

**NEW SKILLS AT WORK**

# MANAGING SKILLS CHALLENGES IN ASEAN-5

EXECUTIVE SUMMARY



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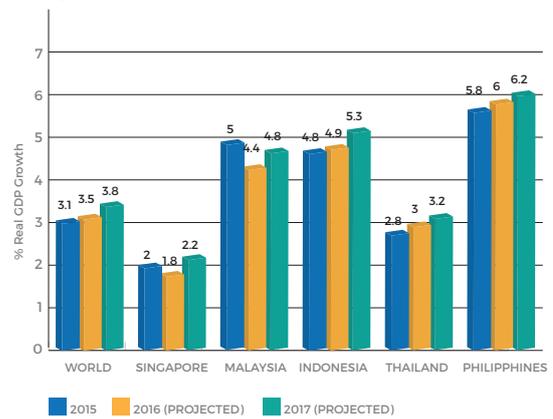
## Promising Growth Potential of ASEAN-5

A shortage of industry-ready skilled workers presents one of the biggest challenges for the five core member countries of the Association of Southeast Asian Nations, ASEAN-5, as they strive to realize their economic visions. With an estimated gross domestic product (GDP) growth of close to 5% a year and a combined GDP larger than that of India, the group comprising Singapore, Malaysia, Thailand, Indonesia and the Philippines represents one of the most dynamic and promising growth regions in the world today. Blessed with a rich endowment of natural resources and a young and dynamic workforce, the five core economies of the 10-member ASEAN group have the potential not only to raise their own income levels significantly in the medium term, but also to become a major growth engine in the region and help maintain East Asia's pivotal position in the global economy.

Regional economic integration and urbanization could further boost ASEAN-5's growth momentum. The implementation of the ASEAN Economic Community (AEC) initiatives and the anticipated formation of the Trans-Pacific Partnership (TPP) and other regional economic integration groupings could significantly expand trade and investment and unleash powerful forces of competition in the region, raising productivity levels and growth rates in the five countries. Continued urbanization in the ASEAN-5 region will create demand for infrastructure investment and many services industries especially education, healthcare, logistics, transportation, and telecommunication, etc.

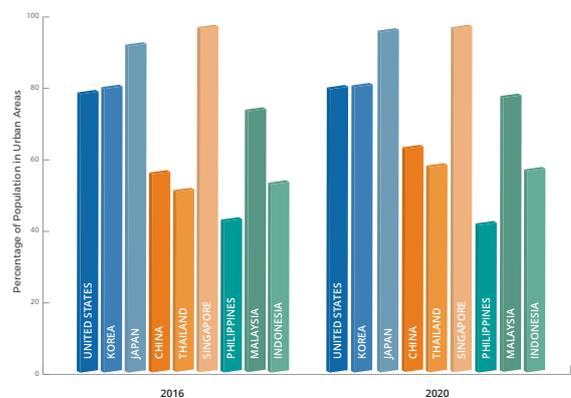
The peace and political stability the region enjoys means that the five countries could engage in longer-term planning to realize their enormous economic potential. Indonesia and the Philippines, with their young and growing workforce, are particularly well-positioned to become the next Asian tigers. However, whether ASEAN-5 could successfully achieve robust and sustainable growth depends crucially on their abilities to equip their workforce with general and job-specific skills needed by the growth industries they are promoting.

Figure 1 - GDP Growth Rate of ASEAN-5



Source: IMF World Economic Outlook; Regional Economic Outlook, 2016

Figure 2 - Estimated Proportion of People Living in Urban Areas



Source: World Bank, World Development Indicators; United Nations Database, 2016

## ASEAN-5 Skills Challenges: Common Threads and Diversity

The nature and the extent of the skills challenges vary widely among the five ASEAN countries. Differences in their stage of development, economic structure, and growth strategy explain the different skill mix they need. At the same time, differences in demographic profile, institutional capacity and workforce characteristics define their abilities and effectiveness in responding to the skill needs of industry.

