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ASEAN-EU Dialogue 2018

Regional and Inter-Regional Economic Cooperation: Identifying Priorities for ASEAN and the EU

Edited by Fumitaka Furuoka, Aida Idris, Beatrice Lim and Rostika Petrus Boroh

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Chapter One
Introduction

Azirah Hashim

This edited volume comprises papers presented at the ASEAN-EU dialogue 2018, on Regional and Inter-regional Economic Cooperation: Identifying Priorities for ASEAN and the EU. The dialogue is one of the key activities undertaken by the Asia-Europe Institute of the University of Malaya in the context of its recognition by the EU as a Jean Monnet Centre of Excellence (JMCoE) for the period 2017 to 2020.

AEI was established more than twenty years ago within the provisions of the Asia-Europe Meeting. With the objective of enhancing Asia-Europe relations, AEI aims to foster student/scholar exchanges, research and dialogue on Asia and Europe. It seeks to increase cultural, political, institutional and economic understanding of, and between, these two major regions. AEI strives to complement government-to-government engagement and hosts academics, officials, diplomats and others from the two regions for exchanges on areas of mutual interest.

AEI is the first recipient of the JMCoE in Southeast Asia. As such, it has intensified its efforts to promote networking, international research collaboration and cross-disciplinary and comparative research. During its first eighteen months as a JMCoE, AEI has organized a range of events and activities. These include a major conference to be held annually, an Ambassador lecture series, seminars and workshops on comparative regionalism, teaching EU studies in ASEAN and the promotion of Europe Day in schools.

The chapters in this volume explore issues of regional and inter-regional economic integration and compare and discuss distinct regional experiences. In bringing together scholars, experts and officials from Asia and Europe, it is hoped to advance dialogue and mutual learning on regional integration approaches. The studies are addressed to academics, researchers, students, officials and policy-makers in the areas of ASEAN and EU studies. Regionalism and regionalization, international relations, economic integration, and globalization are among the topics covered.

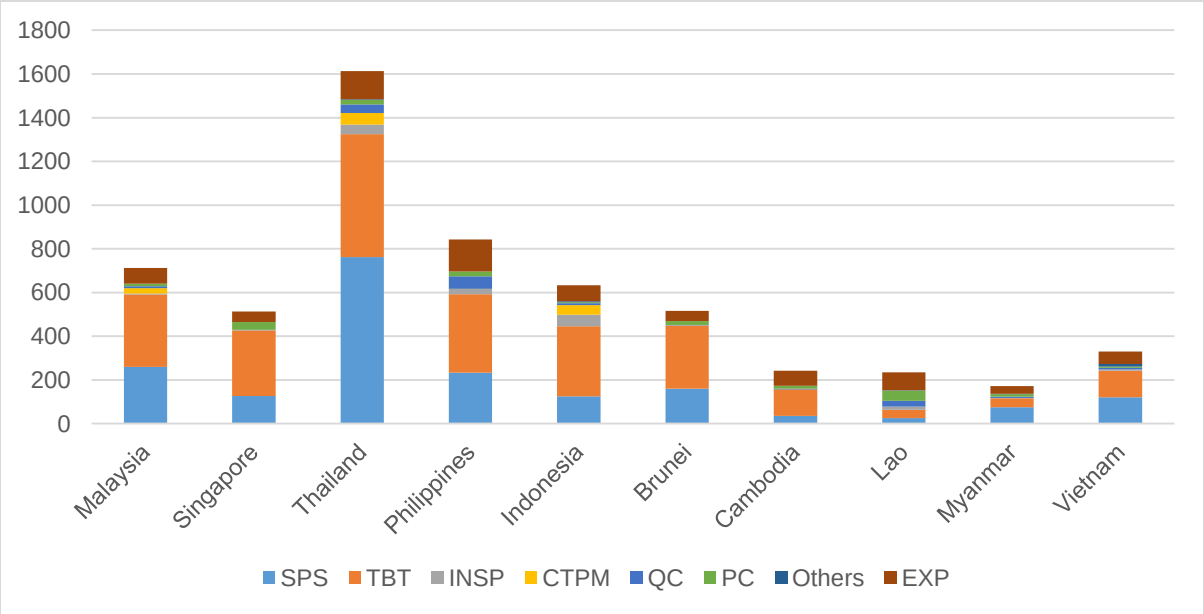
Today, the EU and ASEAN face similar challenges and problems. Economic and financial difficulties, unemployment risks and market upheavals, and widening social and economic inequality are widespread. Despite differences in history and context, the regions have much to learn from one another. Hence, greater EU-ASEAN dialogue and exchanges of experiences and practices may be key to mitigating shared problems.

I would like to thank the Education, Audiovisual, and Culture Executive Agency (EACEA) of the European Commission for the award of the JMCoE status to AEI. I wish to thank also the editors and authors whose dedication and insights have made this volume possible.

Chapter Two
Importance of Streamlining Non-Tariff Measures in ASEAN

Evelyn S. Devadason

Tariffs are considered as no longer significant in ASEAN. Though the level of average tariffs does differ across the ASEAN Member States (AMS), tariffs have been on a consistent decline in all countries. It declined from 8.9 percent in 2000 to 4.5 percent in 2015 (Myanmar Times, 19 May 2017), where approximately 96 percent of the tariff lines are already at zero percent (Salman and Proehoeman, 2018). One could therefore wrongly conclude from the progress made through the reductions in tariffs that policy makers in ASEAN have resisted to regulate trade. This however is not the case. The increasing incidence of non-tariff measures (NTMs) in ASEAN has already been considered counterproductive to the decline in tariffs. ASEAN recorded a total of 5,813 public NTMs. The types of NTMs in ASEAN are presented in Figure 2.1. The older AMS have more NTMs in force relative to the newer AMS. Thailand recorded the highest number of NTMs, followed by the Philippines, Malaysia, Indonesia, Brunei and Singapore. Most NTMs relate to imports for the individual ASEAN countries, though export measures are widely used by the Philippines and Thailand. From the import side, 90.3 percent of the total NTMs in ASEAN constitute technical measures.[1] Technical barriers to trade (TBTs), followed by sanitary and phytosanitary measures (SPS) dominate the portfolios of most AMS, affecting 83.9 percent of product lines.

