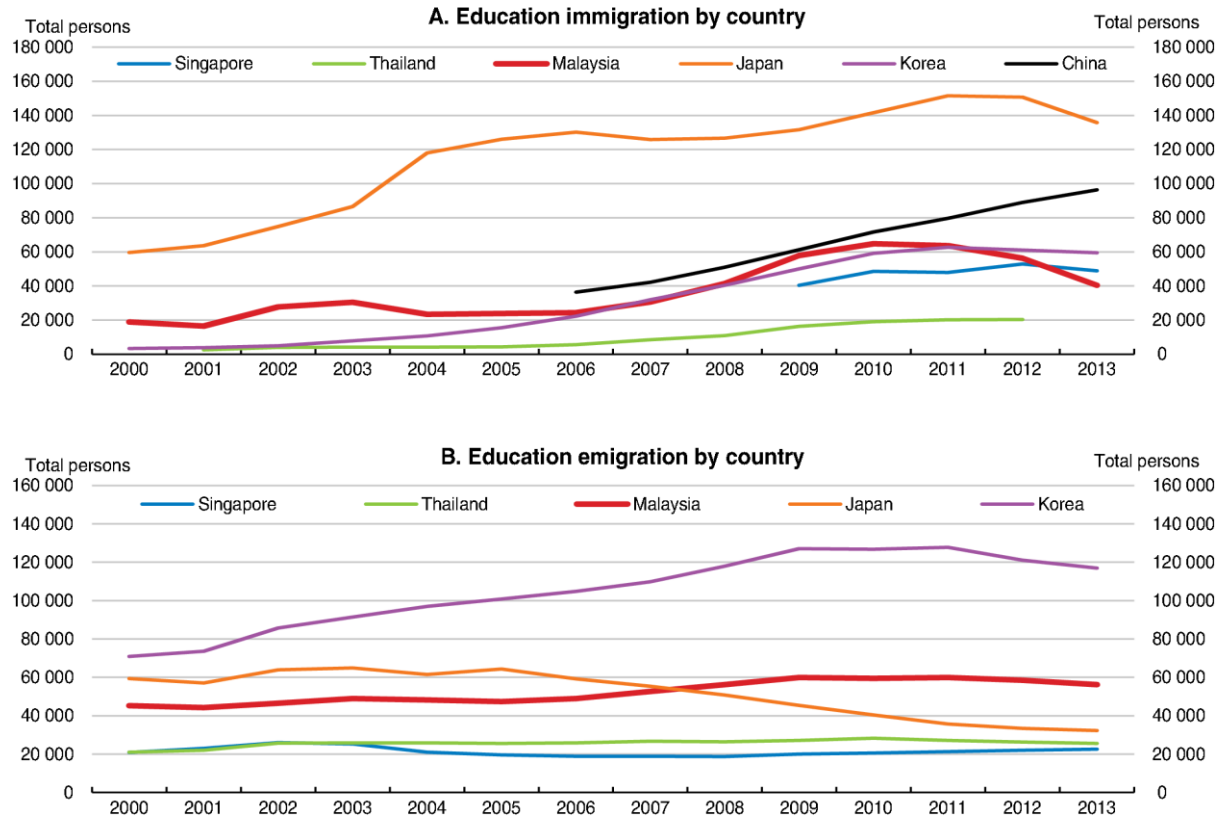
System efficiency – improving student outcomes at current or lower expenditure levels

A high share of government expenditure in Malaysia goes to education, with a commitment to maintain expenditure of at least 16% of the government budget until 2025 (converging on the expenditure floor would represent a significant drop from a share of around 22% in 2015). However, declining government revenue and the accompanying fiscal consolidation have resulted in significant nominal budget cuts to higher education in particular (for example, the budgets of several public universities were reduced by over 20% in 2016). Efficiency of education expenditure is therefore an increasing priority.

Box 1. Education migration in Malaysia

Like other middle-income economies, Malaysia seeks to attract or retain highly educated and skilled labour but mainly attracts low-skilled immigrants and sees many educated Malaysians emigrate. Policies towards low-skilled immigration are becoming more and more restrictive as perceptions mount that it puts Malaysian workers at a disadvantage, despite evidence to the contrary (World Bank, 2015). At the same time, a specialised agency (TalentCorp) is tasked to attract skilled workers from overseas, utilising process streamlining and tax incentives to lure expatriate Malaysians back home.

Figure 8. Education immigration and emigration flows



Source: UNESCO (2016), UIS. Stat database.

As Malaysia is seeking to become a regional hub for higher education, there are fewer barriers to education immigration than broader immigration. In terms of emigration, Malaysians are encouraged to study overseas in the hope that they will return more educated and skilled. A difficult balance is thus being sought between openness to student migration, increasing restrictions on foreign workers (which detract from post-graduation employment prospects) and providing preferential treatment to returning expatriates above that provided to locals (which may further incentivise skilled locals to leave).

According to the latest UNESCO data, education immigration declined from 2010 to 2013 even as most of its regional competitors experienced growth (Figure 8). Education emigration has experienced a similar pattern, although smaller in magnitude. Overall student migration flows (both directions) would have to increase considerably for the country to compete as a regional hub. Indeed, overseas students comprise around 3.3% of Malaysian university enrolments, compared to 24.3% in Australian universities (Australian Education Network, 2016).

Beyond migration data, other evidence suggests that Malaysia's "brain drain" has been exaggerated. International business leaders consider Malaysia the eighth best country in the world in terms of ability to retain talent (World Economic Forum, 2016), while the proportion of patents filed by Malaysians living abroad versus at home is low relative to countries at comparable income levels (The Economist, 2015).

While a more detailed investigation of overall migration policies' effects on education migration is needed to establish concrete links, initial evidence raises questions as to the efficacy of the current approach. To become a regional education hub and converge on developed country education migration patterns, policies recognising the interrelationships between education and labour migration, and the complementarity of education emigration and immigration, warrant further consideration.

The rationalisation of government expenditure has prompted reforms across the education sector to improve incentives, with the most significant reforms occurring in higher education. Block grants for public higher education institutions are being replaced with performance funding linked to student numbers and research output, while overall funding cuts hope to incentivise these higher education institutions to seek more funding from alternative sources (donations, research collaboration, commercialisation etc.). Institutions will have their funding tied to periodic performance reviews, with increased government monitoring of expenditure efficiency at the institutional level.

Linking block grants to student demand and addressing overreliance on government funding will spur competition among public higher education institutions for funds and improve long-term system sustainability. The scale and complexity of these changes should not be underestimated, however, with realistic expectations on the sequencing of reforms and time required for institutions to adjust particularly necessary in the context of severe short-term reductions in government funding. Malaysia should monitor implementation closely to ensure changes to the funding formula do not compromise necessary improvements to education quality.

The Education Blueprint 2015-25 (Higher Education) also signals reconsideration of student contributions to their own education expenses. Malaysia's higher education funding model is comparable to Scandinavian countries and Turkey, with relatively low fees and high income support (largely student loans, but also various cash payments) minimising student out-of-pocket expenses. While possible reforms to tuition fees remain unclear, reforms to the student loan system will be implemented to make future loan repayments conditional on income. The reforms are aimed at reducing non-compliance with student loan repayments and, more importantly, improving the alignment of student costs with an expected income premium post-graduation. As a further measure to improve expenditure efficiency, Malaysia could use this opportunity to convert cash subsidies and tax deductions for other higher education expenses into additional eligible items under the student loans scheme (thus treating them like tuition fees, as an investment in future earnings to be repaid conditional on future income). Consideration should also be given to how the national identification cards used in the student loans system can assist efforts to formalise the labour force.

Strengthening innovation

As Malaysia seeks to become a high-income country, sustainable long-term growth will depend more and more on the contribution of innovation-driven productivity gains rather than increasing factor inputs. Innovation is central to sustainable growth policies as it drives the competitiveness of industries in international markets and their participation in GVCs, generates improvements in the quality of products and processes (including government) and affects real incomes and social welfare through technology-driven enhancements in living standards.

Particularly since 1996, Malaysia has utilised an increasing range of policy instruments to encourage additional innovation by public institutions (universities and public research institutions) and businesses (focussing on small and medium-sized enterprises – SMEs). However, the proliferation of programmes has resulted in substantial duplication and ineffectiveness and a potential information barrier to accessing government support. Institutional reforms to improve the coherence and coordination of innovation policy will be critical to boosting productivity and Malaysia's global competitiveness.

Improved governance arrangements would provide the foundation for the coordination and effective implementation of other innovation system reforms, to foster the innovation capabilities of businesses of all sizes and sectors, strengthen the research capabilities and commercialisation of universities and public research institutes, enhance collaboration between business and researchers, and the development of human capital in areas of core science, technology and innovation (STI)

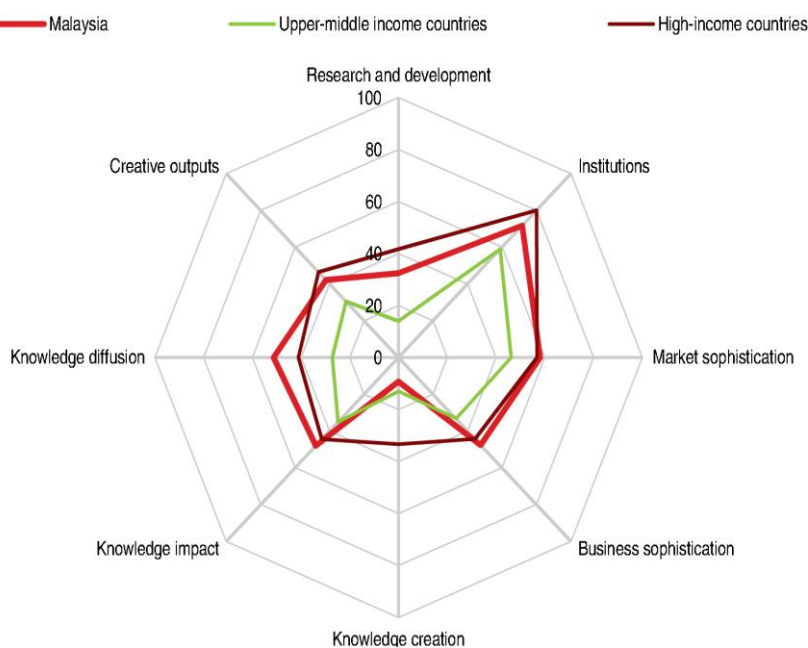
capabilities. Insufficient implementation and a lack of programme evaluation are significantly hindering their effectiveness. The *OECD Reviews of Innovation Policy: Malaysia 2016* provides a comprehensive suite of recommendations in these areas from which the analysis in this section is predominantly drawn (OECD, 2016c).

A simplified innovation governance framework with clear delegation of responsibilities

Malaysia has long recognised the importance of investing in innovation, evidenced by high levels of overall gross (1.1% of GDP) and business (0.7% of GDP) expenditure on research and development (R&D) for its income level. It is a strong innovation performer among upper middle-income countries, particularly on indicators of innovation system inputs (Figure 9; Cornell University, INSEAD, and WIPO, 2015; OECD, 2016c). Residents are filing an increasing proportion of patent applications both at home and abroad relative to non-resident applications, indicating some solid returns from efforts to boost home-grown innovation over the past two decades (Figure 10).

Innovation plays a role in the strategic planning of many areas of government, with additional agencies and programmes created to address evolving target areas (Figure 11). However, commendable initiatives both past and present have been weakened by insufficient coordination, duplication and governance weaknesses that are in urgent need of repair. Establishing a clear, streamlined and coordinated governance structure is essential to improve the orientation and implementation of innovation policy.