Singapore, a high-income country, faces a tight labor market characterized by a largely skilled, educated and English-speaking workforce, and a heavy reliance on foreign labor including both professionals and low-skilled foreign workers. In pursuing an innovation-driven growth strategy, it is trying not only to be on the technology frontier, but also to help push the frontier. Keeping up with the latest technology and dealing with the impact of disruptive technology mark a major skills challenge for Singapore's workforce.

Map 1 - ASEAN Countries



Both Malaysia and Thailand aspire to break out of the middle-income trap by moving towards technology- and knowledge-intensive industries. They face similar challenges in equipping their workforces with the necessary science and engineering skills and in broadening the appeal of technical education to a wider segment of the student population. Malaysia has a well-educated workforce with the second-highest mean years of schooling of 10 years amongst the ASEAN-5, but it can do more to raise the female participation rate which stays below 40%. The Thai workforce enjoys near full employment but there remains substantial underemployment in the agriculture and the informal sectors. Both countries rely on foreign workers to carry out low-skilled and unskilled work. Unlike Malaysia, Thailand must also cope with a fast ageing population – the fastest among ASEAN-5.

Indonesia and the Philippines aim to join the rank of upper middle-income countries. Both countries enjoy a strong comparative advantage in low-skill industries in manufacturing and services. They also have an exceptionally growth-boosting demographic profile, with 43% of the population being under the age of 25 in Indonesia. However, both countries face the daunting challenge of equipping their workers with basic skills and knowledge required by key growth industries which need basic science, technology, engineering, and mathematics (STEM) skills. In both countries, the public sector is under tremendous pressure to prepare workers well to pick up job-specific skills. High youth unemployment rates – 18.3% and 14.4% in Indonesia and the Philippines respectively – reflect in part this failure. Additionally, the exodus of workers, including professionals, to take up jobs abroad reduces the supply of skilled workers these two countries need at home to realize their growth potential.

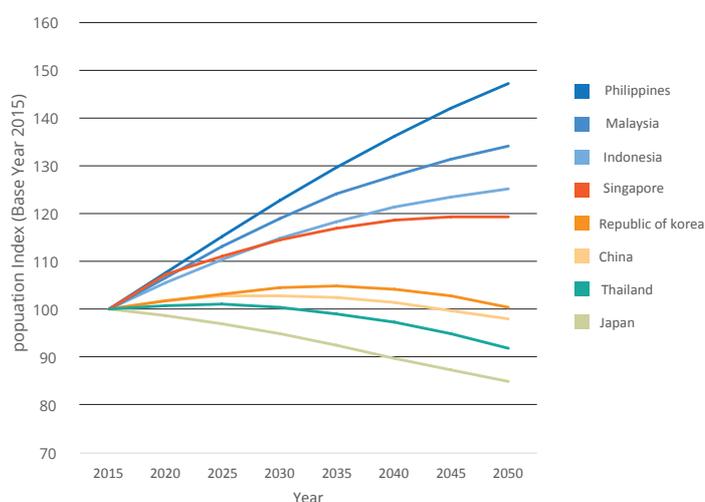
Against this backdrop, ASEAN-5 must contend with the interplay of global and region-wide trends that are reshaping the global demand for skills.

- Disruptive technology threatens to render jobs obsolete in many industries, including those in information and communications technology (ICT), tourism, electronics manufacturing, and financial services – industries that are important to ASEAN-5 countries. Managing disruptive technologies requires a paradigm shift in the thinking of policy makers, employers, and employees alike.

Policy makers and employers must find new ways to develop a skilled but flexible workforce that accepts the need for continuous and lifelong learning.