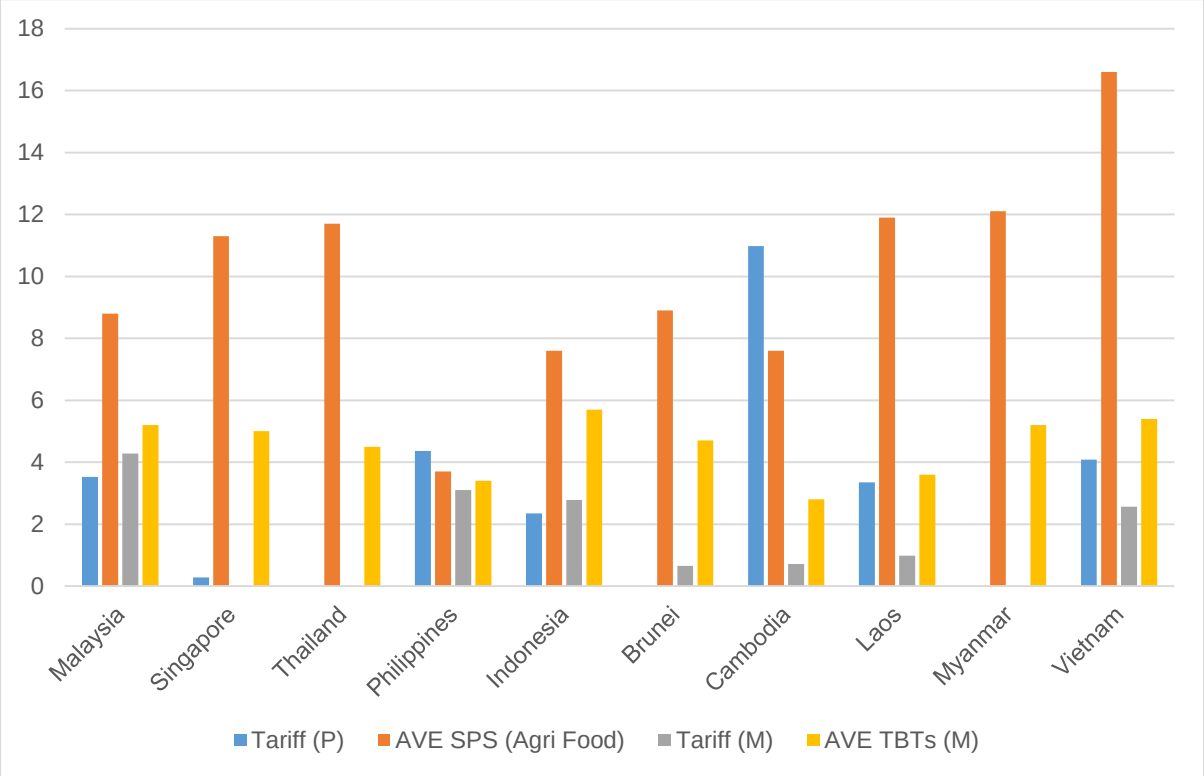


Notes: SPS – sanitary and phytosanitary; TBT – technical barriers to trade; INSP – pre-shipment inspection and other formalities; CTPM – contingent trade protection measures; QC – quantity control; PC – price control; others - other import-related measures; and EXP – export-related measures.
Source: Derived from the ERIA-UNCTAD (2016) database.

Figure 2.1: ASEAN - Number of NTMs, by types

[1] Technical measures refer to SPS, TBT and pre-shipment inspection and other formalities. SPS and TBTs are also referred to as standard-like NTMs.

In the case of TBTs and SPS measures, Ing and Cadot (2017a) show that the ad valorem equivalents (AVEs) of these NTMs are much higher than the weighted average tariffs (see Figure 2.2). The key concern related to NTMs is that not all the AMS have clear and transparent rules on their measures (Ing and Cadot, 2017b), resulting in unclear regulations that increase the transaction cost of businesses. Further, there is a general lack of detection of harmful standards in that the 'harm' is not visible when it is not directly related to the measure or requirement itself, but originates from the application and the administration (involving implementation and enforcement) of the NTM, which is country specific. In some instances (not for all cases), the NTM is designed in such a way as to serve a dual purpose; impart an intentionally protectionist effect while serving a public policy objective. Procedural obstacles, therefore, are considered a result of poorly designed standards and technical measures, notwithstanding the motivation for those measures. Some of these burdensome NTMs are detected through country specific business surveys.



Notes: SPS – sanitary and phytosanitary; TBT – technical barriers to trade; AVE – ad-valorem equivalent; P – primary and agricultural products; and M – manufactures.
Source: Derived from the ERIA-UNCTAD (2016) database.

Figure 2.2: ASEAN - Tariffs vs AVEs of SPS and TBTs, 2016/ 2017 (percentage)

One common barrier is overlapping, complicated cross-bureaucracy and somewhat conflicting responsibilities of regulators. This is not surprising, as standard-like NTMs motivated by various policy objectives, involve multiple regulators beyond the Ministry of Trade/Commerce (agriculture, fisheries, health and environment) in the respective AMS. In Indonesia, the problem is more compelling as some national regulations for imports even conflict with local by-laws. Though national regulations dictate import policies, regional governments issue additional requirements for imports to enter their jurisdiction. This is noted in the case of imports of alcoholic beverages (Patunru and Rahardja, 2015). Further, delays for fumigation

procedures and delays due to export inspection combined with high fees and charges for the waiting time, arbitrary behaviour by officials (in terms of informal payments for the issuance of certification for heat treatment and classification and valuation of the product) and the requirement for a large number of different/redundant documents are cited as additional obstacles to comply with technical requirements (including conformity assessment procedures) for food and agro-based products in the Indonesian case (ITC, 2016a).

Apart from redundancies in obtaining certifications for public health and environment safety, procedural obstacles, in the form of technical compliance, are also cited as a major issue in the Philippines (Medalla and Mantaring, 2017). Specific problems for exporters relate to inadequate product testing (lighting, electromagnetic compatibility and interference) facilities, high costs of fumigation to obtain SPS certificates for agro products and pallets for automotive, and discrepancies in export procedure policies between Customs or port authorities and in the provinces causing delays, additional informal payment and more paperwork (see also UNCTAD, 2009). From the import perspective, abuse in the form of informal payments is rampant in order to obtain the license for regulated chemical imports (ITC, 2017). Importers attribute such discriminatory behaviour of government officials favouring local suppliers. The procedural obstacles identified in the Philippines are also found to be common in Thailand (ITC, 2016b).

For the newer AMS, the procedural obstacles are even more serious due to capacity constraints and lack of information. For example, in Cambodia, the SPS legislation is still weak (ITC, 2014). The lack of accredited laboratories for testing and certification remain a critical issue, affecting not just exports but also imports of food, cosmetics and drugs. Some medicine samples have therefore been sent abroad for testing and certification. Cambodia is also saddled with other barriers such as multiple and duplicate documentation, long processing times, problems with classification and valuation of imported products and corruption.

Finally, the protectionist intent of NTMs can also be grasped through the stringency of national-level regulations in comparison to globally accepted standards such as the Codex Alimentarius. There are reasons to believe, in the case of nutrition labelling (though not mandatory in all AMS), some countries in ASEAN have gone ahead to make the measure more restrictive than the legitimate goal of providing information to consumers (Devadason and Govindaraju, 2018). The reason for this divergence is the unique national (rather than regional or international) standards. Given the complexity of the nutrition labelling regulations, there are concerns that it is turning out to be a non-tariff barriers (NTB).

Further action is therefore needed to tease out the concealed objectives (if any) and discriminatory application in those NTMs and subsequently correct the use of NTMs in the individual AMS. In this regard, it should be recognized that NTMs are not a pure trade policy instrument (Ing and Cadot, 2016). Thus, it should not be viewed as a trade negotiating issue[2]; instead, it should be reviewed at the country-level. At the national level, unnecessary (restrictive and obsolete) NTMs/ NTBs and domestic procedural obstacles should be removed, and complex regulations simplified. The decision to remove NTMs should be confined to those measures that are used to favour some economic agents over society, while the reform process should be for those that serve a dual purpose of policy objectives and protectionism and those

[2] Reciprocity in the streamlining of NTMs does not make sense (WTO, 2012). There is little bargaining space for NTMs, that is, NTMs cannot be reduced or negotiated down like tariffs.

that are considered burdensome (pose difficulties) to businesses. For legitimate standard-like NTMs, procedural reforms are needed, as removal of these measures is not an option.