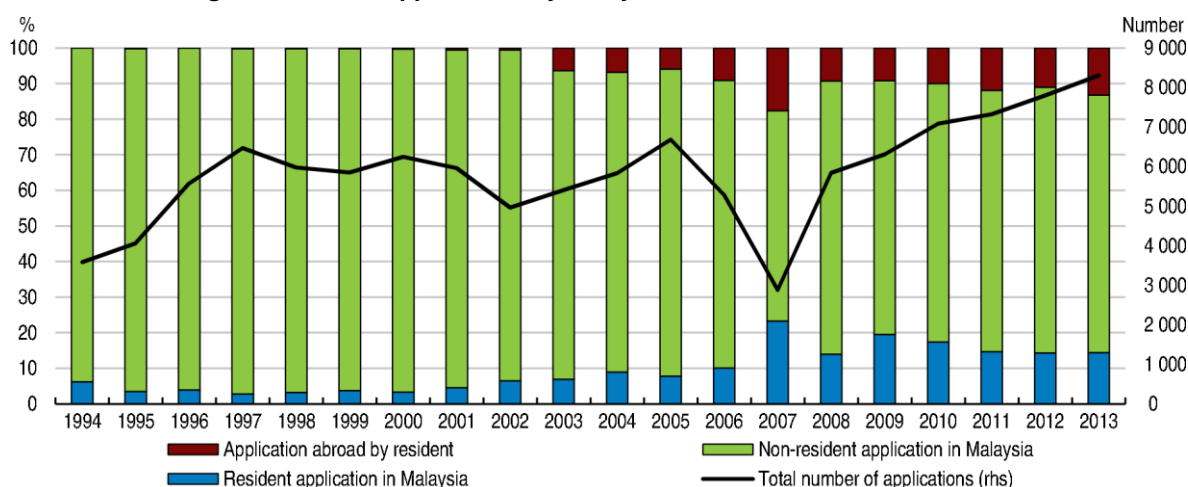
Figure 9. Innovation indicators



Note: Consistent with the source, the categorisation of upper-middle and high-income countries is based on World Bank classification as at July 2013.

Source: Cornell University, INSEAD and WIPO (2015), *The Global Innovation Index 2015: Effective Innovation Policies for Development*.

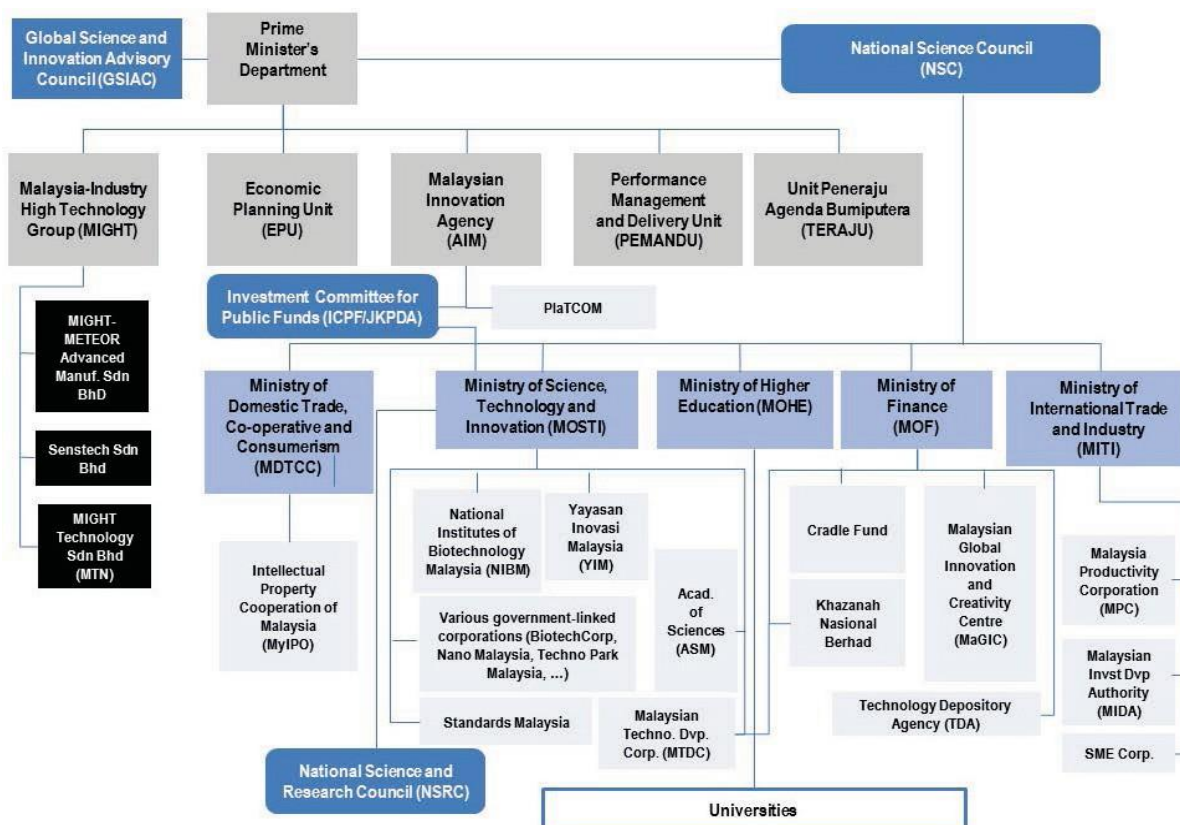
Figure 10. Patent applications by Malaysian residents and non-residents



Note: A resident application is an application filed with an intellectual property office by an applicant residing in the country in which that office has jurisdiction. A non-resident application is an application filed with a patent office of a given country/jurisdiction by an applicant residing in another country. An application abroad is an application filed by a resident of a given country/jurisdiction with a patent office of another country/jurisdiction.

Source: OECD (2016c), *OECD Review of Innovation Policy: Malaysia 2016*.

Figure 11. Innovation governance involves a complex array of actors



Note: Several other ministries involved in science, technology and innovation related activities are not represented in this figure, such as the Ministry of Energy, Green Technology and Water.

Source: OECD (2016c), *OECD Reviews of Innovation Policy: Malaysia 2016*.

Rationalisation of the innovation governance structure would ensure better coordination across government and with key stakeholders, deliver more stable and accessible funding for innovative activities, improve programme implementation and effectiveness, and provide a single, clearer vision for innovation policy. As a start, the recently established National Science Council (NSC) should be granted the mandate, authority, capabilities and necessary resources to streamline the innovation bureaucracy and programmes. The NSC should be tasked with managing innovation policy orientation with support from key ministries. The establishment of the proposed national Research Management Agency (RMA) with responsibility for the implementation and evaluation of competitive R&D grant schemes would also support the simplification and streamlining of the governance framework.

The challenge for Malaysia's innovation system is not to devise new plans from scratch; rather, it needs to optimise the performance of existing programmes and improve their governance structure. This means putting in place adequate implementation procedures, monitoring and evaluating results in a clear and transparent way and adapting them as necessary. Clarifying the linkages between programmes would further maximise synergies and efficiency in the allocation of resources, while defining their respective roles in the overall innovation agenda.

Strengthening business innovation and harnessing the potential of SMEs

Business enterprises that derive their ongoing competitiveness from innovation, both by cultivating in-house capabilities and through collaboration with experts in universities and research institutions, are fundamental to innovation system performance and the productivity of an economy. Malaysia already compares favourably in some respects, as one of the few developing economies where the business enterprise sector is the main performer and funder of R&D. However, there is a continued need to strengthen the innovation capabilities of Malaysian businesses, especially the smaller firms, which are less prone to undertaking R&D or innovation.

At a time when Malaysian businesses need to be more innovative to counteract rising competition from lower-cost regional competitors, evidence suggests the process of business upgrading has stalled (Figure 12). The share of higher-end value-added manufacturing products in total value added has contracted slightly from levels seen in 2000, conceding ground to many of Malaysia's regional competitors. Upgrading in GVCs has been slower in sectors of relative strength (such as E&E) compared to Korea and Chinese Taipei, while the proportion of modern services in Malaysia's exports (while growing) is less than in the Philippines and trails the growth rate in Indonesia.

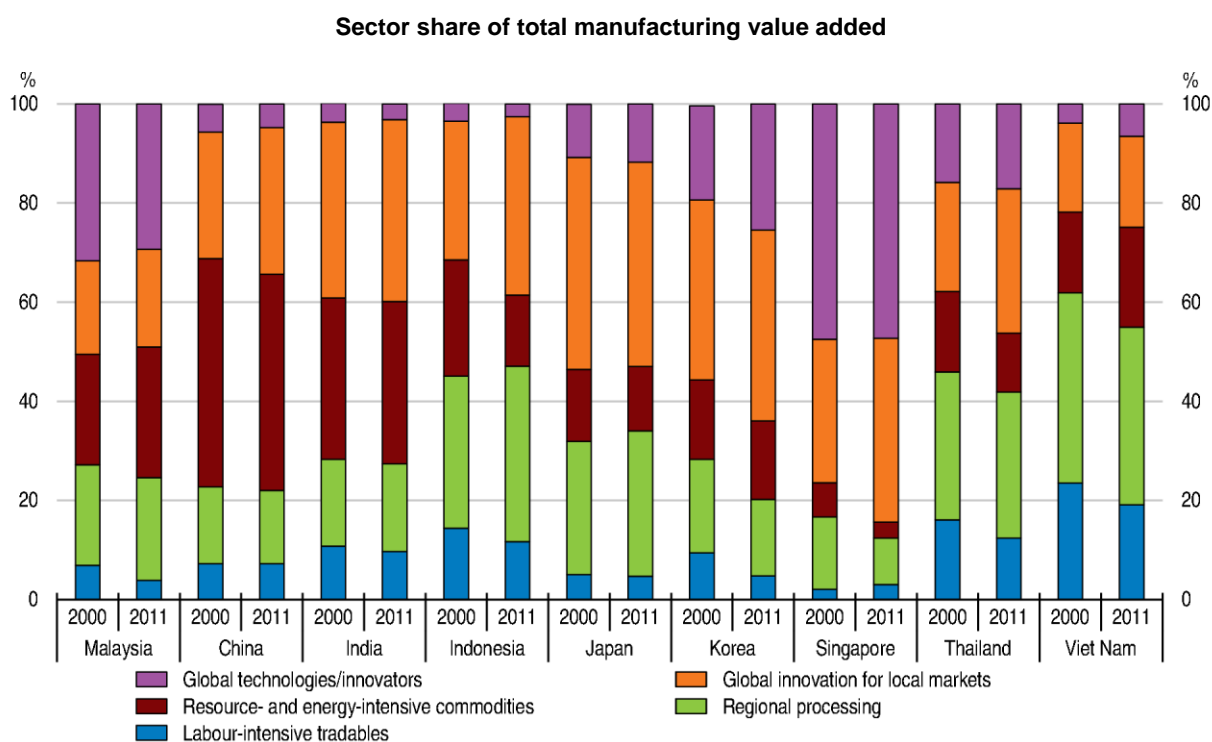
In addition to the aforementioned governance improvements to increase business access to innovation funding, and increased business-university collaboration (discussed below), more effective arrangements to harness the innovation potential of SMEs, especially in traditional industries, would deliver the largest potential gains. These SMEs often lack the capability to access general government innovation programmes. They require proximate, long-term and hands-on support provided by knowledgeable local experts. Malaysia would benefit from emulating the establishment of local innovation centres in countries such as Canada, France or Japan to provide such services which will help minimise the potential for support to become overly interventionist. These centres would build on existing initiatives such as SIRIM-Fraunhofer, Steinbeis, and the Public Private Research Network, which are virtual platforms providing expertise and vouchers for third-party finance but would benefit from dedicated, accessible local expert staff. They could also leverage efforts to increase the availability of innovation finance for SMEs, which includes strengthened engagement with financial institutions, venture capitalists and angel investors and the use of equity crowdfunding platforms. Local innovation centres would thus complement existing initiatives to increase SME commercialisation through the Technology Commercialisation Platform. The government is strengthening its engagement with financial institutions, venture capitalists and angel investors to reduce dependency on government

resources to finance SME innovation. Equity crowdfunding platforms have been introduced to increase the range of fundraising options for small firms.