- Liberalization of the labor market envisaged by the AEC could result in greater cross-border labor flows and unleash powerful forces, at once competitive and complementary, among the ASEAN-5 countries. This could complicate the task of managing skills challenges. The adoption of the mutual recognition arrangements (MRA) for skilled labor in particular could exacerbate the outflow of skilled labor from certain ASEAN-5 countries.
- The ongoing industrial restructuring in China could pose competition to key industries in ASEAN-5 and cause disruption to their job markets. At the same time, it could provide new employment opportunities as wages in China rise and low-wage industries relocate out of the country. ASEAN-5 could also see more Chinese investments, bringing with them demands for both high-skilled and low-skilled workers, with the launch of the One Belt, One Road initiative and the funding by the Asian Infrastructure Investment Bank (AIIB). Meanwhile ASEAN businesses could move their production facilities back to their own region as the relative wage advantage between China and ASEAN changes. The relocation will deepen regional economic integration, favoring industries such as automotive, electronics, and food manufacturing.

Figure 3 - Population trends in Asian countries



Source: UN Database, 2016

This study differs from previous works on skill shortages. It puts the spotlight on the need for an industry-oriented approach to develop job-specific skills in key growth industries, on which the success of the national growth strategy hinges. The industries selected include the ICT industry (in all five countries), electronics and electrical manufacturing (Singapore, Malaysia, and the Philippines), finance and insurance (Singapore), oil and gas (Malaysia), automotive (Thailand and Indonesia), and tourism (Thailand, Indonesia, and the Philippines). By focusing on skills gaps in key growth industries, the study provides insights into the nature of the skills challenges and how they can be effectively managed in ASEAN-5 countries. For each countries, we have also used a successful skill-training initiative to illustrate how skills challenges can be overcome in each country given its peculiar constraints.

Table 1: Key Socio-economic Indicators of ASEAN-5, China and India, 2015

	Total GDP (billion US\$)	GDP per capita (US\$)	Population Size (million)	Human Development Index (ranking)	Mean years of schooling
China	10,866.4	7,924.7	1,371.2	0.727 (90)	7.5
India	2,073.5	1,581.6	1,311.1	0.609 (130)	5.4
Singapore	292.7	52,888.7	5.5	0.912 (11)	10.6
Malaysia	296.2	9,766.2	30.3	0.779 (62)	10.0
Indonesia	861.9	3,346.5	257.6	0.684 (110)	7.6
Philippines	292.0	2,899.4	100.7	0.668 (115)	8.9
Thailand	395.3	5,816.4	68.0	0.726 (93)	7.3

Source: World Bank, UN

ASEAN-5 countries need to take decisive actions to overcome the skills challenges they face. While skills challenges and national responses to them vary across the five countries, this study highlights the shortage of industry-relevant skills as a critical bottleneck to their growth which requires urgent attention by both public and private sector players in all five countries. Specifically, the study suggests that education and training institutions at all levels, perhaps to a lesser extent in Singapore, have not been able to equip graduates adequately with skills that the growth industries need. The low competency level in STEM education and the shortage of workers with sufficient technical and engineering skills, in particular, could threaten to derail the ambitious industrial development plans of the group and their move towards a more technology- and knowledge-intensive economy.

Table 2: PISA, 2012

	Mathematics Mean Score	Reading Mean Score	Science Mean Score
OECD Average	494	496	501
Singapore	573	542	551
Malaysia	421	398	420
Thailand	427	441	444
Indonesia	375	396	382
Philippines	*	*	*

\* Did not participate

Table 3: TIMSS, 2011 8th grade

	Mathematics Average Scale Score	Science Average Scale Score
Singapore	611	590
Malaysia	440	426
Thailand	427	451
Indonesia	386	406
Philippines	*	*

Note: TIMSS Scale Centerpoint – 500

\* Did not participate

There is a pressing need to recalibrate the role of the public and the private sector in skills training. An overburdened public sector as a skills training provider and the absence of an effective framework for tripartite collaboration lie at the root of the skills challenges the five countries face. The private sector should be given a much bigger role in education and training. Experiences in a number of ASEAN-5 countries have shown that the private sector, be it large corporates or industries trying to meet their own skill needs, or general private educational services providers, can respond more quickly, with greater agility and flexibility, to skill demands. In contrast, the public sector tends to move slowly to meet emerging skill demands. The public sector could play an effective role coordinating the skill development efforts of the private sector and other stakeholders.