Once the overall regulatory reform is completed at the national level in the AMS, there should be a clear understanding on where regulatory convergence should be promoted. Only then it can be placed on the regional platform for the purpose of harmonizing cross-border standards to facilitate trade and deepen regional integration. Since complete harmonization[3] is politically not feasible for a region like ASEAN, coordination through mutual recognition agreements (MRAs)[4] of conformity assessment procedures may be the next best option. The focal point of ASEAN should therefore be on streamlining of targeted NTMs across the AMS to ensure regulatory coherence (and indirectly deal with restrictive standards), and subsequently reduce opacity and discourage hidden protectionism.

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[3] The regulatory rapprochement includes harmonisation, MRA or coordination. Harmonisation involves the standardisation of regulations. MRA involves the acceptance of different forms of regulation amongst countries as 'equivalent.' Coordination refers to actions to narrow any significant differences between national-level regulations.

[4] The ASEAN Consultative Committee on Standards and Quality (ACCSQ) is working on MRAs among member countries for a variety of products.

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Chapter Three
Trade Liberalisation: Comparing the ASEAN and EU Approaches

Rahul Mishra

Introduction

One of the major positive outcomes of the globalisation has been its role as an enabling force in fostering greater integration of economies across the world. This is particularly true of leading global and regional economies which are more integrated with one another than ever before. Historically, trade and market openness has gone hand-in-hand with better economic performance in most of the countries- at all levels: Creating new opportunities for workers, consumers and firms around the globe and in helping lift millions out of poverty. It is widely argued that relatively open economies grow faster than those which are relatively more inward looking. It is also common knowledge that salaries and working conditions are generally better in companies that trade than in those that do not (Organisation for Economic Co-operation and Development, 2019).

Since the onset of globalisation and later with the growth of regionalism, trade liberalisation and free trade helped economies grow faster and foster greater synchronisation within their different sectors. In that context, several favourable developments took place during the 1990s. In 1995, World Trade Organization (WTO) was formed pushing the General Agreement on Tariffs and Trade (GATT) aside. Trade liberalisation and market-oriented reforms were at their peak during the late 1990s. One of the major beneficiaries of open market system was China. There have been remarkable achievements in China's trade liberalisation process, especially since 1992. Those changes in China's foreign trade system created a favourable environment for trade reform started in early 1990s in the direction of significant liberalisation, which was consistent with international conventions (Li, 1996). Rise of globalisation coincided with China's own open - door policy and economic reforms, which benefitted it immensely. Along with China, other developing economies such as India, and Brazil also benefitted from trade liberalisation and the globalisation wave, leading to their opening up to the world.

Concept of Trade Liberalisation

A World Bank publication by Demetrios Papageorgiou, Armeane M. Choksi, and Michael Michaely (1990) defines trade liberalisation as:

> The benchmark (of trade liberalisation) is the idea of neutrality. A completely neutral trade regime is one that provides equal incentives to domestic sales and to exports. Thus, in principle, a trade regime that includes government intervention but also manages to provide equal incentives to exports and domestic sales is a neutral one, as is a completely free trade regime with no government intervention. A program of reform that moves a country's trade system closer to this paradigm is regarded as a liberalization; policies that move it further away are regarded as a reversal of liberalization (Papageorgiou et al., 1990:4).

The view that a liberal trade regime promotes economic growth and efficiency has won wide acceptance in recent years as many developing countries- for a variety of reasons, and in a variety of different circumstances- have successfully moved from highly restrictive trade regimes toward policies that cause fewer economic distortions (Papageorgiou et al., 1990). S.M. Shafaeddin, in a discussion paper for United Nations Conference of Trade and Development (UNCTAD), talks about different episodes of trade liberalisation. He divides the countries that undergo reform process, into three groups. The first group, Shafaeddin argues, is the one which

has majority of East Asian countries that "continued their own dynamic industrial and trade policies initiated in 1960s". The second group includes countries which have gone through the reform programmes designed and dictated by the IFIs. The third group includes the "Latin American countries that undertook economic reform since early 1980s, initially under the pressure from IFIs. Nevertheless, in 1990s they intensified their reform process without having been necessarily under pressure of those institutions in all cases. The contents and philosophy of their reform programmes were, however, similar to those designed by the IFIs which in turn have been referred to as the "Washington Consensus" since the early 1990s. Universal and uniform trade liberalization was a part of that "Consensus" (Shafaeddin, 2005:2).

The World Bank defines a regional trade agreement as a treaty between two or more governments that arrive at an agreement on the rules of trade for all signatories. Examples of regional trade agreements include the North American Free Trade Agreement (NAFTA), Central American-Dominican Republic Free Trade Agreement (CAFTA-DR), the EU and Asia-Pacific Economic Cooperation (APEC) (Mattoo and Ruta, 2018). Some of the Asian FTAs include Association of Southeast Asian Nations (ASEAN)-India FTA and the ASEAN-China FTA. In fact, China has as many as 16 active FTAs and another eight under negotiations. The Chinese Government deems FTAs as a new platform to further open up to the world and step up the domestic economic reforms.[5] Like China, ASEAN, which is the representative body of the ten Southeast Asian countries, also emphasises on the regional trade agreements. Apart from leading the negotiations for the Regional Comprehensive Economic Partnership (RCEP), ASEAN has FTAs with its dialogue partners: China, India, Japan, New Zealand and South Korea.[6] As far as EU is concerned, it has FTAs with countries across regions. The EU usually signs three main types of agreements

- Customs Unions: eliminate customs duties in bilateral trade and establish a joint customs tariff for foreign importers;
- Association Agreements, Stabilisation Agreements, (Deep and Comprehensive) Free Trade Agreements and Economic Partnership Agreements: remove or reduce customs tariffs in bilateral trade; and,
- Partnership and Cooperation Agreements: provide a general framework for bilateral economic relations leave customs tariffs as they are.[7]

Greater integration with the international economic architecture has proved to be a powerful tool for countries in promoting their domestic economic growth, development, and reduce poverty. Over the past 20 years, the growth of world trade has averaged 6 percent per year, twice as fast as world output. But trade has been an engine of growth for much longer as since 1947, when the GATT was created, the world trading system benefited from eight rounds of multilateral trade liberalisation, as well as from unilateral and regional liberalisation (International Monterey Fund, 2001).

However, globalisation and trade liberalisation are facing a downfall today. Arguably, its hardest times in decades, the blow to trade liberalisation is spearheaded by the Donald J. Trump administration of the United States, which is defined by its protectionist stands- a set of policies that go against the decades-old policy of the country. The 2018 G7 summit turned out to be a major upsetting event in that context. Trump refused to ease steel and aluminium tariffs he had

[5] For details on China's FTAs, see Ministry of Commerce of the People's Republic of China (2019).
[6] For details on ASEAN's FTAs, see Association of Southeast Asian Nations (2019).
[7] For details on EU's regional trade agreements, see European Union. (2019).

imposed on Europe and Canada, arguing that the allies have been unfair to the US economy (Baker and Shear, 2018). Several scholars have come to believe that the President's protectionist measures are poised to damage the American economy and are detrimental to negotiations (Levy, 2018). Trump also decided to withdraw from the 12-nation trade negotiations on the Trans Pacific Partnership (TPP), reducing it to the TPP-11. Withdrawal from the TPP increases uncertainty among US allies about the reliability of the US across a range of foreign and economic matters, in addition to marking a rather rare occasion where the US has withdrawn from an agreement it once championed (Solis, 2017).