At the opposite end of the size spectrum, Malaysia's large government-linked corporations (GLCs; which represent around 15% of value added and around 30% of stock market capitalisation) are less innovative on average than the private sector. The limited innovation by GLCs is consistent with the experience of other countries (including Singapore), suggesting that GLCs are inherently less innovative than private businesses of equivalent size. The Government could either allow privatisation to drive innovation or utilise its controlling interest in these businesses to reorient their KPIs to include a greater role for innovation and R&D.

More generally, reducing the level of anti-competitive product market regulation has been found by the OECD to be one of the most powerful tools that governments have to raise the level of business R&D spending. Easing anti-competitive product market regulations was also found to raise both the level of patenting and the proportion of firms who are successful innovators and thus innovation overall.

Figure 12. Malaysia's technological upgrading has slowed



Source: OECD (2013a), *Southeast Asian Economic Outlook 2013: With Perspectives on China and India*, <http://dx.doi.org/10.1787/saeo-2013-en>; Asian Development Bank (2013), *Beyond Factory Asia: Fuelling Growth in a Changing World*.

Improving the relevance and recognition of university and public research institute output

Across the tertiary education and research sector, reforms are underway to improve collaboration with industry and increase the business relevance of research and curricula (see the section on education). It will take time for these reforms to deliver improvements to the current dearth of collaboration and increase the attractiveness and practical applicability of university patents to industry. Patent quality is a

key concern given the high costs of patenting and renewing intellectual property (within Malaysia and internationally).

Increased commercialisation of research by universities and public research institutes has also become a focal point of efforts to improve its relevance, recognition and financial sustainability. The minimal rate of commercialisation by tertiary institutions does indicate ample room for growth. However, there is no universal benchmark commercialisation rate and large divergence in advanced country experiences.

One focus of reforms so far has been to incentivise commercialisation by reducing overall government funding and linking remaining funding to commercialisation outcomes. While changes to government funding arrangements provide motivation to diversify funding, in the short term it is unlikely to come from commercialisation; this creates risks that universities are unable to finance commercialisation capacity building during this difficult transition. Successful commercialisation depends on sufficiently mature, and often specialised, financial markets willing to provide funding, or financing from governments or universities with limited understanding of markets. Beyond increasing research quality and relevance, a precondition for increased commercialisation is to facilitate the deepening of these markets, often through the establishment of jointly funded public-private partnerships, with investment decision-making solely in private hands. Rather than creating commercialisation rate KPIs for tertiary institutions, it would be more effective to establish commercialisation funds that connect researchers to financial markets, with the government role limited to co-financier and matchmaker.

Simultaneously increasing demands on teaching outcomes (see the section on education) and commercialisation while reducing funding for tertiary institutions increases implementation risks from inadequate prioritisation and sequencing of reforms. The focus on commercialisation should not detract from the traditional contribution of universities to innovation through the development of highly qualified graduates with STI skills.

Further improving the competition framework

Robust competition is an essential driver of productivity and innovation, stimulating businesses to continuously improve their processes, products and services. To be effective, competitive markets require comprehensive competition legislation enforced by an independent competition authority with suitably qualified staff and adequate resources.

Malaysia's competition framework has improved in recent years, with the introduction of the Competition Act 2010 and the creation of the Malaysia Competition Commission (MyCC) in 2011 to enforce the new laws. The Competition Act generally reflects international standards. While acknowledging the relative infancy of the system and difficulties experienced in building institutional capacity, there remain concerns with the competition policy framework related to the independence of the MyCC, the lack of merger control powers and the exemption of certain sectors from the Competition Act.

Enforcement activities are still in their infancy. MyCC is currently undertaking its fourth market review in five years. Few decisions have been made on breaches of the Act, with MyCC having taken four final decisions regarding cartels and yet to conclude any abuse of market dominance cases. The use of fines is low thus far. MyCC needs to intensify its enforcement activities to achieve effective deterrence, increase awareness and build stakeholder confidence in the exercise of its mandate.

Inadequate agency independence and resourcing is affecting regulatory outcomes

Competition agency independence is desirable for a sound and effective competition policy regime (OECD, 2012a). Independence from government and those it regulates increases confidence and trust

in the integrity of agency decision-making, while a high level of integrity improves regulatory outcomes (OECD, 2014b). The degree of agency independence also influences legal certainty and the consistent application of rules over time.

MyCC considers itself to be an independent body and maintains institutional separation from other government agencies. However, its independence is not safeguarded by competition legislation and several provisions of these laws indicate a degree of government dependence. Key concerns are:

- *Broad government discretion over the staffing of MyCC* – OECD best practice safeguards the independence of the regulator by ensuring the CEO is appointed by and primarily accountable to the governing body (OECD, 2012b). In Malaysia, the MyCC head and members are appointed by the Prime Minister on the advice of the Minister of Domestic Trade, Co-operatives and Consumerism. In addition “any member of the Commission may, at any time, be revoked by the Prime Minister, if necessary in the interest of the effective and economical performance of the functions of the Commission” (Article 11 of the Competition Act). Such extensive discretionary powers may limit the autonomy of the institution.

A similar power exists for the Minister to influence the appointment of the CEO “on such terms and conditions as he thinks desirable”. This is critical given the CEO’s responsibility for the administration and management of MyCC operations and employees.

- *The composition and remuneration of the commissioners* – four of the nine serving commissioners (excluding the chairman) are government representatives, while the remaining five come from business, industry and academia. Commissioners are part-time, receive no remuneration (except for the chairman), but are entitled to allowances determined by the Minister. Together these factors raise potential conflicts of interest. To avoid the latter, OECD best practice suggests stakeholder engagement mechanisms, such as an advisory or consultative committee, are preferable to direct representation on regulatory bodies (OECD, 2012b).
- *Powers of ministerial direction* – the Minister has the power to give MyCC “directions of a general character, consistent with the provisions of the competition laws, and which relate to the performance of MyCC’s functions and powers”. This power was exercised in March 2015 when the Minister issued a statement providing direction to MyCC for 2015. The Minister is also empowered to direct MyCC to investigate specific suspected infringements of competition law. Such wide-ranging powers allow the Minister to set priorities, influence or directly intervene in MyCC operations, potentially limiting the regulator’s independence.

The autonomy and independence of MyCC, along with its capacity to perform its functions, is also limited by the role of the Minister in determining its budget: MyCC’s annual budget requires general plus item-by-item approval by the Minister. Furthermore, current funding levels are severely limited, at around eight times less than the competition authority of Indonesia.

Funding restrictions impose both quantity and quality limitations on staffing. MyCC has ten commission members and around 30 technical staff. By comparison, regulators in Thailand and Viet Nam each have 100 staff, Indonesia’s has 300, and the newly created Philippines Competition Commission plans to recruit approximately 200. MyCC is keen to develop its capacity to enforce competition law but lacks experienced staff and financial resources, particularly in competition economics with only two economists (GCR, 2016). MyCC has had difficulties in recruiting suitably qualified staff and has struggled to retain the staff it has trained. There have been three CEOs in less than two years, and the last two were high-level officials from the Ministry of Domestic Trade.

Additional functional and financial independence together with increased resourcing are necessary to improve regulatory outcomes and ensure fair competition in Malaysia. If not, competition policy will become increasingly ineffective as “low-hanging” fruit cases are exhausted and anti-competitive conduct becomes more sophisticated.

Exemptions reduce the consistency of competition regulation

Competition in the electricity and piped gas industries, the communications and multimedia sectors, and the aviation sector is governed by separate regulatory bodies. The sectors are governed by the Energy Commission, the Malaysian Communications and Multimedia Commission (MCMC) and the Malaysian Aviation Commission (MAVCOM) respectively under separate sector-based legislation, with those bodies having broad sector-related responsibilities beyond competition policy.

Enforcement by these bodies requires even greater development than for the MyCC. As an example, the MCMC has never brought a single competition case against a telecoms operator, which is remarkable for a sector that in most countries attracts a large share of competition complaints. Additionally, while there is always the potential for inconsistencies in competition policy where different sectors have different regulators, this risk is higher in the communications and media sectors where legal tests and standards differ substantially from the Competition Act provisions. In an effort to improve consistency of approach, MyCC has established a Special Committee of competition regulators. Where the sector regulator does not take action in response to a complaint under its responsibilities, the issue will be raised at the Special Committee. Given the lack of enforcement by the MCMC, this seems to be ineffective. Malaysia should consider harmonising the competition provisions in sector-specific regulation with those of the Competition Act, and ensure adequate resources are being devoted to competition issues in the MCMC, should this sector remain exempt from the Competition Act 2010.

The MAVCOM started operation in March 2016 and has competition powers that go beyond those of the MyCC, as it also has merger control powers (see below). Prior to the transfer of aviation competition regulation to MAVCOM, one of the four infringement decisions of the MyCC was in relation to a market allocation agreement between Malaysia Airways and AirAsia. Considering this history and MAVCOM’s sole responsibility for competition issues in this sector, it is crucial that it has sufficient and specialised means to implement the competition provisions.

In 2013, amendments to the Competition Act exempted the direct upstream commercial activities of the petroleum sector regulated under the 1974 Petroleum Development Act and Regulations. Neither of these Acts contain competition provisions, which effectively exempts the sector from competition law and reiterates the exclusionary rights of the wholly-government-owned oil and gas company, PETRONAS (Teong, 2015). In effect, the legal framework grants PETRONAS status as both a market player and regulator. A clear separation of state ownership functions from regulatory responsibilities in this sector is essential to provide a level playing field and effective competition in the sector (OECD, 2015c).

Enhanced merger review in Malaysia

An effective merger review is an important component of a competition regime, with competition law in almost all countries providing for control of mergers. While mergers can be beneficial to competition, some mergers can result in large costs to consumers and to the economy more generally. Merger control can help prevent consumer harm from transactions that can lead to significant increases in market power, increased prices for consumers and less competitive market structures. It is essential that regulators have the power and skills to effectively investigate and address potential problems, including through merger control powers.

Malaysia is currently the only jurisdiction in ASEAN with a competition law that does not provide for competition merger control. The only exception is contained in the recently introduced Malaysian Aviation Commission Act 2015, which is the first legislative instrument in Malaysia to contain competition merger control provisions. While generally mergers are overseen by the Malaysian Securities Commission, its mandate does not capture competition effects or safeguarding the competitive structures of markets. Malaysia should consider extending merger control to the broader economy through amendments to the Competition Act.

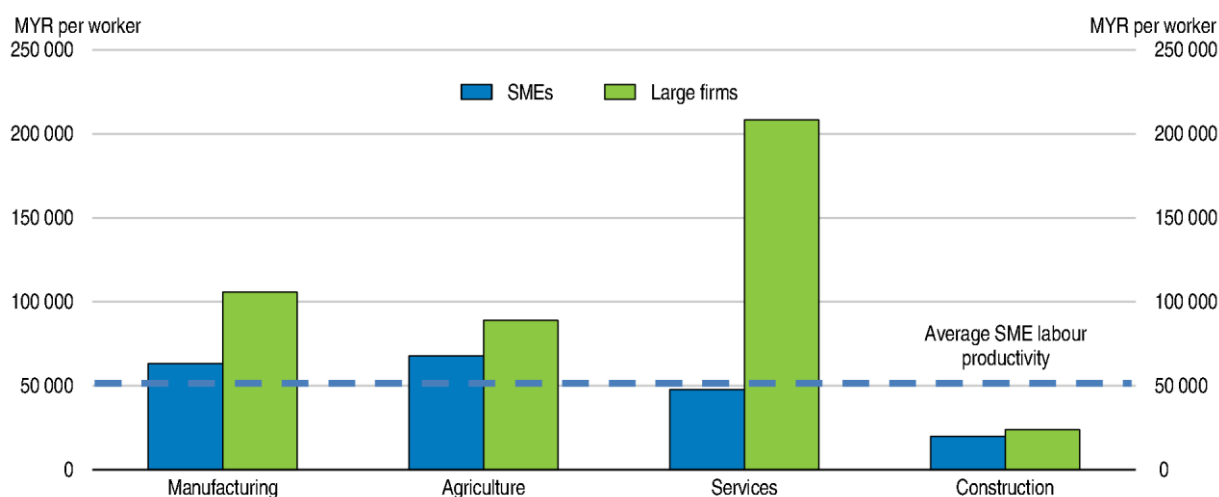
Enhanced regulatory frameworks for SMEs

Good regulatory practice drives productivity gains by effectively allocating resources, promoting fair and robust competition and minimising the compliance burden on business. Cumbersome regulatory requirements are particularly detrimental to SMEs, which have relatively limited resources to deal with red tape. SMEs are critical to competitive and innovative markets and therefore to boosting productivity. In Malaysia, SMEs accounted for 97% of the country's total business establishments in the 2011 economic census, but with a much smaller share of GDP compared to the advanced countries. The 11th Malaysia Plan targets an increase in the SMEs contribution to GDP from 36% in 2015 to 41% in 2020 and in the share of total employment from 59% in 2015 to 62% in 2020.