## **Common Skills Challenges and Recommendations for ASEAN-5**

The study finds that despite the diversity among the ASEAN-5 countries, they share a number of common skills challenges, albeit with different degrees of seriousness. The ability to respond to the challenges also varies among the five countries.

Specifically, the study identifies 10 key common challenges for ASEAN-5:

1. Inability of the educational institutions to meet industry demands
2. A lack of a comprehensive skills development roadmap to support economic growth
3. Inadequacy in English proficiency and other soft skills
4. Weakness in STEM and Technical and Vocational Education and Training (TVET) programs
5. Over-reliance on the public sector to meet the skills challenges
6. Lack of lifelong learning opportunities for mid-level workers
7. Seriousness of youth unemployment
8. Skills challenges arising from intra-regional labor flows
9. Skills challenges posed by disruptive technology
10. Skills challenges coming from industrial restructuring in China

The study recommends the following actions to address the common challenges confronted by the ASEAN-5 group and specific suggestions for each of the 5 countries:

## **Give the Private Sector a Bigger Role in Meeting the Skills Challenges**

The different roles between the public and private sectors in skills training provision should be recalibrated, to give the latter a much bigger role, especially in Thailand, Indonesia, and the Philippines. A lighter regulatory approach on education and skills training including deregulation of the education sector could be considered in some countries. The government should act as an effective facilitator using a mix of policy support, regulatory support, and other incentives. There is also an urgent need to strengthen the tripartite cooperation among the government, industry and the educational and training institutions to coordinate the skills training efforts by various stakeholders.

The government's role as a facilitator could encompass the following:

- Provide a consistent framework for private sector training at both the national and the local level.
- Help the private sector companies tap into the resources of the educational institutions to address various industry-school gap issues.
- Design different incentives to promote industry- and company-level training initiatives, and to broaden the reach of such training beyond specific companies or industries.
- Provide incentives for multinational corporations (MNCs) and large corporations to involve small- and medium-sized enterprises (SMEs) in their training schemes.

## **Provide a Clear Roadmap to Meet Skills Challenges**

The government should work with the private sector and the educational institutions to provide a comprehensive roadmap for skills development that is consistent with and targeted at supporting its growth and development vision for the economy. Among other details, the roadmap should provide a credible projection of supply and demand for critical skills needed in key growth industries, spell out clear roles for the main stakeholders and provide guidance on possible collaboration among them. Where resources permit, consideration could be given to setting up a one-stop service agency, with sufficient autonomy and authority, to manage the various facets of the skills challenges.

## **Revamp Curriculum to Emphasize STEM, TVET and Soft Skills Training**

The school curriculum should be substantially revised to increase the emphasis on STEM and TVET education in all ASEAN-5 countries (with the possible exception of Singapore). The revamp should be accompanied by a focused effort to correct societal bias against technical education. Furthermore there needs to be a stronger emphasis on English proficiency and the teaching of various soft skills, an area where the private sector training providers could be encouraged to take on a greater responsibility.

Considering the difference in their funding capacity, the public sector could focus on building up the students' general strengths in basic technical and STEM skills, both at the high school and tertiary levels, and to take the lead in providing TVET education. The private sector could take on greater responsibilities in industry-specific technical skills training. The private sector could also play a bigger role in soft skills training.

## **Deepen School-industry Links to Improve Employability of Graduates**

A formal tripartite mechanism for regular consultation among the government, the industry, and the education institutions is needed to narrow or close the industry-school gap, with the aim of making improvement in the following areas:

- Employment of instructors with practical experience and industry links.
- Increased industry exposure for students through internship, apprenticeship, on-site training and other schemes.
- Providing more transparency about the employability and salaries of graduates from different schools; and
- Independent audit of the quality of educational/training institutions.