In Europe, there is some resentment about the Canada-EU Comprehensive Economic and Trade Agreement. Concerns have also been raised about the EU-ASEAN FTA. According to some analysts, trade agreements with countries outside the EU such as the Transnational Trade and Investment Partnership (TTIP) with the US, and Canada Comprehensive Economic and Trade Agreement (CETA) with Canada might "hamper the establishment of environmental protection measures for investors who feel disadvantaged by national legislation and might lodge for heavy claims for loss profit. The setting of such disputes occurs through private arbitration outside the reach of democratic control and without the possibility of appeal" (Dijkink, 2019:211).

Trade wars in terms of imposing more and more tariffs have begun - not just between the US and China but seemingly between US and EU, US and Canada, and India as well. All this might lead to a situation where the world witnesses receding trends in trade liberalisation in coming years. Having said that, the situation within ASEAN and its dialogue partners is looking up and could be much better if the RCEP is finalised and implemented and the ASEAN Economic Community also takes its desired shape.

The paper does not delve into the debate that the supporters of trade liberalisation have with the Nay-sayers who highlight that trade should be beneficial to all and its negative effects must be minimised. However, what is important to highlight is that it is one of the most important and debated issues in the field of international economic relations today. ASEAN and EU are acknowledged as two of the most integrated regional groupings in the world. The next section of the paper draws the comparison of ASEAN and EU's experiences of trade liberalisation and its impact on their growth.

Comparative Perspectives on ASEAN and EU

It is interesting to note that while the formation of ASEAN was driven by politico-diplomatic motivations, in the case of EU, functionalism and economic cooperation played also an important role. The ASEAN was started-off primarily to keep the communism away from the region, and the EU to reconstruct the war-ravaged European continent as also to keep the European identity intact. However, both the groupings have adapted with time and economic integration has become their primary objectives. Regional integration processes in Europe and Asia share common historical origins: they have their roots to a large extent in the Cold War, in the perception among the leaders of the non-communist states (in Europe in 1950s and Southeast Asia in as the Vietnam War raged from the mid-1960s to the mid-1970s) that they had to cooperate and overcome their internal rivalries in the face of a common external threat to their economic and political security. However, compared with the ASEAN, the EU was historically more inclusive in as far as, prior to the end of the Cold War, it organised all the big non-Communist European Powers (at least once the United Kingdom joined in 1973), while ASEAN did not integrate the economically most highly developed non-communist Asian States (Webber, 2012:7).

So far as the approaches and experiences of ASEAN and the EU are concerned, there are five broad parameters on which ASEAN and EU trade liberalisation could be compared.

First is the way trade liberalisation has evolved in both ASEAN and the EU. Trade liberalisation in ASEAN was experienced at a much later stage than the EU. ASEAN, like in all other fields, has moved towards greater trade liberalisation- i.e. reducing tariff and non-tariff barriers in a gradual, progressive fashion. Part of the reason is that ASEAN itself has been evolutionary in its approach and for ensuring the ASEAN Unity and ASEAN Economic Community, ASEAN prefers to be at the driver's seat. Even today a cursory look at the economies of the founding five members of ASEAN i.e. Indonesia, Malaysia, Singapore (Singapore is one of the four Asian tiger economies), Thailand, and the Philippines projects a contrast with the new ASEAN which comprises Cambodia, Laos, and Myanmar.

Of course, in case of Vietnam, another country from the "new ASEAN" region, the situation is a bit different as Vietnam, today, is rapidly moving towards adoption of increasingly more liberal trade practices and is no longer clubbed with the CLM (Cambodia, Laos and Myanmar) countries. This is also because of the fact that Vietnam is one of the Southeast Asian countries involved in the TPP-11 agreement, which is likely to be a 21st Century FTA regime with "gold standards" meaning that it will have much reduced tariff and non-tariff barriers and enhanced Phyto-sanitary and labour norms.

In the 1990s, ASEAN's expansion was completed and then it began to engage dialogue partners such as Japan, India and China in the regional dialogue mechanism. The 1997 Asian Financial Crisis made ASEAN to take steps for future risk aversion. Japan with assistance by China bailed out the countries of the region. FTAs were signed and then Chiang Mai Initiative-a multilateral currency swap arrangement between ASEAN and its Plus Three (China, Japan and South Korea) dialogue partners, was also adopted in 2010.

While ASEAN talks of ASEAN Economic Community, the trend has projected that it is the other regional economies which motivated and facilitated trade liberalisation in the ASEAN region. Trade liberalisation and market reforms are relatively newer in the ASEAN region, while EU adopted easy trade policies since the beginning. A major attempt at free trade in modern Asia could be attributed to the establishment of APEC in 1989 also. Overall consensus about the Regional economic integration in Asia is that it is not strongly developed compared with North America and Western Europe, and its recent track record is patchy: increasing integration is confined pretty much to East Asia (Sally, 2010).

A key difference between ASEAN and EU is that right from the beginning, the EU has been a champion of globalisation, open trade and trade liberalisation. However, in case of ASEAN, the pressure on even the key ASEAN economies such as Indonesia and the Philippines were external. In the 1980s and early 1990s, the major ASEAN economies were put under pressure by the international agencies- the IMF and the World Bank to open up- by reducing tariff and non-tariff barriers. This was put as a pre-condition for grant of new loans to the Southeast Asian economies, so it was more of the international and external pressure that worked on the ASEAN and its member countries.

In the case of EU, the major economies were themselves leaders in the world trade and champions of globalisation. The leading economies of the EU with the active support of a much more institutionalised agreement equipped the EU to create a sort of peer pressure on the other economies to follow suit.

So, the phenomenon which was one of the initial triggers of trade liberalisation and regional economic integration became active in ASEAN at a later stage and is more active today than ever before. Establishment of AFTA, FTAs with external players such as China and India, Japan, Korea and others have accelerated this process. The RCEP and AEC have a key role to play in that regard.

Second parameter is the institutional mechanism. EU has many institutional mechanisms with a powerful secretariat. ASEAN, however, does not have a strong centralised mechanism. EU's foremost priority has been to integrate policy responses through policy synchronisation among members first and then reach out to external players. There is huge disparity among ASEAN member states in that regard. Additionally, ASEAN before integrating amongst themselves first, began to engage dialogue partners. Through its long history, the EU has established a strong institutional mechanism, such as its own Constitution, Parliament with parliament members, and a common currency; whereas in the light of the diversity of ASEAN in terms of economic standards and social systems, a strong and binding structure would face opposition from member states (Sanake, 2017).

Third parameter with regard to a comparative study of ASEAN and the EU is the crises management and lessons learnt. Both these regional groupings begun the process of greater trade liberalisation, regional economic integration and move towards greater regional economic governance after they faced massive economic crises in their respective regions. So, in case of ASEAN, after the Asian financial crisis, the efforts on part of the ASEAN countries to move towards establishing stronger institutional mechanisms for trade liberalisation and regional economic integration could be noticed. The ASEAN Plus three, AEC, and over the years the efforts to move towards the RCEP where economies are much more diverse, and in some cases much more competitive and bigger than the rest. In case of Europe, the 2008 crisis led to the birth of the European Stability mechanism.