Like in many OECD countries, labour productivity in SMEs lags behind that of larger firms, particularly in the services sector (Figure 13). The relatively large share of SMEs in subsectors with lower productivity such as wholesale and retail trade, and hotels and restaurants explains some of the productivity gap. However, regulatory barriers and in particular obstacles to entry and exit are also a contributory factors. Where SMEs do outperform larger size firms, they are characterised by competitive advantages in niche, high-brand or high intellectual property content activities, intensive use of ICT, and participation in GVCs (OECD, 2015c).

Figure 13. SME productivity lags large firms

Value added per employees in 2005 constant prices (2011-13)



Source: Economic Planning Unit, 11th Malaysia Plan; Department of Statistics, Malaysia, National Accounts Small and Medium Enterprises Year 2013.

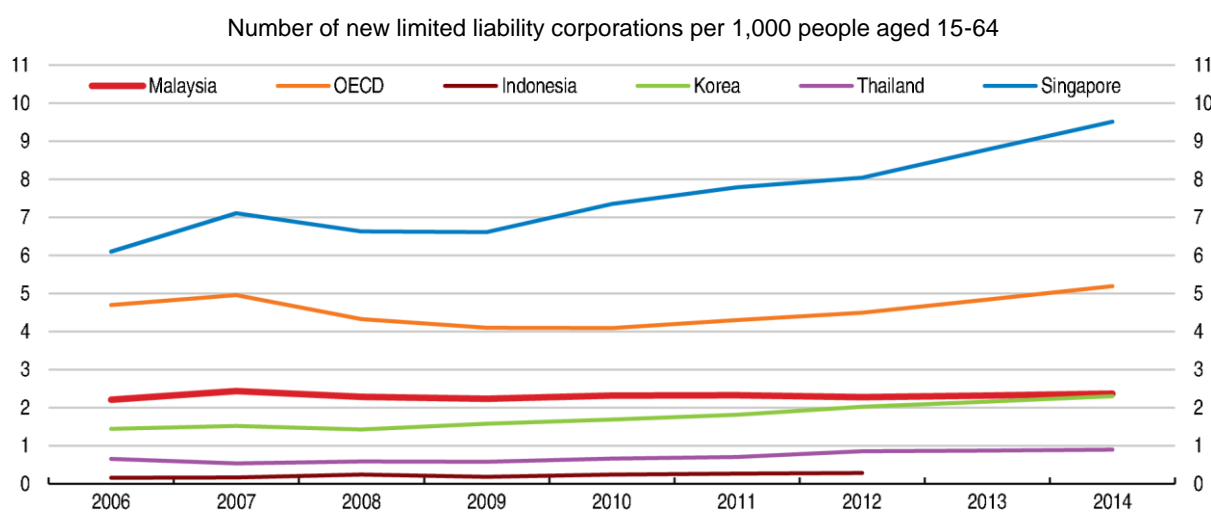
The SME Masterplan 2012-2020 seeks to promote innovation and productivity-led SME growth through policies encouraging greater innovation and technology adoption, enhancing human capital development, supporting equitable access to finance – in particular providing funds at the start-up stage – and creating a regulatory environment conducive to SME growth (SME Corp, 2012). Greater automation of production processes and business services complemented by increased ICT

utilisation is a priority of the Masterplan. Reforms to reduce barriers to firm entry and exit are also mentioned, with action in these areas particularly important to supporting the development of productive SMEs and competitive markets.

Removing barriers to firm entry

Market turnover is as essential to productivity as technological progress and innovation, enabling the entry of innovative firms and the exit of unproductive and unprofitable businesses (Andrews et al., 2015). In OECD countries, firms less than five years old (regardless of size) accounted for less than a fifth of total non-financial business employment, but generated half of all new jobs over 2010-11. These growth and job creation effects occur largely through innovation, as new firm creation and SME growth increase productivity and bring new or under-utilised resources into use (OECD, 2010, 2013d). In Malaysia, new business entry has stagnated in the past ten years and remains

Figure 14. New business entry has not increased much



Note: 2013 or 2014 data are not available for Indonesia; for the other countries 2013 has been linearly interpolated.

Source: World Bank (2016), World Development Indicators (database).

The *ASEAN SME Policy Index* points to the need for several measures that would encourage higher SME entry. These include streamlining firm registration and introducing zero licensing procedures to facilitate entry in services and industry, addressing information failures by increasing support for entrepreneurial education and highlighting the importance of shared learning from entrepreneurial initiatives (ERIA et al., 2014). Services sector liberalisation could also go further, with almost all services sectors still requiring licences to start a business. The criteria for granting licences are often unpublished and subject to significant administrative discretion (EUMCCI, 2015).

A broader examination of barriers to SME competition would also be beneficial to identify unnecessary red tape. *The OECD Competition Assessment Toolkit* provides a methodology for undertaking an assessment of competition barriers, including impediments to the entry and exit of small firms (OECD, 2009).

More accommodative exit policies

Malaysia's overly stringent bankruptcy laws are a major impediment to business regeneration, particularly for SMEs. In the World Bank's *Ease of Doing Business 2016* index, resolving insolvency is the least favourable indicator for Malaysia (Figure 15). This reflects an underdeveloped insolvency

framework particularly lacking in fair and effective debt reorganisation proceedings for distressed debtors. Creditors can initiate bankruptcy proceedings for debt defaults of as little as MYR 30 000 (around USD 7 500), at which point no possibility of a “second chance” or gradual debt repayment plan exists – the only way to exit bankruptcy proceedings is full debt repayment. Existing laws contain no provision for an automatic discharge from bankruptcy after a set period of time, which is a common feature of insolvency regimes in OECD countries (Adalet McGowan and Andrews, 2016). Therefore, bankruptcy laws in Malaysia provide a strong disincentive to risk-taking and entrepreneurship that disproportionately affects SMEs. Bankruptcy procedures could be further enhanced by introducing a voluntary debt restructuring scheme similar to Chapter 11 bankruptcy laws in the United States. This would facilitate the rescue of viable firms.

Figure 15. Resolving insolvency has the largest distance to the frontier



Note: The gap to frontier is the difference between Malaysia's score and the score of best performing country (=100).

Source: World Bank (2016), Doing Business (database).

In addition, bankruptcy processes could be reinforced by introducing out-of-court arbitration procedures to facilitate company restructuring. Automatic discharge of debts after a set period of time should also be introduced.

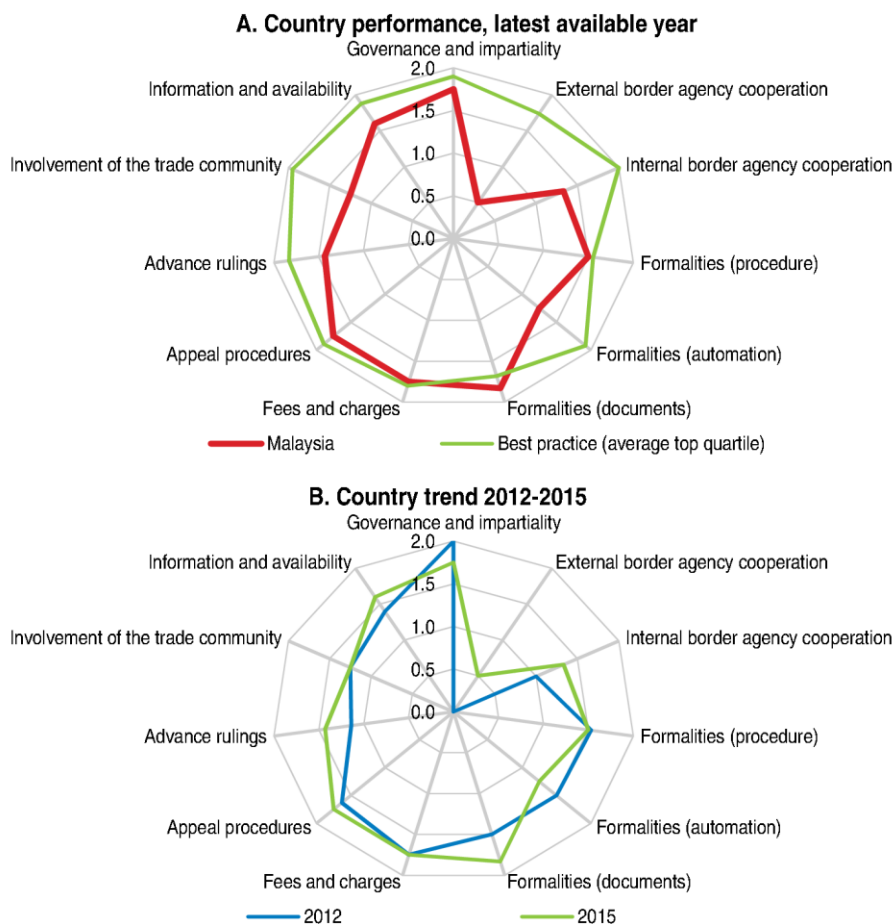
Malaysia is considering bankruptcy law reforms that enable a more flexible debt repayment plan, increasing the debt threshold to bankruptcy to MYR 100 000 (around USD25 000) and introducing a voluntary arrangement provision based on practices in the United Kingdom and United States. While this is a good first step, “second chance” provisions remain weak, especially for businesses. Indeed, automatic discharge provisions remain absent, while the increased debt threshold only applies to individual borrowers, not to firms. As such, more comprehensive insolvency reforms are essential to encourage more risk-taking and innovative behaviour from SMEs.

Trade, investment and furthering regional integration

Trade and investment have made essential contributions to Malaysia's development and continue to play a major role in the Malaysian economy. Malaysia's trade-to-GDP ratio of around 134% in 2015 is around 2.3 times the OECD average, while net inflows of FDI are around five times the OECD average as a share of GDP. The integration of businesses into GVCs provides them with exposure to international best practice, frontier technology and competition, with further integration an important driver of future productivity. The challenging external environment requires the country to enhance its

competitiveness in attracting global capital, with advancement up the value chain critical to providing skilled employment opportunities.

Figure 16. Trade facilitation indicators frontier



Note: The gap to frontier is the difference between Malaysia's score and the score of best performing country (=2.0).

Source: OECD (2016), Trade facilitation indicators (database), www.oecd.org/tad/facilitation/indicators.htm.

Building on solid trade fundamentals

The economy benefits from its relative openness to trade and its strong business environment, as demonstrated by it being ranked 18th in the World Bank's *Ease of Doing Business 2016* index. Malaysia rates as having above-average openness on the International Chamber of Commerce's *Open Markets Index*, with its specific ratings on trade openness gradually improving in recent years (ICC, 2015). Import tariffs have been gradually reduced through unilateral reductions and trade agreement concessions. The country had a simple average tariff rate of 5.6% in 2013, while actual rates were slightly higher for industrial products and lower for agriculture (WTO, 2014). Further tariff cuts and the elimination of certain non-tariff barriers will come about with the implementation of the Trans-Pacific Partnership Agreement (TPPA) and may result from Malaysia's participation in the Regional Comprehensive Economic Partnership (RCEP) and other trade agreement negotiations if concluded.