### **Expand and Strengthen Continuous and Lifelong Learning**

A strengthened framework for lifelong learning programs is needed to help workers re-skill and up-skill, and to help address the youth unemployment in some ASEAN-5 countries. To be effective, the framework should incorporate the following elements: inculcating the value of continuous learning among the workers; and training in both technical knowledge and soft skills. The private sector education providers should be encouraged to be a leading provider of lifelong learning programs.

### **Policy Coordination on Cross-border Labor Flows**

More policy consultation and coordination is needed to manage the complex challenges arising from increased intra-regional labor movement, in light of the expected implementation of the ASEAN-wide MRA for skills and labor market liberalization. ASEAN-5 countries should try to take advantage of the synergy that exists among them to help overcome the supply side constraints. Being in different phases of economic development allows them to draw lessons from countries that had gone through similar phases of industrial development earlier. Singapore, Malaysia and Thailand, for example, have experiences in developing skilled workers for industries that Indonesia and the Philippines are trying to promote currently.

They could also tap on each other's skilled workers to augment their own skill base, as Singapore has been doing for years. Given that there are various competitive and complementary forces at work in the five labor markets, they should consider broadening their policy coordination to help ensure a win-win outcome for all. Meanwhile, individual countries will need to further calibrate their labor market practices in order to capitalize on the new sources of skilled labor supply and to achieve the right foreign-local labor mix.

## ***Country-Specific Skills Challenges and Recommendations for ASEAN-5***

For each of the five countries, the study recommends that attention should be focused on a few specific challenges. While some of these challenges mirror the common concerns shared by all five countries, they are more serious and require a more forceful response from some countries than others.

## **SINGAPORE**

Singapore's proactive and forward-looking approach in education and training coupled with a liberal policy on foreign workers, have worked well in helping the country manage its skills challenges. The success of the approach has however, brought with it other challenges that would have to be resolved in the coming years. Disruptive technologies are emerging as a major skills challenge for some key growth industries. Three challenges in particular require urgent attention from the various stakeholders.

### **1. Reduce Reliance on Foreign Workers and Improve Labor Productivity**

Fundamental solutions are needed to redesign jobs in many sectors to achieve a better use of technology and to increase the labor productivity, so as to reduce the heavy reliance on foreign workers, especially the low-skilled foreign workers. More innovative ways are needed to restructure jobs so as to tap into the vast experiences of displaced mature Professionals, Managers, Executives, and Technicians (PMETs) and non-traditional sources of workers including retirees and homemakers, and to help workers stay meaningfully employed beyond the official retirement age. In choosing new growth industries to promote, the government should consider, in addition to these industries' potential contribution to GDP growth, the availability of local workers who can meet or who can be trained within a relatively short period of time to meet the skill needs of these industries.

### **2. Moderate the Pace of Industrial Policy Change to Allow for Deepening of Skills**

The government should consider moderating the pace of industrial policy change and provide more time for targeted industries to mature to gain scale and depth, and to achieve international competitiveness. This would also allow time for the workers to keep up with the changing skill demands.

### **3. Managing Disruptive Technologies and an Innovative Workforce**

While education institutions in Singapore do not suffer from the same extent of school-industry gap as in other ASEAN-5 countries, their orientation and pedagogy need to continuously evolve to keep up with the demands of an innovation-driven economy. Such an economy requires workers not only with the right technical skill sets, but also the right mindset – one that is at once curious, creative, collaborative and willing to be adaptable and to take risks. Such an orientation in skill training is especially important in the presence of disruptive technologies to which a number of key growth industries in Singapore are vulnerable.