The fourth parameter is: Dealing with intra-regional disparities and taking care of the vulnerable sectors. Considering the diversity in the political and economic governance structures of member countries of ASEAN, non-tariff barriers are likely to remain a key challenge, of which there is no easy solution in the foreseeable future. In case of the EU, it has pursued an open trade agenda for the past several decades. In 2016, the EU accounted for almost 17 percent of total world trade in goods and services. If the liberalisation of tariff structures and non-tariff barriers are considered, it is clear that the degree of EU liberalisation in comparison with others is far wider and greater.

An important sector in trade liberalisation in the EU is agriculture. In case of ASEAN countries that has been a touchy issue. Countries such as Myanmar, Cambodia, and Laos, and even Indonesia and Malaysia are not favourable to a blanket liberalisation on agricultural products.

The final parameter is the people's perception and the consumer's perspective. Any discussion on trade policies in general and specifically on trade liberalisation is incomplete without trying to make sense of what the common people think. This is more important in case of developing countries which have democratic electoral system in place. And on that count, both in the EU and ASEAN region, the perceptions have not been overwhelmingly positive. According to a study conducted by the European Commission in 2010, only 44 percent of Europeans think that they benefitted from more open trade with other countries and regions. In case of ASEAN, the percentage would be far higher than the EU, which can also be sensed from the fact that

the EU is world's second largest exporter, the biggest importer, and also the biggest source for both outgoing and inbound Foreign Direct Investments (FDI).

Trade liberalisation is a tool to reduce inefficiencies in domestic economic structures. It is also a tool that contributes to kick-starting more innovations and productivity. ASEAN needs to learn this lesson more carefully from the EU. However, before opening up to greater inter-regional trade a stronger regional mechanism of enhanced trade liberalisation, and regional economic integration is needed.

Some economists argue that one of the key outcomes of trade liberalisation is that it intensifies competition for rival production units and pushes the less efficient companies out of the market. While in case of the EU, it is a virtue, may be in some of the ASEAN countries also, especially from the consumer's point of view, but in most of the Southeast Asia, protecting the less efficient firms is more a matter of social compulsion than a financial choice.

Conclusion

The world of economics is sometimes different from the realities of the world. Policymakers of the developing countries of ASEAN keep that in mind at all times. In order to create a level - playing field, the EU has created policies whereby the workers and industries hit by trade liberalisation are provided some financial assistance. The European Globalisation Investment Fund of the European Commission is there. Though its maximum annual expenditure is around US$ 200 million only, it is still far better than the ASEAN which lacks such a systematic and comprehensive mechanism.

So far as the EU-ASEAN FTA is concerned, one of the major bottlenecks is that the EU procedures demand that all the member countries of ASEAN sign a *Partnership Cooperation Agreement* including a commitment to the Human Rights and joining the International Criminal Court. These are difficult issues for a regional grouping such as ASEAN, whose members are too diverse - not just on economic issues but also in terms of mode of government, role of civil society in the polity, and participation of private sector in the economic system. This has been one of the reasons why despite trying hard, a region-to-region EU-ASEAN FTA negotiation could not materialise, and the EU went ahead with bilateral FTAs with Singapore and Vietnam. EU has high standards for products accessing their internal market, which could be an obstacle for some of the Asian economies (Valero, 2018).

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Chapter Four
Sustainable Development and Income Equity in ASEAN

Dzulkifli Abdul Razak

In October 1987, the Brundtland Report when released, introduced "new" terms like "sustainable development" (SD) and "sustainability" that became catch-phrases in the last few decades. SD has been discussed at various levels and from several perspectives and viewpoints. It is generally understood as "the development that meets the needs of the present generations without compromising the ability of the future generations to meet their own needs." SD resonates well with the concerns that linked it to the issues of inequity realising that "there was a heavy deterioration of the human environment and natural resources."

Hence it has become a rallying point on a common platform to seek out global solutions to problems affecting the international community, including that of ASEAN. Among the solutions suggested are (a) to re-examine the critical issues affecting equity and to formulate innovative and realistic action proposals to deal with them; (b) to strengthen international cooperation and propose new forms of cooperation that can break out of existing patterns (c) influence policies and events in the direction of needed change; and (d) raise the level of understanding and commitment to action on SD at all levels. ASEAN being diverse, unstable and uncertain faces income inequity trend as depicted from 1992-2012; with little change in recent times.

On average, income inequality is said to be on the rise in ASEAN over the past two decades. As a relatively young economy, it is fast emerging, and this is where the challenges begin given a population of more than 600 million, the third largest in the world. About half of this represents youth, in comparison to about 35 per cent in Europe. The median age ranges from 22 years in Laos to 40 in Singapore, with about 30 in Malaysia and Vietnam. Thus, any form of inequity makes it more vulnerable causing a long-term consequence, as well as devastating effect to a larger section of the population (Chambers and Conway, 1992; Keeble, 1988).

In this regard, the aspects of SD are important in anticipating and preparing the future of ASEAN. In fact, SD is one of the many elements incorporated in the Vision 2025 Framework for the regional community. In the context of inequity, SD has great relevance in offering sustainable solutions because as stated above, the concept resonates well with issues related to inequity. It focuses its attention on the areas of population, food security, the loss of species and genetic resources, energy, industry, and human settlements that more often than not are linked to the broad question of inequity. After all, most of them are interconnected and cannot be isolated from one another making equity a vital issue to be better understood and dealt with. It is imperative therefore to bridge this gap so that SD can be bring about greater awareness to be implemented on a more comprehensive basis through education for sustainable development (ESD).

More importantly, each ASEAN community must be familiar with the broader concepts and wisdom so that the members can act collaboratively in search for lasting solutions ASEAN-wide, if not across the Asian region. This can provide them with several advantages that can be further explored using the SD perspective and worldview. In other words, can SD offer a new approach of keeping an equitable "balance" rather than "growth" per se? The former subsumes a "balance" between economics, environment and society, where the latter tend to overemphasise on economics, at the expense of the other two. In many respects, the "balance" perspective is reflective of the three pillars of the ASEAN Community – each corresponding

to the element of economy (ASEAN Economic Community), society (ASEAN Socio-Cultural Community), and environment (ASEAN Political Security Community). The first is underlined by "equitable economic development". The second, "poverty alleviation and social safety network", whereas the last, "shared values and norms" (Chambers and Conway, 1992; Keeble, 1988).

In summary, the path of SD, in particular that of Sustainable Development Goals (2016-2030), is an important paradigm shift in constructing a new model to mitigate, if not eliminate, many forms of "inequities" beyond income alone, provided that other social ills like corruption and unethical practices – which is still rampant among ASEAN nations – are also eliminated at the same time, with the same concern and rigour.

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Chapter Five
EU Sustainable Development and Income Equity

Corrado G. M. Letta

Inequality within the European Union

The problem of inequality in Europe is – according to the report "The EU Public Finances 2017" (European Commission, 2017) – one of focusing. Indeed, focusing on income inequality blurs the overall picture of inequality and therefore the possibility of gaining a comprehensive understanding of it. As a matter of fact, inequality is generated not by one single factor, income inequality, but, instead by seven different factors. They are: (a) differences between the 28 countries of the European Union, (b) differences within countries members of the European Union, (c) income and wealth inequality, (d) jobs and labour markets changes in the socio-economic divide, (e) social divide in education and human capital development, (f) socio-economic divides in health and (g) immigrant integration.