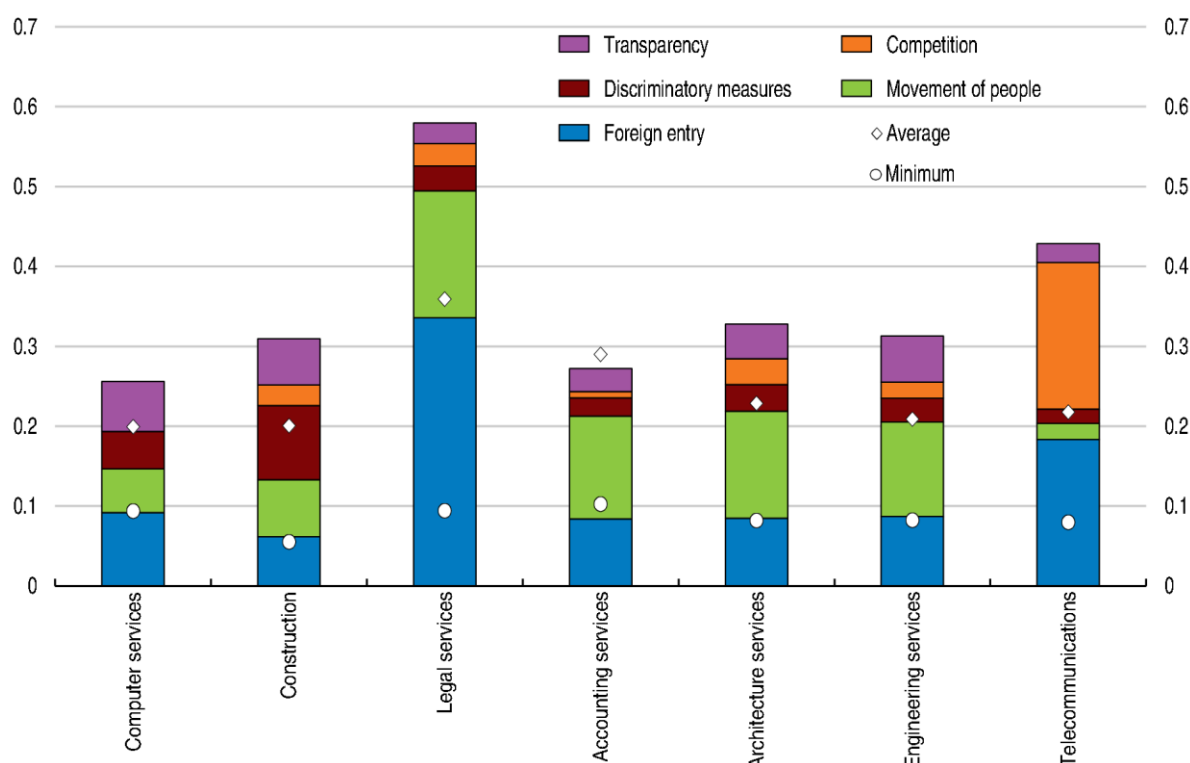
The OECD's trade facilitation indicators show that Malaysia performs at or close to best practice in several aspects relating to non-tariff barriers (Figure 16). Remaining barriers equate to a potential

trade cost of 16.1%, which is slightly better than the ASEAN average (16.9%) but below the average for Asia-Pacific Economic Cooperation (APEC) member economies (14.0%) (OECD, 2015e).

The areas in which Malaysia would gain most from improvements are the automation of formalities and increased availability and accessibility of information through greater use of information and communications technology, the reversal of negative developments in governance and impartiality, and enhanced cooperation with neighbouring and third country border agencies. Many of these issues are focus areas for ongoing work within regional forums such as ASEAN and APEC, where mutually agreed regional improvements will benefit Malaysia over and above unilateral reform.

The *OECD Services Trade Restrictiveness Index* (STRI), computed for the first time here, shows that Malaysia has more restrictive regulations than the sample average in six out of the seven sectors covered (Figure 17). This is partly due to regulations applying to all sectors of the economy. They include a requirement of local incorporation to operate in Malaysia, residency requirements for board members and restrictions on land acquisition by foreigners. Preferences are given to local suppliers in public procurement markets, and there are time limits for entry of temporary services providers (12 months for contractual and independent services suppliers, and 24 months for intra-corporate transferees). The services with higher STRI scores are those typically subject to a significant level of restrictiveness in many countries, including legal services and telecommunications. Though Malaysia has liberalised its international law market, domestic law remains reserved to national suppliers. In telecommunications, foreign equity participation is limited to 70% and Malaysia also requires pre-approval of investment. Although the regulatory framework for the sector is quite advanced, some pro-competitive measures (e.g. a secondary spectrum trading scheme and number portability for fixed lines) are still lacking.

Figure 17. The STRI for selected sectors



Note: The STRI indices take values between zero and one, one being the most restrictive. They are calculated on the basis of the STRI regulatory database which contains information on regulation for the 34 OECD Members, Brazil, China, Colombia, India, Indonesia, Latvia, Malaysia, Russia and South Africa. The STRI database records measures on a Most Favoured Nations basis. Preferential trade agreements are not taken into account.

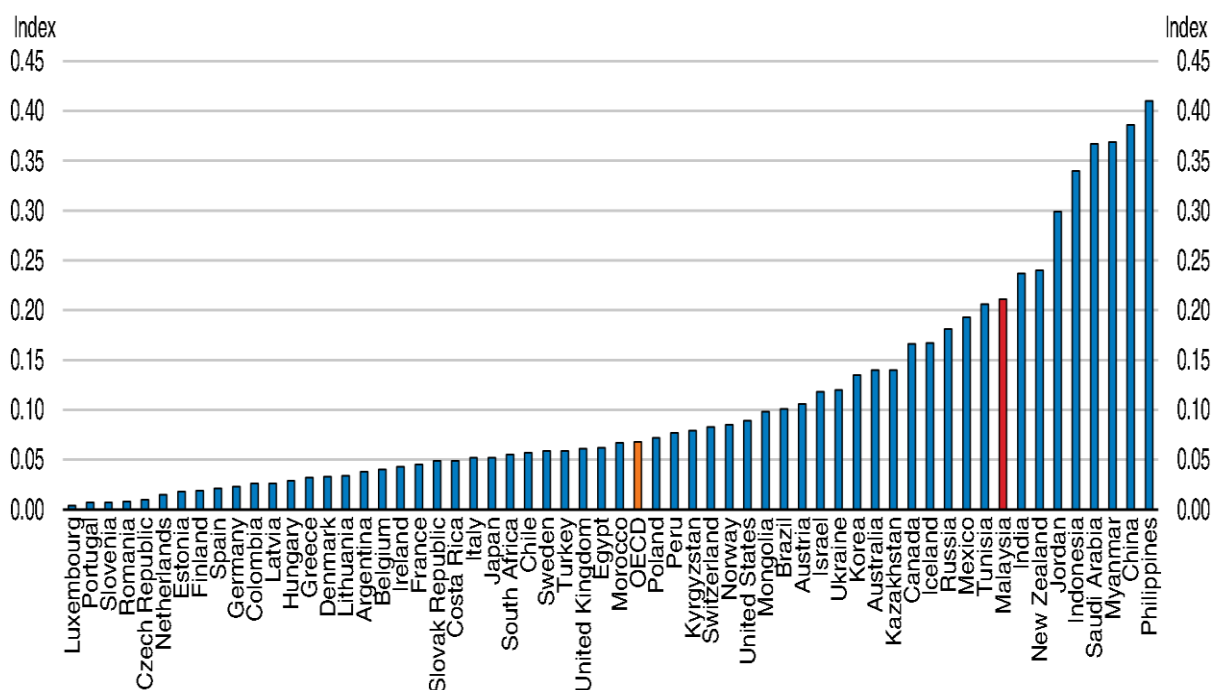
Source: OECD (2016), Services Trade Restrictiveness Index.

Regaining momentum for liberalising services investment

Malaysia has progressively eased foreign ownership restrictions since 2009, and its share of global FDI inflows has increased to the highest levels since the Asian Financial Crisis (though remaining well below pre-crisis levels). Wholly-foreign-owned businesses have recently been allowed to operate in service sectors such as education, health, tourism and professional services. While among the most open countries in East Asia (in terms of statutory restrictions on FDI), Malaysia remains among the most restrictive countries surveyed by the OECD's *FDI Restrictiveness Index* (Figure 18), with liberalisation not having continued as hoped following the *2013 OECD Investment Policy Review* (OECD, 2013e). The review identified continuing restrictions in key service sectors as impediments to investment, with concerns magnified by fragmented and burdensome regulatory procedures such as licencing.

As the services sector accounts for over half of Malaysia's economy, further liberalisation will be increasingly important to maintaining high levels of FDI. Further foreign investment could also deliver additional expertise and international networks to support Malaysian businesses to expand globally, while also improving knowledge of investment opportunities in emerging industries for which local expertise may be insufficient. Liberalisation would also boost competition and productivity in these industries.

Figure 18. FDI restrictiveness index 2015



Source: OECD (2016), OECD FDI regulatory restrictiveness index (Edition 2015), OECD International Direct Investment Statistics (database), <http://dx.doi.org/10.1787/671274a5-en>.

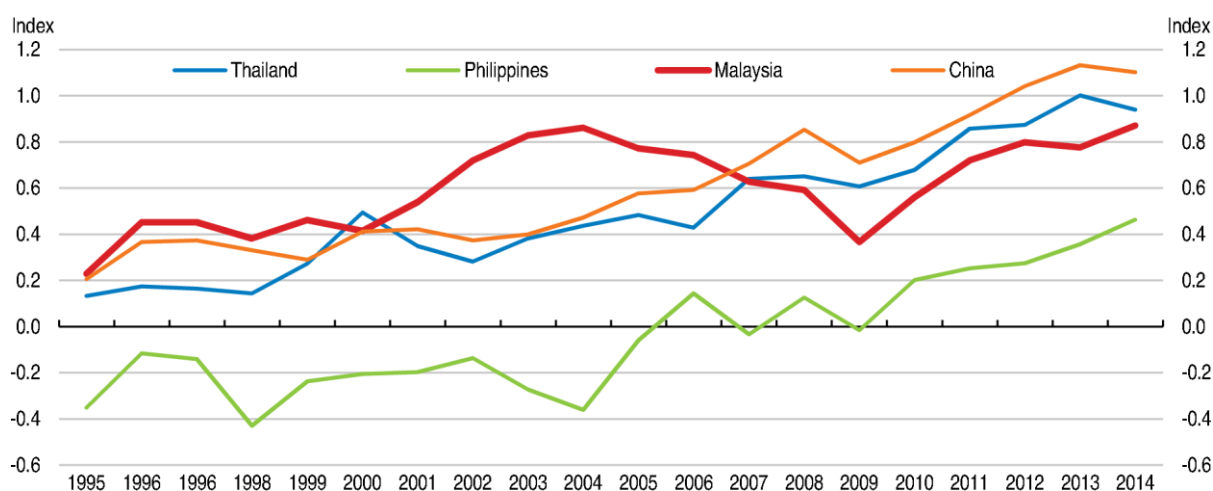
Increased participation in global value chains

GVCs are increasingly central to trade and investment patterns, particularly in an ever-more integrated Asia-Pacific region. Participation in GVCs provides Malaysian businesses, especially in E&E – Malaysia's largest export sector accounting for 36% of gross exports in 2015 – with opportunities to increase their productivity through production economies of scale, increased efficiency and sophistication through specialisation, and access to advanced business practices and technology. While the measurement of GVC participation remains difficult, available evidence suggests Malaysia's contribution has been relatively strong, consistent with its aforementioned openness to trade and ease of doing business. *The OECD-WTO GVC participation index* rates Malaysia's participation well above

both developed and developing country averages, though it appears overly concentrated in “backward linkages” (where imports of intermediate products are used in exports) typically associated with lower value added contributions (WTO, 2016). More recent estimates suggest Malaysia’s participation was as high as 2.7% of global and 5.2% of Asia’s GVC trade between 2009 and 2013 (Arudchelvan and Wignaraja, 2015), making it the fourth most active Asian economy in GVC trade behind China, Japan and Korea.