## **MALAYSIA**

The main skills challenges that Malaysia face are those related to the gap between what the educational and training institutions produce and what the industry needs, in technical and soft skills. The country has the advantage of having a sound public education system and a thriving private education services industry, which forms a strong base for efforts to tackle the various skills challenges. The following three areas need immediate attention:

## **1. Revamp Curriculum to Emphasize on STEM Education, Soft Skills and English Proficiency**

The curriculum in schools and the institutes of higher learning (IHLs) needs to be revamped to substantially increase the emphasis on STEM education, teaching of soft skills, and English language, to meet the demands of the 12 National Key Economic Areas (NKEAs) and to strengthen Malaysia's competitiveness in the global market. Efforts are also required to align education quality and standards at the IHLs with other international institutions.

## **2. Tighten Coordination between Government, Industry, and Education Institutions**

Tighter coordination in skills training is required at two levels: between the government and the industry, and between the industry and the educational and training institutions. An autonomous agency with strong mandate and authority could be setup to coordinate the provision of the diverse skill sets needed by the 12 NKEAs. This could take the form of a strengthened TalentCorp or a separate new agency.

## **3. Expanding the Sources of Skilled Workers**

Malaysia needs to tap on talents both within and outside the country. More aggressive measures are needed in addition to those already put in place by TalentCorp, both to attract skilled workers from abroad (including both foreigners and Malaysians) and to retain existing talents within the country.

## **THAILAND**

A shortage of workers with sufficient science and engineering and technical skills stands out as a key skills challenge for Thailand. Weakness in soft skills and English proficiency poses another challenge for the workforce as it faces increasing global competition in the services sector. While the government has made efforts and set out ambitious targets to rectify the deficiency, bolder actions are needed by various stakeholders in the immediate term in the following areas:

### **1. Provide Stronger Incentives for Private Sector-led Skill Training Programs**

The government should explore more creative and differentiated incentives to encourage different modes of skills training by the private sector, either working on its own or in collaboration with the public sector. Experiences of neighboring countries in leveraging on the goodwill and expertise of the MNCs and their host governments in setting up various technical training institutions could be used as references. While most of these private sector-led trainings are undertaken by MNCs and large domestic corporates, efforts should be made to spread the benefits of the trainings to workers outside the company and the industry.

### **2. Increase Emphasis on STEM and TVET Education**

A strong national campaign to correct the bias against technical and vocational education among the students is urgently needed to reduce the concentration of tertiary education enrolment in social sciences and humanities programs. This needs to be accompanied by a concerted effort by all stakeholders to improve the teaching of STEM programs in schools.

### **3. Strengthen Training of Soft Skills and English Language**

The government should provide more incentives to the non-corporate private educational service providers to work with the formal educational sector, to play a larger role in the teaching of soft skills and English language. The openness of the Thai economy and Thai culture makes for easy participation of foreign skill trainers which should be further exploited.

## **INDONESIA**

Indonesia enjoys a large demographic dividend that could help form the basis for robust economic growth. But the relatively low base of skilled workers, especially in technical, science and engineering fields, dampens such a possibility. The government needs to reprioritize its spending plans to allocate a larger budget to education, to improve the efficiency and effectiveness of the public education system which currently shoulders most of the skills training responsibilities. The increased spending should target raising the quality of instruction in schools, including training for instructors and improving the physical infrastructure such as equipment and machineries used in TVET education. In addition, efforts in the following areas need to be accelerated:

#### **1. Develop a Comprehensive Roadmap for Skills Training**

A comprehensive and detailed roadmap to strengthen the education system with emphasis on training industry-ready graduates at all levels, especially in TVET is critical. Direction should be provided to help narrow the school-industry gap, revise outdated curriculum, increase the number of qualified trainers, enhance consultation between the industry and the schools regarding skills needs and training pedagogy, and promote re-training and skill upgrading for workers.

#### **2. A Stronger Role for Private Sector-led Skills Training**

The private sector, especially large corporations (including MNCs), need to take on a greater responsibility in skills training, especially in providing technical training on globally recognized industry standards. Industry associations such as GAIKINDO of the automotive industry should explore ways to widen the impact of private sector-led training beyond individual companies.