In the 1980s, the average disposable income of the richest 10 per cent was around seven times that of the poorest 10 per cent; today, it is around nine and half times higher. The gap in household wealth is even wider: the 10 per cent wealthiest households hold half of total wealth while the bottom 40 per cent own barely 3 per cent. People in the north-west Europe (France, Germany and the Netherlands) make the most. People in Southern Europe (Spain and Italy) make somewhat lesser. People in Eastern Europe (Romania and Poland) make the least. In Germany, one in six people is now at risk of poverty. From 2009 to 2014, about 800,000 people have left Spain. In Greece, one third of the people has no health insurance and no access to health care. In France, the police and gendarmerie are now worried about the situation within hospitals and the tensions surrounding hospital emergencies.

What is the EU doing about it?

Early theorists of European integration speculated that economic integration would lead to political integration and a European identity. The fact is that a European identity has not displaced national identities in the EU, but, for some significant share of EU citizens, a European identity exists alongside a national identity. At the same time, political parties asserting more traditional nationalist identities and policies have directed their dissatisfaction against immigrants, foreigners, and sometimes, the EU. Those who participate in "Europe" are more likely to develop a European identity, while those whose economic and social horizons are essentially local are more likely to assert national identities.

What the European Union is doing about this problem can be summarized as: a) It recognizes that a basis for stable democracy is social cohesion-consolidation of plurality of citizenship and reducing inequality and socio-economic disparities and fractures in the society, b) It appreciates that social cohesion refers to people's relationships and interactions in society, including the role of citizenship. Democracy and social cohesion are complementary parts of including in the public decision-making active citizenship with both rights and responsibilities, c) It has become highly aware of the evidence that slow progress in living standards and widening inequality have contributed to political polarization and erosion of social cohesion, which has led to the emergence of a European consensus on the need of a more inclusive and sustainable model of growth and development that promotes high living standards. Raising skill levels and preparing people for the jobs of tomorrow is the first way to address inequality in earnings. Last year, the EU adopted the New Skills Agenda. With the right skills, people are better equipped for good-quality jobs with reliable and adequate incomes. Moreover, "we must create jobs" seems to be the mantra in the European Parliament. Subsequently they debate that "we

must create jobs and look at the tax and benefits systems, lastly we must respond to the rise in inequalities by boosting our social policies. We need a fair Europe: that is beyond any doubt. A fair Europe is not a catchword; a fair Europe is what an overwhelming majority of citizens expects from us. That is why taxation matters so much. Income and wealth inequality have reached an all-time high. Wealth inequality has increasingly exceeds inequality of income. Taxation has a major role to play here as well as how an overall design and structure of the tax system can promote fairness. Thus, Europe needs to ensure that enough revenues are collected to fund public policies, while ensuring fair burden-sharing between citizens. This means reflecting on the progressivity of our tax system but also on the overall balance between all types of taxes. Taxation has also a role to play in supporting labour markets participation, social mobility and intergenerational fairness, and it can finally help mitigate income and wealth inequality. This means we need to widen the way we think about taxation, and consider how it can fund, incentivize, and correct."

As pointed out during the"14th Regional Seminar of EU-ACP Economies-Financing Development Contribution, 2017" (European Economic and Social Committee, 2017), inequality is a multidimensional challenge of income, wealth, opportunity, education, health and immigration. The drivers of income inequality differ across Member States. Unemployment is a factor of inequality in most EU countries. However, in some countries (such as Bulgaria, Cyprus, Estonia, Lithuania, and Latvia) the weak redistributive effect of taxes and benefits play a key role. In other countries (Greece, Spain and Portugal) high income inequality is the result of unemployment combined with an uneven distribution of market incomes. In the UK and Ireland, market incomes are also extremely unequally distributed. However, the British and the Irish welfare states do an above average job in reducing pre-tax and benefits inequalities.

However, one of the most important action is fiscal policy. It is a key instrument for governments to affect income distribution because it can have a direct impact on disposable income of households through the design of the tax and benefits system. It can have an indirect effect on income distribution via two main channels. First, fiscal policy can cause behavioural responses of firms, workers and consumers, which may affect labour supply and capital accumulation and thus impact on market income. Fiscal policy can cause macroeconomic feedback effects. Other policies include, for example, technological changes (sometimes associated with globalization patterns) can increase the demand of high-skilled employees, therefore increasing their wage premium and amplifying wage dispersion. Demographic factors, such as ageing and the composition of households, tend to contribute to a rise in income inequality.

The EU-ASEAN Cooperation and the Problem of Equality

The Southeast Asian region has been characterized as a growth area for trade and investment. However, disparities within ASEAN economy, might corner the potential benefits. The region comprises 10 countries with a total population of almost 600 million people and a combined GDP of US$ 2.57 trillion in 2018. The region has an average growth of 5.5%. ASEAN foreign direct investments flows keep on increasing year after year and the outlook for the following year is also bullish. However, the richest country is Singapore which has in 2018 a GDP per capita of US$98,014 and Brunei of US$79,726 compared to Cambodia with a GDP per capita of only US$ 4,321 and Myanmar with a GDP per capita of US$ 6,802. Meanwhile, the GDP per capita for the Philippines is US$8,893. Of the total FDI flows in ASEAN, Singapore gets the lion's share, which is 64% of FDI in the region. Malaysia is a distant second with 16% followed by Vietnam with 6%. The Philippines is sixth place with 1.6% of FDI in the region.

In terms of merchandise exports, Singapore tops the list again and Lao PDR on the tail end with merchandise exports of only a mere 0.1% of the level of Singapore's exports. The Philippines exports some 19% of Singapore's exports. In terms of migrants, the region has both migrants sending countries (like Indonesia, and the Philippines) and migrant receiving countries (Thailand, Malaysia and Singapore). The number of irregular migrants is 2.6 million, 82% of whom are Indonesians and Filipinos. Malaysia and Thailand received 83% of these migrants.

The ASEAN-EU Dialogue

As it has been effectively portrayed in the "EU-ASEAN Development Cooperation 2014-2020" (European Union, 2014), the dialogue on sustainable development between the ASEAN and the European Union is part and parcel of the 40 years of official relations between the two, where the EU has celebrated more than 60 years of European integration while ASEAN is 50 years since its formation. Between the two, they represent 38 countries and more than a billion citizens and their relationship is stronger than ever – because as two of the most advanced examples of regional integration, ASEAN and the EU are 'natural partners' as it can be seen in the economic, trade and investment sphere, where links have been very strong and keep on growing. The EU continues to be the biggest foreign investor in ASEAN with US$30.5 billion in 2016 or an increase of 46% from previous year. Indeed, the historical developments of this relationship testify to achieving these distinct but coalescing goals. ASEAN is the EU's third largest trading partner outside Europe. And the EU is ASEAN's second largest trading partner worldwide, and the biggest provider of Foreign Direct Investment (FDI), accounting for almost a quarter of foreign investment in the region.

Their long-standing development cooperation has also been a success story spanning over a large number of areas. The 170 million Euros that have been dedicated by the EU to ASEAN regional integration over the period 2014-2020 is more than the EU has ever provided before. This is in addition to the more than 2 billion euros that the EU has provided to ASEAN Member States bilaterally. Furthermore, advancing ASEAN-EU cooperation at bilateral and regional levels, as well as on multilateral basis for key global issues of sustainable development has a tremendous potential which can be enhanced through continuing and effective dialogue on development strategies as well as string of concrete cooperation initiatives, based on mutual interests and shared commitments to attain the UN Sustainable Development Goals (UNSDGs). Achieving the SDGs will require mobilizing domestic as well international, public and private financial resources. It is not just the figures that matter – but also the unique experience, knowledge and lessons learned from the two regional integration processes, that makes this partnership and its potential so unique. They both have a lot to gain by further strengthening their cooperation on shared global challenges, including promoting sustainable development, reducing poverty and inequalities, and addressing climate change.