As Malaysia moves towards high-income status, its participation in GVCs needs to become increasingly sophisticated to claim a higher share of value added and maintain competitiveness as labour costs rise. On some indicators, improvements in absolute performance have been slow relative to its regional competitors, creating risks to Malaysia’s future competitiveness. For example, Malaysia’s Economic Complexity Indicator dropped sharply in the second half of the 2000s, when the E&E sector suffered from the sharp fall in demand for personal computers, falling behind China and Thailand in absolute terms while losing ground to the Philippines (Figure 19) (Centre for International Development, 2016). Malaysia’s ranking has recovered since 2010, as firms adjusted to supplying components for mobile devices, but further gains are needed to recover the ground lost to its competitors. Similarly, as noted above, Malaysia’s share of high value-added manufacturing in GVCs has contracted slightly since 2000.

Figure 19. Malaysia has lost some ground with respect to export diversity and complexity against regional GVC competitors



Note: The Economic Complexity Indicator ranks how diversified and complex a country’s export basket is. A country is considered “complex” if it exports a large number of highly complex products, as represented by a higher indicator value.

Source: Centre for International Development (2016), Atlas of Economic Complexity.

Continuing to enhance regional integration

Malaysia is geographically and geopolitically well situated to benefit from ongoing efforts to increase the regional connectivity of trade, investment, people and markets. Its proximity to the global centre of developing economy growth, particularly that of China and India, and its membership of ASEAN, APEC and their associated institutions present Malaysia with a wealth of regional expansion opportunities. Participation in regional fora and trade agreement negotiations can also be an important driver of structural reform.

The launch of the ASEAN Economic Community (AEC) at the end of 2015 marked a milestone for the regional grouping, which pursues regional integration through mutually agreed liberalisation and cooperation. It has made substantial progress in areas including the almost complete elimination of tariffs

between members (96% of tariff lines have been eliminated across the region, including 99.2% of tariffs from the six most developed economies including Malaysia), harmonisation of trade-related technical standards, mutual recognition and movement of skilled labour, and the collective negotiation of trade and investment agreements (ASEAN, 2015a). However, key areas of particular relevance to Malaysia remain outside of plans for further integration (ASEAN, 2015b). For example, Malaysia could push for region-wide liberalisation of investment in services, a regional framework for investment attraction to reduce the provision of costly investment incentives, and enhanced cooperation on unskilled labour migration.

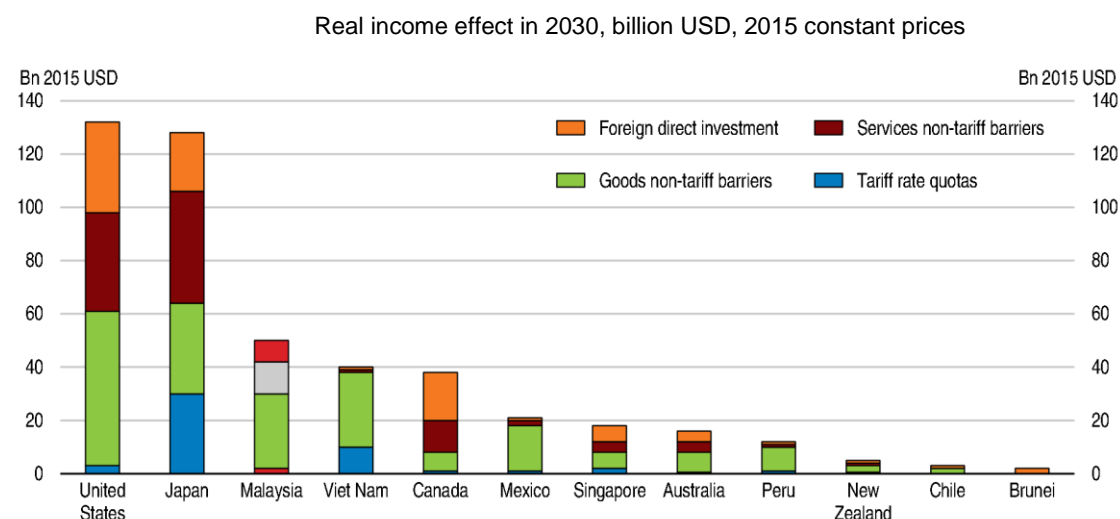
The agenda of the broader APEC grouping also presents complementarities to Malaysia’s trade and investment policy objectives. APEC facilitates high-level dialogue between leaders and senior officials from economies with diverse development levels and experiences, enhancing policy outcomes through shared learnings and mutually agreed aspirational targets. APEC’s recent focus on the inclusiveness of growth and development shares many complementarities to the issues of interest to Malaysia (APEC, 2016). As discussed below, for Malaysia as a party to both the TPPA and RCEP, the APEC aspiration of a Free Trade Area of the Asia Pacific (FTAAP) is expected to advance the regional economic integration agenda.

Box 2. Benefits to Malaysia of regional trade agreements

Like many other countries, Malaysia supports multilateral trade liberalisation through the World Trade Organization but is taking the pragmatic approach of also negotiating regional and bilateral agreements. The free trade area under the AEC and the recently concluded (but not yet implemented) TPPA are the most significant to date, respectively representing 27% and 38% of Malaysia’s merchandise trade in 2015. The future conclusion of RCEP (62%) and/or the FTAAP (77%) would cover a larger proportion of Malaysia’s trade.

The TPPA is a comprehensive agreement capturing both traditional facets of economic integration (such as the removal of trade and investment barriers) and issues such as the digital economy, government procurement, labour rights, state-owned enterprises, intellectual property rights and the environment. Malaysia’s involvement is predicted to provide substantial economic benefits over the medium term, with a projected 7.6% increase on baseline real income by 2030 (Petri and Plummer, 2016). Reflecting Malaysia’s already low tariff schedule, benefits will mostly come from the removal of non-tariff barriers and additional FDI (Figure 20).

Figure 20. The Trans-Pacific Partnership Agreement will boost Malaysian real incomes mainly through behind-the-border



Source: Petri and Plummer (2016), “The economic effects of the Trans-Pacific Partnership: New estimates”, *Peterson Institute of International Economics working paper series 16-2*.

The TPPA will require Malaysia to adhere to stricter standards in important areas such as association of labour, government procurement, GLCs and competition policy. It is hoped that TPPA implementation will provide impetus for structural reforms that go beyond minimum requirements, in particular to remove competition barriers in sectors where GLCs remain dominant. This would amplify the growth and productivity benefits of the TPPA for Malaysia. As the

TPPA membership does not include Malaysia's main trading partner (China) or several ASEAN countries, Malaysia would gain further by making progress with similar liberalisation vis-à-vis non-members (either unilaterally or through further agreements such as RCEP).

Boosting public sector productivity

A productive public sector is key for economic progress. It enables markets to efficiently provide goods and services, and minimises the diversion of resources away from less productive uses. The efficient delivery of public services, including education, healthcare, social protection and basic infrastructure, is fundamental in promoting inclusive growth.

Malaysia's 1.6 million employee public sector workforce represented a 16.1% share of total employment in 2014, higher than many of its neighbours and close to the OECD average (Figure 21.A). In many respects, Malaysia does have a productive public sector. It outperforms advanced economy averages across the spectrum of the World Bank's Worldwide Governance Indicators and the government efficiency component of the World Economic Forum's *Global Competitiveness Report* (Figure 21.B, C). Malaysia's relatively strong performance reflects ongoing reforms under the Government Transformation Programme (GTP), launched in 2010, in conjunction with the 10th Malaysia Plan (2011-2015) and the Economic Transformation Programme (ETP). The plans prioritised the streamlining of regulatory frameworks, reduced business licensing requirements and promoted information technology use by government agencies (Box 3). The Malaysia Productivity Corporation (MPC) was put in place as the key-coordinator agency across the government for improving regulatory governance. Its achievements include the Modernising Business Licensing (MBL) initiative, the Reducing Unnecessary Regulatory Burden initiative, implementation of a regulatory impact assessment (RIA) system that assesses the positive and negative effects of proposed regulations at an early stage of policy-making, and guidelines on effective public consultation. As ratified in the National Policy on Development and Implementation of Regulation and a Guideline on Public Consultation Procedures, RIA and public consultation are becoming increasingly embedded into the policy-making process to improve the quality of evidence-based policy making (OECD, 2015g).

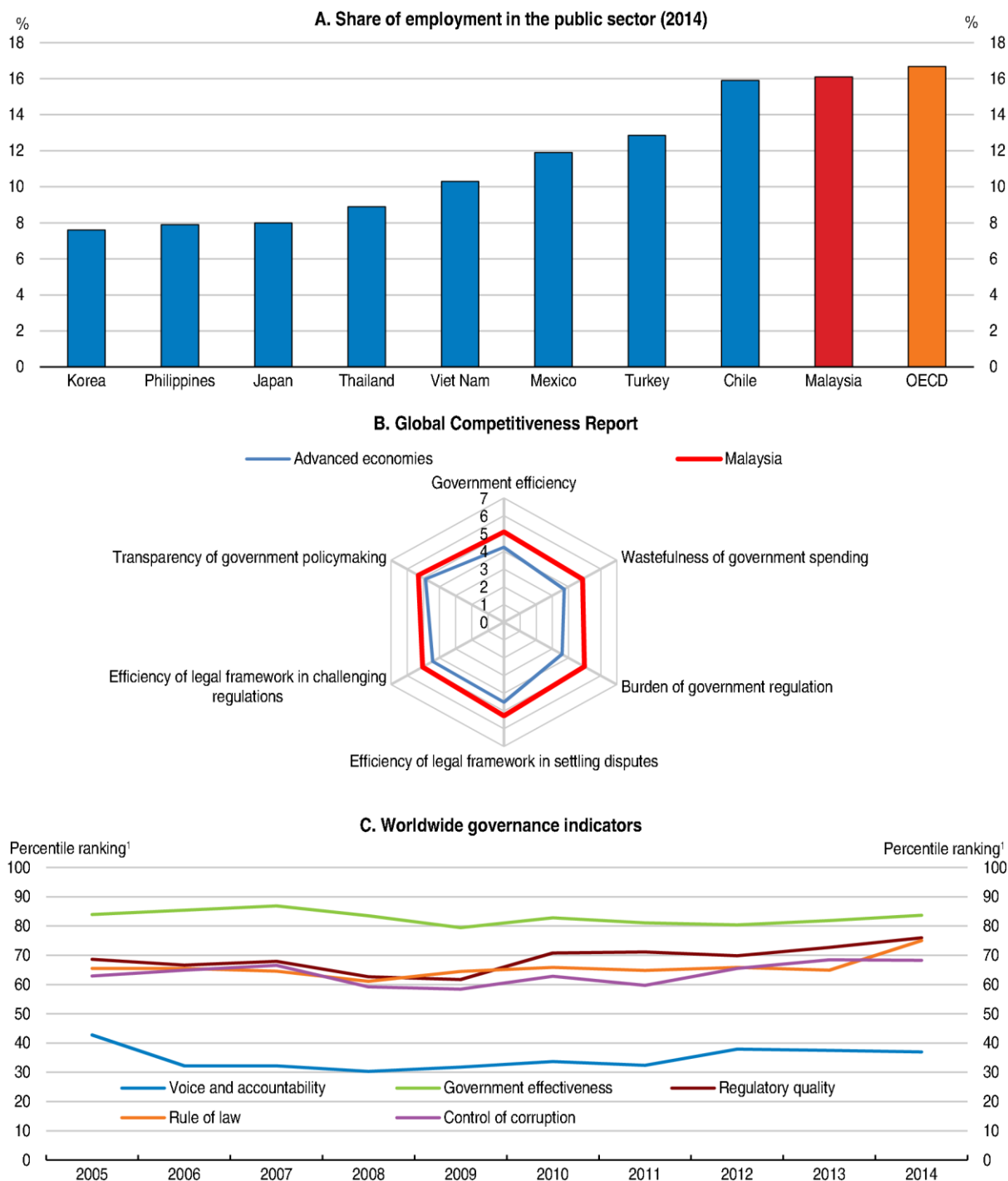
Even so, Malaysia's public sector can be further improved, particularly by improving public service delivery, rationalising the roles and functions of ministries, empowering state and local authorities, reviewing programme and performance evaluations, enhancing public procurement, and better incentivising officials. Beyond the MPC, multiple institutions and actors are working towards improving the efficiency and effectiveness of the public sector at the federal, state and local level. Connecting and appropriately sequencing the reforms in these areas would increase the productivity of the public sector in particular and the Malaysian economy in general.