#### **3. Relaxing Rules on Skilled Foreign Workers**

The government should consider liberalizing the labor laws to allow for easier employment of skilled foreign workers, at least in the key growth industries. The government could set a timeline to achieve a certain balance of local-foreign skilled workers for different industries. Such changes in labor laws need to keep pace with the establishment of the Indonesia Quality Framework (IQF) for skilled workers in key industries.

#### **4. Measures to Raise the Youth Employment Rate**

High youth unemployment deprives Indonesia of a key source of energy for economic growth. Bolstering the industry relevance of the curriculum at all levels of education, including more structured entrepreneurship training, deserves urgent attention from policy makers and educators. Private education providers could be incentivized to play a leading role in such endeavors.

## **THE PHILIPPINES**

The Philippines faces daunting skills challenges, with a large school-industry gap rooted in structural weaknesses including budgetary constraints and the weak institutional capacity of the public education system. Alternative solutions are needed from other stakeholders.

### **1. Rebalancing the Budgetary Priority to Increase Education Spending**

The Philippines currently has the second-lowest spending on education as a percentage of GDP among the ASEAN-5. Increasing the budget allocation for education will help address basic issues such as inadequate teaching facilities and the lack of high quality teachers. The government should rationalize publicly funded training programs and stop supporting commercial programs which do not satisfy minimum competency standards. With more resources, Technical Education and Skills Development Authority (TESDA) could also expand its work at its regional and provincial offices and develop competency standards not just for entry-level but also mid-level workers.

### **2. Urgent Need to Strengthen the School-industry Link**

The government should help establish a mechanism for regular consultations between the industry and the educational institutions. Inadequate involvement of the industry in curriculum planning, lack of industry knowledge among the instructors, and lack of industry exposure opportunities for students are among factors that contribute to the large school-industry gap in the Philippines. Recent initiative by the Information Technology and Business Process Association of the Philippines (IBPAP) to engage IHL instructors over a two-year period provide one such example of bridging the school-industry gap.

### **3. More Policy Incentives to Increase Private Sector-led Training Programs**

The government should explore new incentive structures, fiscal or otherwise, to encourage more skills training by large companies including the MNCs, and incentivize them to extend the training opportunities to workers outside the companies or the industry. Private educational service providers could also be encouraged to play a larger role in the training of soft skills which are important to the services industries such as IT/BPO and tourism.

### **4. Stronger Incentives to Encourage Foreign Direct Investment (FDI) Inflows**

MNCs not only create new jobs for the economy but usually jobs with higher wages because of the higher labor productivity they enjoy. Encouraging more FDI into the Philippines could help reduce the outflows of skilled Filipino workers and help bring some of them back from abroad.

### **5. Strategy to Reintegrate Returned PMETs into the Workforce**

A more focused strategy to reintegrate Filipino professionals from abroad into the labor force should form part of the centerpiece of the country's long-term skills development plan. Many returned PMETs end up embarking on start-up businesses with generally low rates of success, putting the human resources to waste.

## ***ASEAN-5 Must Seize the Moment***

Blessed with a number of favorable domestic and external conditions, the ASEAN-5 countries are well-placed to move swiftly up the developmental ladder, to realize their economic visions, and to remain a main engine of growth in Asia Pacific. Critical to their success is their ability to formulate and execute a comprehensive skills development plan, especially one that caters to the skills needs of the key growth industries. Indonesia and the Philippines, in particular, have tremendous potential in making huge leaps to become major contributors to the region's growth if they are able to rise to the skills challenges.

The peace and stability in the region provides an excellent environment for ASEAN-5 leaders to engage in long-term planning for sustained growth and development. It is the right time to map out a comprehensive skills development plan to support the growth strategy. They should seize the opportunity to make this an exciting turning point for their economies.

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