According to "The EU-ASEAN Relations" (European Union, 2018) in March 2018, the top 10 focus areas for strengthening EU-ASEAN Ties are: 1) Trade and investment including negotiations of FTAs, 2) Security and 'soft power'. Across Asia there is a widespread perception that the EU is just a purely economic bloc and should therefore engage only on trade. This is not the case – especially when the issue is sharing "soft power" expertise in non-traditional security issues including maritime security, conflict prevention, counter-terrorism, and nuclear non-proliferation, 3) Rule of law and multilateral institutions. ASEAN may advice that the EU engage with – instead of fearing – China, as well as to make sure that EU-ASEAN relationship is not defined only by links with the two superpowers, 4) Climate change. With temperatures and sea levels predicted to rise in Indonesia, the Philippines, Thailand and

Vietnam over the next century, and climate integrated across most of the EU's policies and budget, working together would be the easy thing to do, 5) UN 2030 Sustainable Development Goals. Both the EU and ASEAN have expressed their commitments to achieving these goals, which, with its focus centred on people-to-people approaches, are vital to the two blocs continued regional integration, 6) Research, science and technology, 7) Fisheries, 8) Human rights, 9) Sectoral policy dialogue, 10) Development. The EU doubled its funding for ASEAN integration in the 2014-2020 budget to more than 170 million Euro, funding trade and transport integration across the region, the harmonization of standards, higher education and disaster management. It also pledged an additional 3 billion Euro to reduce poverty in low-income ASEAN countries.

However, in developing this Dialogue, three new EU cooperation programs were launched. Two EU-ASEAN programs: the Enhanced Regional EU-ASEAN Dialogue instrument worth 20 million Euros to further strengthen EU-ASEAN policy dialogues. The flagship program on economic and trade connectivity in support of ASEAN Economic Community Blueprint 2020 is worth 40 million Euros. The third is the EU program on promoting women migrant workers' rights and opportunities in ASEAN, worth 25 million Euros, helping to ensure labour migration is safe and fair for all women in the ASEAN region. Tackling inequality is mainly a national prerogative in the EU. Depending on the preferences within societies and in line with the principle of subsidiarity, Member States decide on how to address inequality. At the same time, social issues are a priority for the EU. In today's political climate, this is the best antidote that can be offered to the temptations of protectionism and isolationism - by showing that global, shared prosperity is indeed a win-win situation for all.

After having set out how the EU will help to deliver the Sustainable Development Goals across the EU internal and external policies, the EU has put its words into action through a Nature Action Plan to protect biodiversity, an ambitious energy policy. Up to the beginning of 2018 the ongoing programs and projects of the EU-ASEAN Cooperation programs have been summarized below- in accordance with the report "ASEAN and the EU" by the European Union Delegation in Jakarta in July 2016 (European Union, 2016).

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Chapter Six
A Comparative Perspective on Income Equity and Sustainable Development in ASEAN and EU

Nurliana Kamaruddin

Introduction

In a world that is becoming increasingly crowded, there has been a greater call for the international community to pay more attention to the limitation of resources, the increasing gap between the rich and the poor, and the polarization of society. In 2015, the United Nations released the 2030 Agenda for Sustainable Development which includes a list of 17 Sustainable Development Goals (SDGs) and 169 targets meant "to free the human race from the tyranny of poverty and want" as well as to "heal and secure" the planet (UN, 2015a). The SDGs was meant to be a more comprehensive and inclusive set of development goals than the Millennium Development Goals (MDGs).

The MDGs was criticized as an effort that lacked participation of developing countries and also lacked consideration for similarly important development requirements (Fehling, Nelson, and Venkatapuram, 2013). The MDGs were focused on shaping a "new rationale for aid" as the end of the Cold War has significantly lessened the disbursement of aid motivated by political alignments and security concerns (Fukuda-Parr, 2016). With the introduction of the SDGs, the international community aims to foster a global development objective that is only inclusive, but also more comprehensive for the broader development needs.

The idea of sustainable development; however, is not new and the concept of 'sustainable development' has, over the years, seen an evolution not only in its theoretical understanding but practical implementation as well. In 1987, The World Commission on Environment and Development produced a report also known as the 'Brundtland Commission' which defined sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987).

This was one of the first effort to broaden the concept of sustainable development beyond the common scope of environmental sustainability. According to the report, sustainable development has two basic criteria, 1) the fulfilment of need and prioritizing those in poverty, and 2) the consciousness of limitations on the exploitation of resources. The issue of sustainable and equitable development is important for both the ASEAN and EU.

Poverty and Human Development Level

The economic development experience of EU member nations and ASEAN nations have been very different. However, there are some common strands that can be analysed when discussing the issue of poverty reduction. This include poverty disparity 1) between and within member nations of the region and 2) rural and urban areas. Although ASEAN as a region has experienced impressive rates of economic growth in the past couple of decades, inequality remains an issue either between or within member nations themselves.

Countries like Singapore, Malaysia and Thailand have achieved far higher levels of development. The poverty levels in these countries (mostly by their local estimates) are far lower than other members of ASEAN. For example, based on the 2016 ASEAN statistics, only 1.7 percent of Malaysians live below the national poverty line while 25.2 percent of the Philippines' population live below its national poverty line (ASEAN, 2016a). As a whole, ASEAN continues to experience decreasing rates of poverty and extreme poverty (measured

by the World Bank's USD$ 1.90 a day) in the region fell from 17 percent in 2005 to 7 percent in 2013 (UNDP, 2017).

Socio-economic disparity within countries have also been a cause for concern with individual ASEAN members. Oxfam reports that the daily earning of Vietnam's richest is as much as what the poorest makes in ten years (Oxfam, 2017). Indonesia and Lao PDR have also seen the share of income by the rich continues to grow some 15 percent over the last twenty years while the poorest declined by 15 percent (Oxfam, 2017). According to Forbes, "Indonesia's four richest men have more wealth than 100 million of the country's poorest people" (Kelly, 2018). Despite these concerns, ASEAN member countries have made great strides to address poverty and inequality.

Like ASEAN, disparity in the EU have also gained attention with a study from Friedrich-Ebert-Stiftung (FES) observing that there is an 'alarming' increase in inequality between the rich and the poor (Dauderstädt and Keltek, 2017). An OECD report states that this divide intensified particularly after the recent global financial crisis (OECD, 2017). The disparity amongst EU members is also a challenge for the organisation as the average per capita income of EU's richest member state can be up to ten times higher than that of its poorest members (Dauderstädt and Keltek, 2017). According to the 2017 OECD report, the unemployment level in Greece is 24 percent but only 4 percent in Iceland (OECD, 2017). The European Commission reports that in 2016, 17.3 percent of the EU population are affected by monetary poverty, 7.5 percent by severe material deprivation, while 10.5 % of the population aged 0 to 59 are affected by very low work intensity (European Commission, 2018c).