Empowering agencies by aligning and streamlining responsibilities

Malaysia's federal government agencies are typically required to formulate, implement and monitor government policies to meet the needs of stakeholders. The remit and duties of the agencies have evolved over time with those needs, sometimes resulting in fragmentation and duplication of responsibilities and resources. This has impeded the efficient and effective delivery of public services.

Successful national precedents exist for improving policy coordination and delivery where multiple agencies share responsibilities or interests. These include the Special Task Force to Facilitate Business (PEMUDAH), a joint effort between the government and the private sector established under the Prime Minister's Department in 2007 to improve government-business collaboration in reducing the regulatory costs for business. PEMUDAH's achievements have been reflected in Malaysia's improved rankings in the World Bank's *Doing Business*, with working groups established to improve individual indicators (OECD, 2015g). At an operational level, Malaysia has established one-stop agencies for SMEs (SMECorp Malaysia) and labour market skills matching (the TalentCorp) (OECD, 2013e, 2016a).

Figure 21. Malaysia’s public sector is large but its governance compares well internationally



1. The share of public sector employment in panel A includes all government sector employment plus employees of publicly-owned resident enterprises and companies, operating at central, state (or regional) and local levels of government.

2. Panel B scales ranges from 0 (lowest performer) to 7 (best performer).

3. Panel C is percentile rankings among 235 countries/territories, with 100 representing the top performing country.

Source: ILO, ILOSTAT (database); World Economic Forum, Global Competitiveness Report 2015-2016; World Bank, Worldwide Governance Indicators (database).

Notwithstanding these successful cases, there remains ample scope to improve public service delivery by rationalising duplicative agency efforts and clarifying agency responsibilities. While the aforementioned successful examples have improved service delivery, they have added to the crowded agency structure. Some 44 agencies and 10 ministries are involved in initiatives to support STI activities, with 14 agencies under eight ministries providing grants to support R&D alone (OECD, 2016c). A whole-of-government strategy would help address the challenges in institutional arrangements (OECD, 2015g). Careful deliberation and clear identification of the roles and responsibilities for these new agencies is key to ensuring the avoidance of duplicative roles and to further enhancing the institutional landscape, while avoiding unnecessary expansion of government size. As noted earlier, the proposal in this case is to establish the National Science Council (NSC) as the lead institution in streamlining the innovation bureaucracy and programmes. Thus, to ensure effective rationalisation of these agencies, commitments by the highest levels of government providing strategic prioritisation will help.

Malaysia has a centralised governance structure, with federal government delivery of a broader range of public services than other federations. Empowerment of state and local government agencies through decentralisation, in tandem with measures strengthening governance and enhancing transparency would improve policy adaptation to local conditions and increase the accountability of local government.

Improvement of performance evaluation is a precondition for identifying progress in public sector productivity. The GTP introduced clear and quantifiable KPIs for ministers and the heads of government agencies to evaluate performance against National Key Result Areas and Ministerial Key Result Areas. The KPIs focus on quantifiable outcomes that improve the evaluation of agency performance in implementing government policies. However, the scheme involves comparatively little assessment of performance in reforming and developing policies, and provides only minor policy input to the government. A more comprehensive KPI framework covering all agency functions would minimise the risk that agency focus is inadvertently narrowed.

Effective programmes and procurement processes

Stakeholder involvement in policy-making could be further improved in Malaysia, as reflected in its low performance on the voice and accountability indicator (Figure 21.C). Stakeholder engagement is a routine part of the development of annual budgets and five- year development plans, and nationwide public engagement activities have occurred in implementing major policies such as the GST and minimum wage. Enhanced public consultation with private businesses and foreign investors, trade unions, civil society organisations and the public, may result in better-designed policies and help achieve swifter and more effective implementation. While consultation between ministries, the federal government and state governments, and between government and the private sector has improved under the GTP, more can be done. In October 2014, the Government published a *Guideline on Public Consultation Procedures* to provide principles for officials undertaking public consultation. A circular has been issued making it a mandatory requirement across government. Consulting and engaging more actively with citizens and civil society organisations will generate new ideas and feedback on policies and services. More transparent and efficient policy making based on the rule of law enhances both the quality and compliance with public policies, which can in turn promote inclusive socio-economic development.

As well, there is room to improve evaluation and monitoring of government programmes and strategic plans. Regular performance evaluation including independent performance audits, as is done in most OECD countries (OECD, 2015h), would enhance planning and programme effectiveness. Effective public governance requires sustained monitoring and reassessment of programmes by continually engaging with affected stakeholders. A recent survey indicated that firms are not well

consulted when new laws and regulations are developed that impact the business environment (AMCHAM, 2015).

Malaysia is undertaking reforms to its budget processes that are expected to better align spending and programme outcomes. It is working towards the implementation of outcome-based budgeting and has introduced a medium-term fiscal framework to improve longer-term expenditure prioritisation. These measures should improve accountability and the identification of underperforming programmes, thereby supporting broader efforts to improve public sector efficiency through KPIs.

The composition of programmes and degree of government intervention in industry and markets also needs to evolve as the country continues to develop. Programmes propping up specific industries should be replaced with investment in technology, innovation, markets and skills. Reducing red tape and the discretion of officials would also galvanise private-sector-led growth, improving market-based incentives and minimising opportunities for rent-seeking, anti-competitive behaviour and corruption. The 11th Malaysia Plan foreshadows greater co- or self-regulation, notably in the telecommunications, education and consumer-related areas.

Public procurement of goods, services and investment in infrastructure by the government represent a substantial part of government expenditure. In 2015, 8% of GDP was spent on public procurement across all levels of government. Streamlined public procurement processes maximise value for taxpayer money, ensuring optimal use of public revenues. Procurement processes need to be fair, predictable and open to competition from all firms who wish to submit bids. Lack of transparency promotes “middlemen” who increase procurement costs and heightens the risks of corruption (MACC, 2016). Competition and transparency in the design and implementation of public procurement are called for.

Collusion by potential bidders in public procurement processes can be particularly detrimental to the effective use of public funds. Indeed, bid rigging in public procurement is a type of cartel that has the potential to cause great harm as the higher costs paid by the government for goods and services are passed on to citizens in the form of higher taxes, fewer services, and less or poorly constructed infrastructure (OECD, 2011a). Malaysia has stated its intention to tackle bid rigging in public procurement, as a priority area for the MyCC stated by the Minister of Domestic Trade. Thus far no bid rigging cases have been brought by MyCC, even though these efforts have helped identify cases of corruption associated with procurement tenders. The absence of bid rigging cases contrasts with the experience of Japan, Korea and Indonesia, for instance, where many cases of bid rigging have been brought by competition authorities with significant sanctions and penalties attached (OECD, 2014b).

Efforts to build MyCC’s capacity to detect, identify, investigate and prosecute cases would be beneficial. MyCC could also increase the range of government agencies it collaborates with to help detect bid rigging and collusion involving procurement officers. More broadly, Malaysia may wish to consider the *OECD Recommendation on Fighting Bid Rigging in Public Procurement* that calls for assessing public procurement laws and practices at all levels of government in order to promote more effective procurement and reduce the risk of bid rigging in public tenders.

Moreover, procurement methods should not only reduce the possibility of bid rigging but also facilitate the participation of SMEs, both domestic and foreign. This may be done by breaking down large tenders into lots, allow for joint bidding of SMEs and simplifying processes, for example (see the *OECD Guidelines on Fighting Bid Rigging*).

Furthermore, this approach should be extended to GLCs as organisers of tenders as any bid rigging practices concerning public procurement can impact how level a playing field is. Its application in this context is limited to cases where one of the bidders itself is a GLC or if the public procurer distorts the

procurement process to favour an incumbent GLC, or national champions or other favoured companies. Either way, the procuring authority has a responsibility to stop anticompetitive practices and such responsibility should be included in codes of conduct or ethics in order to assure integrity in the public procurement process (*OECD Guidelines on Corporate Governance of State-Owned Enterprises 2015*).

A holistic framework for incentivising the public service

Numerous factors influence the productivity of public service employees. These include recruitment and retention policies, training and education opportunities, performance (and underperformance) management, remuneration and conditions, career progression and mobility, organisational values and culture, and supporting infrastructure facilities.

The recent focus under the GTP has been the introduction and ongoing refinement of quantifiable KPIs to support regular performance reviews of high-ranking officials (an example of the performance review is provided in Table 2). Performance against KPIs directly influences rewards, remedial actions and possible termination. The Performance Management and Delivery Unit (PEMANDU), established under the Prime Minister's Department, oversees the delivery of these KPIs and monitors outcomes. Staffed by both government and private sector officials, PEMANDU is mandated to provide independent performance reviews of ministers and heads of government agencies to the Prime Minister, with the results scrutinised by a third party (typically an audit firm). Performance evaluations utilising KPIs will be expanded to cover the next level of senior government officers by 2019. Performance evaluation should be expanded to a larger number of officials.

Table 2. An example of performance review by KPI

KPI target and actual output in the comprehensive rural development programme (1AZAM)

No.	KPI	Target	Actual	% achieved
1.	Number of 1AZAM participants monitored at the minimum of six months after implementation	32 300	33 368	103
2.	Number of existing 1 AZAM participants who increased their income by MYR300 for any three months	28 900	24 646	85
3.	Number of 1AZAM participants in Financial Literacy Programme	32 300	28 528	88
4.	Number of 1AZAM projects in collaboration with NGOs and corporate sector	36	46	128
5.	Number of 1AZAM community/group based programmes	77	77	100
6.	Ensure 100% updates in <i>eKasih</i> (1AZAM website)	100%	100%	100
7.	Number of graduated 1AZAM participants who obtained micro-credit loan	500	555	111
Total				102

Source: PEMANDU (2015), Government Transformation Programme Annual Report 2014.

The further extension of KPIs to the rest of the public service would be beneficial in improving performance management processes. Similar benchmarks are commonly used in the private sector and already exist in some quasi-government agencies such as PETRONAS, Bank Negara Malaysia and Khazanah Nasional (the sovereign wealth fund). A comprehensive performance management system, with KPIs capturing expected outcomes and behaviours, would improve consistency, transparency and fairness in performance evaluation. Better linking performance management to rewards, penalties and career progression would incentivise healthy competition among staff, replacing opaque decision-making and a hierarchical culture with an expectation of procedural fairness (OECD, 2005, 2011b). This would not only incentivise existing workers to increase their productivity; it would also make public services jobs more attractive to talented workers.

Other recent measures aimed at boosting productivity include introducing more flexible work arrangements, increased use of contracts to attract talented workers, and across-the-board remuneration increases. Public service remuneration was increased through the reclassification of pay grades, particularly aimed at increasing salaries for low-income public servants. These changes came into effect on 1 July 2016 in line with an upward revision of the minimum wage for private sector workers. The 2016 budget also announced the provision of a one-off special payment to all public servants.

These measures each contribute to increasing the relative attractiveness of working for the public service but fall short of a comprehensive and considered approach to understanding the drivers of public service productivity. An independent review covering all aspects of public service productivity is needed to develop a robust and exhaustive framework. A possible follow-up, in-depth OECD Regulatory Reform Review of Malaysia would be a step in this direction (see also the forthcoming inaugural *OECD Southeast Asia Government at a Glance*).

Box 3. Best practices of the OECD countries in the evaluation of public sector productivity

Measuring public sector productivity forms the cornerstone of assessing the progress of productivity-enhancing reform. However, in order to properly measure productivity of the public sector it is necessary to measure and eventually quality-adjust both inputs and outputs. While input measurement is usually perceived as more concrete, less consensus exists about how to define and measure government outputs. Nevertheless, an increasing number of OECD countries are undertaking efforts to measure output with a focus on individual services (education and health) and are exploring measurement of other government services.

The best practices of OECD countries in evaluating the productivity of the public sector include those of the United Kingdom, Australia, Denmark, New Zealand and the Netherlands. The UK Public Sector Efficiency Group of the Cabinet Office has recently published a report on public sector efficiency, from the twin viewpoints of technical efficiency and allocative efficiency. The former evaluates the outputs of the policy and the latter focuses on the outcome or desired impacts of the policy on the economy and society. The analysis of the Group has broken down public sector activity into three types of services: transactional (benefit administration and tax collection), back office (human resource management and finance) and front line (schools, health, police, social care, etc.) (UK Public Sector Efficiency Group, 2015). Australia has a Productivity Commission which provides detailed information on the measurement of public sector inputs, outputs, and outcomes on an annual basis, consistent with the Atkinson recommendation (Atkinson, 2005). In September 2014, Denmark moved to direct-output measurement of public goods and services in line with 2002 EU recommendations (Statistics Denmark, 2016). In 2008, New Zealand conducted a feasibility study assessing the practical aspects of measuring non-market outputs (Statistics New Zealand, 2010), and in 2015 the Netherlands published a report comparing public sector inputs, outputs, and outcomes across 36 countries, using data from OECD/Eurostat surveys (Goderis ed., 2015).

A detailed example of these initiatives comes from the UK Public Sector Efficiency Group. It estimated productivity in the education sector using as output measures the total number of full-time equivalent students in publicly funded schools, quality-adjusted by the average score of the General Certificate of Secondary Education in that year. On the input side, an aggregate of labour input, purchased goods and services and government consumption (including both central and local government) was used. According to their findings, productivity in the education sector measured as the ratio of output per unit of input has increased, driven by rising educational performance and reduced staff costs.

REFERENCES

- ADB (2013), *Beyond Factory Asia Fuelling Growth in a Changing World*, Background Paper for the Asian Development Bank 2013 Annual Meeting Governors' Seminar, Asian Development Bank, Mandaluyong City.
- Adalet McGowan, M. and D. Andrews (2016), "Insolvency regimes and productivity growth: A framework for analysis", *OECD Economics Department Working Papers*, No. 1309.
- AMCHAM (2015), *2015 ASEAN Business Outlook Survey Malaysia Country Report*, American Malaysian Chamber of Commerce, Kuala Lumpur.
- Andrews, D., C. Criscuolo and P. Gal (2015), "Frontier firms, technology diffusion and public policy: Micro evidence from OECD countries", *OECD Productivity Working Papers*, No. 2, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/5jrql2q2jj7b-en>.
- APO (2015), *Productivity in the Asia-Pacific: Past, Present and Future*, Asia Productivity Organisation, Tokyo.
- Arudchelvan, M. and G. Wignaraja (2015), "SME Internationalization through Global Value Chains and Free Trade Agreements: Malaysian Evidence", *ADB Working Papers*, No. 515, Asian Development Bank Institute, Tokyo.
- ASEAN (2015a), *A Blueprint for Growth - ASEAN Economic Community 2015: Progress and Key Achievements*, ASEAN Secretariat, Jakarta.
- ASEAN (2015b), *ASEAN Economic Community Blueprint 2025*, ASEAN Secretariat, Jakarta.
- APEC (2016), *APEC Outcomes and Outlook 2015/2016*, Asia Pacific Economic Cooperation, Singapore.
- Atkinson, T. (2005), *Atkinson Review: Final report. Measurement of Government Output and Productivity for the National Accounts*, Palgrave, London.
- Australian Education Network (2016), *International Student Numbers at Australian Universities*, www.australianuniversities.com.au/directory/international-student-numbers (accessed on 19 April 2016).
- Centre for International Development, Harvard (2016), *Atlas of Economic Complexity*. <http://atlas.cid.harvard.edu/rankings/country/> (accessed on 1 June 2016).
- Cornell University, INSEAD, and WIPO (2015), *The Global Innovation Index 2015: Effective Innovation Policies for Development*, Fontainebleau, Ithaca, and Geneva.
- EPU (2015a), "Transforming Services Sector", *Eleventh Malaysia Plan Strategy Paper 18*, Economic Planning Unit, Prime Minister's Department, Putrajaya.
- EPU (2015b), "Energising Manufacturing Sector", *Eleventh Malaysia Plan Strategy Paper 19*, Economic Planning Unit, Prime Minister's Department, Putrajaya.

EPU (2015c), *Eleventh Malaysian Plan*, Economic Planning Unit, Prime Minister's Department, Putrajaya.

ERIA, OECD and ASEAN (2014), *ASEAN SME Policy Index 2014*, OECD Publications, Paris.
www.oecd.org/globalrelations/regionalapproaches/ASEAN%20SME%20Policy%20Index%202014.pdf.

EUMCCI (2015), *EU-Malaysia Business: EUMCCI Trade Issues and Recommendations 2015*, EU-Malaysia Chamber of Commerce and Industry, Kuala Lumpur.

GCR (2016), "A conversation with Tuan Rangunath Kesavan", *Global Competition Review*, 4 March.
<http://globalcompetitionreview.com/features/article/40623/a-conversation-tuan-rangunath-kesavan> (accessed on 15 May 2016).

Goderis, B. ed (2015), *Public Sector Achievement in 36 Countries: A Comparative Assessment of Inputs, Outputs and Outcomes*, The Netherlands Institute for Social Research, The Hague.

ICC (2015), *ICC Open Markets Index 2015*, International Chamber of Commerce, Paris.

ITU (2015), *Measuring the Information Society 2015*, ITU, Geneva, Switzerland.
www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2015/MISR2015-w5.pdf (accessed on 1 June 2016).

ITU and UNESCO (2016), *The State of Broadband 2015*, ITU, Geneva, Switzerland.
www.broadbandcommission.org/publications/Pages/SOB-2015.aspx.

MACC (2016), "Initiatives for Change", Malaysia Anti-Corruption Commission, www.sprm.gov.my/index.php/en/130-ace/1044-problem-areas-initiatives-for-change (accessed on 29 May 2016).

MOE (2013), *Malaysia Education Blueprint 2013-2025 (Preschool to Post-Secondary education)*, Ministry of Education, Putrajaya.

MOE (2015), *Malaysia Education Blueprint 2015-2025 (Higher Education)*, Ministry of Education.
MPC (2015), *22nd Productivity Report 2014/2015*, Malaysia Productivity Corporation, Petaling Jaya.

Nixon, S., H. Asada and V. Koen (2016), "Fostering inclusive growth in Malaysia", *OECD Economics Department Working Papers*, No.1371.

OECD (2005), *Performance-related Pay Policies for Government Employees*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264007550-en>.

OECD (2009), *Recommendation of the OECD Council on Competition Assessment*, OECD Council, OECD Publishing, Paris.

OECD (2010), *SMEs, Entrepreneurship and Innovation*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264080355-en>.

OECD (2011a), *Competition and Procurement - 2011: Key Findings*, OECD Publications, Paris.

OECD (2011b), *Government at a Glance 2011*, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/gov_glance-2011-en.

- OECD (2012a), *Recommendation of the Council on Regulatory Policy and Governance*, OECD Council, OECD Publishing, Paris.
- OECD (2013a), *Southeast Asian Economic Outlook 2013*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/saeo-2013-en>.
- OECD (2013b), *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264201156-en>.
- OECD (2013c), *Developing Skills in Central Asia through Better Vocational Education and Training Systems*, OECD Publications, Paris.
- OECD (2013d), *OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth*, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/sti_scoreboard-2013-.
- OECD (2013e), *Investment Policy Review: Malaysia*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264194588-en>.
- OECD (2014a), *Economic Outlook for Southeast Asia, China and India 2014*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/23101113>
- OECD (2014b), OECD (2014), *The Governance of Regulators*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264209015-en>.
- OECD (2015a), *OECD Guidelines on Corporate Governance of State-Owned Enterprises, 2015 Edition*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264244160-en>.
- OECD (2015b), *Boosting Malaysia's National Intellectual Property System for Innovation*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264239227-en>
- OECD (2015c), *Entrepreneurship at a Glance 2015*, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/entrepreneur_aag-2015-en.
- OECD (2015d), *Annual Report on Competition Policy Developments in Indonesia*, OECD Publishing, Paris.
[www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/AR\(2015\)41&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/AR(2015)41&docLanguage=En).
- OECD (2015e), *Trade Facilitation Indicators: ASEAN*, OECD Publishing, Paris.
www.oecd.org/tad/facilitation/oecd-tfi-asean-july-2015.pdf.
- OECD (2015f), *Trade Facilitation Indicators: Asia-Pacific Economic Cooperation*, OECD Publishing, Paris. www.oecd.org/tad/facilitation/oecd-tfi-apec-july-2015.pdf
- OECD (2015g), *Implementing Good Regulatory Practice in Malaysia*, OECD Publishing, Paris.
<http://dx.doi.org/10.1787/9789264230620-en>.
- OECD (2015h), *Government at a Glance 2015*, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/gov_glance-2015-en.

- OECD (2016a), *Economic Outlook for Southeast Asia, China and India 2016: Enhancing Regional Ties*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/saeo-2016-en>.
- OECD (2016b), *Low-Performing Students: Why They Fall Behind and How To Help Them Succeed*, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264250246-en>.
- OECD (2016c), *OECD Reviews of Innovation Policy: Malaysia 2016*, OECD Publishing, Paris.
- OECD Teaching and Learning International Survey (2013), OECD Education GPS. <http://gpseducation.oecd.org/Home>.
- OECD FDI Regulatory Restrictiveness database.
<http://stats.oecd.org/Index.aspx?datasetcode=FDIINDEX#>.
- PEMANDU (2015), *Government Transformation Programme Annual Report 2014*, Performance Management and Delivery Unit, Prime Minister's Department, Putrajaya.
- Petri, P. and M. Plummer (2016), "The economic effects of the Trans-Pacific Partnership: New estimates", *Peterson Institute of International Economics working paper series 16-2*, Washington D.C.
- SME Corp (2012), *SME Master Plan 2012-2020*, SME Corp, Malaysia, Kuala Lumpur.
- Statistics Denmark (2016), *General Government Output and Productivity 2008-2014*, Copenhagen.
- Statistics New Zealand (2010), *Measuring Government Sector Productivity in New Zealand: a feasibility study*, Wellington.
- Teong, V. (2015), "The Competition Act 2010—Issues and development since coming into force", *ERIA Discussion Paper Series*.
- The Economist (2015), *Who's Brains are Draining? Daily Chart 1 July*, www.economist.com/blogs/graphicdetail/2015/07/daily-chart.
- The Malaysian Insider (2014), "Viewpoint: Procurement and integrity - The way forward", www.fz.com/content/viewpoint-procurement-and-integrity-way-forwardday-forward#ixzz49gJveijH.
- UK Public Sector Efficiency Group (2015), *Public Sector Efficiency: Final report from the cross-Whitehall analysts' group*, Government Economic Service, London.
- World Bank (2011), *Malaysia Economic Monitor April 2011: Brain Drain*, Washington D.C.
- World Bank (2013), *Malaysia Economic Monitor December 2013: High-Performing Education*, Washington D.C.
- World Bank (2015), *Malaysia Economic Monitor December 2015: Immigrant Labour*, Washington D.C.
- World Bank (2016), *Doing Business 2016: Measuring Regulatory Quality and Efficiency*, World Bank, Washington, DC.

World Bank and TalentCorp (2014), *Trends in Graduate Employability*. www.talentcorp.com.my/facts-and-figures/matching-talents-to-jobs.

World Economic Forum (2016), *Global Competitiveness Report 2015-16*, Geneva.

WTO (2014), *Trade Policy Review: Malaysia*, World Trade Organisation, Geneva.

WTO (2016), *Country Profile: Malaysia*, World Trade Organisation, Geneva.