Urban and Rural Disparity

Another major concern in disparity and sustainability involves the changing spatial distribution of human settlement as urbanisation continues at a rapid pace. Sustainability and equality become a major concern for rural communities which could stem from unequal access to and unsustainable use of resources, higher vulnerability to disasters and risk, unequal social relationship structure especially for women, as well as political marginalization (IFAD, 2018). As a whole, the urban-rural disparity remains a larger concern for ASEAN as fast-paced urbanisation is closely linked with the economic development of its member countries.

The urban population of Southeast Asia has increased from 15.4 percent in 1950 to about 41.8 percent by 2010, but levels of urbanisation differs amongst member countries, with a higher urban rate for the more developed ASEAN members (ASEAN Studies Centre, 2010). Rural residents in EU member countries also face a slightly higher risk than average of living in poverty or social exclusion than those living in urban areas (25.5% compared with 23.6%) in 2016 (European Commission, 2018a). Although the population of EU is concentrated in urban areas, EU is also seeing a shift in demographics as migration to rural areas has increased in recent years (Eurostat, 2018a).

Commitment to Sustainability

Both ASEAN and EU have formal commitments as well as efforts to achieve sustainable and equitable development. The Initiative for ASEAN Integration (IAI) was launched in 2000 and Work Plan III released in 2016 also furthers the IAI efforts at bridging the gap between ASEAN members. The initiative is aimed at assisting Cambodia, Lao PDR, Myanmar and Vietnam (collectively known as the CLMV countries) "to meet ASEAN-wide targets and commitments towards realising the goals of the ASEAN Community" (ASEAN, 2016b).

For ASEAN member nations, eradication of poverty is not only a priority in the national development agendas but at the regional level as well. Within ASEAN, these include several designated ministerial meetings such as the ASEAN Ministers Meeting on Rural Development and Poverty Eradication (AMRDPE) and the ASEAN Ministerial Meeting on Social Welfare and Development (AMMSWD) which meets regularly to discuss updates and to plan mechanism frameworks for member countries.

One such example of a mechanism framework is the ASEAN Framework Action Plan on Rural Development and Poverty Eradication 2016-2020 that ASEAN introduced as part of its regional cooperative effort to address poverty. Another example is the ASEAN Infrastructure Fund (AIF) incorporated in 2012 which brings together ASEAN member countries and the Asian Development Bank in an effort to solve the infrastructure bottleneck which has contributed to development gaps amongst ASEAN members. Consideration for sustainable practises and socially inclusive practises are also requirements for projects funded by the AIF.

The Economic and Social Commission for Asia and the Pacific (ESCAP) report in 2017 outlined the complementary parallels between the ASEAN's Vision 2025 and the 2030 Agenda for development (ESCAP 2017). The report identified five priority areas in order to guide the organisation's effort to meaningfully incorporate the SDGs. The five priority areas are 1) poverty eradication, 2) infrastructure and connectivity, 3) sustainable management of natural resources, 4) sustainable consumption and production, and 5) resilience.

The EU has formally enshrined an approach and commitment to equitable and sustainable development. Although poverty is less severe for EU member countries, there are still challenges such as the recent 2008 economic challenge, and the changing demographics in terms of a shrinking and ageing population. At the regional level, EU provides support for its member countries in order to enhance social protection and inclusion. EU provides its member countries with access to social investment packages (European Commission, 2018b).

The Common Agricultural Fund (CAP) has also long served as a tool to ensure the rural agricultural sector of EU member countries remain competitive and ensure a "fair standard of living" for the farmers, as well as help maintain EU rural communities (European Commission, 2018a). One of the contemporary mechanisms under the CAP includes the European Agricultural Fund for Rural Development (EAFRD) 2014-2020 which contributes to rural development programs in EU member countries. The priority areas of these rural development programs include specific measures for sustainable and equitable development and are monitored by the EU.

EU has also shown commitment to sustainable development since the beginning of the 21st Century. The EU Sustainable Development Strategy 2001 states that "in the long term, economic growth, social cohesion, and environmental protection must go hand in hand" (European Commission, 2001). The EU also monitored the progress made on the commitments through a comprehensive set of indicators which the EU reviewed in 2007 and 2009 (European Commission, 2016a). The European 2020 Strategy has also mainstreamed sustainable development into EU's agenda. With the advent of the SDGs in 2016, the European Commission released the "European Action for Sustainability" which integrates the SDGs into the European Commission's ten priority areas (European Commission, 2016b).

Prospects and Challenges

Partnering for Development

Both ASEAN and EU have made explicit commitment to work towards achieving the SDGs. For ASEAN, there is more explicit focus on poverty reduction and equity as the ASEAN member countries continue to prioritise economic development although sustainable development has increasingly become more prominent in policy formation. More importantly, ASEAN and EU have also reflected the need for more effective partnering in order to best implement efforts to achieve the SDGs. This is in line with goal 17 which is to "strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development" (UN, 2015). The SDGs call for partnership in financing, technology sharing, capacity building, trade, and addressing systemic issues which include 1) policy and institutional coherence, 2) multi-stakeholder partnerships and 3) data, monitoring and accountability (UN, 2015).

Therefore, it is significant to note that ASEAN and EU have mutually recognised each other as important partners in the cause. The Inaugural High-Level ASEAN-EU Dialogue on Sustainable Development: Towards Achieving the Sustainable Development Goals was held in Bangkok in November 2017. One such effort is the China-ASEAN Investment Cooperation Fund which provides investments not only in infrastructure (as part of China's Belt and Road Initiative) but also in the development of energy and natural resources in ASEAN countries (UNDP, 2017). Although cooperation and investment from China can be controversial domestically in ASEAN countries, there is no denying the importance of ASEAN's partnership with China.

Accountability and Monitoring

Without a doubt, what has always been the biggest challenge in achieving sustainable development has been the issue of accountability. This seems to be a bigger concern for ASEAN as the most commonly cited problem for ASEAN is the slowness, or lack of, action despite the many policy agendas and agreements. Effective monitoring is important not only to ensure that programs are carried out but also that mistakes and problems are minimized. It's also important that the best practises are operationalized for future projects.

The impact of policies, therefore, should be measured by transparent and comprehensive collection of data just as much as these development goals need to be integrated into national development agendas (Glennie, 2015). For EU, Eurostat has long played this vital role in the collection and publication of data (Eurostat, 2018b). The agency, which was established in 1953, has played an increasingly broader role not only in collecting and comparing data provided by national statistical agencies but also to help harmonise and generate a common methodology for EU member countries.

In ASEAN, the ASEAN Statistics Division, the technical arm of the ASEAN Community of Statistical System (ACSS), plays a similar role (ASEANStats, 2017). ASEAN Statistics Division has several working groups with one specific working group to monitor the members' achievement on the SDGs which is the Working Group on the Sustainable Development Goals Indicators (WGSDGI) (EU-ASEAM COMPASS, 2018). The EU-ASEAN Statistical Capacity Building Project (COMPASS) initiated from 2014-2018 to help monitor the economic integration of ASEAN sets a good precedence for the type of effort that can, and should, be extended to increase the capacity of monitoring other development programs.

Coordinating actor and managing trade-offs

Achieving sustainable and equitable development requires not only the government but all possible stakeholders in both public and private realms to take part. State spearheaded policies and action, these can be inadequate when view in light of the numerous SDGs. Recognizing the complexity of development needs, the SDGs present a holistic and flexible approach that address the broader concerns of today's world. Its formulation includes the participation of United Nations' member states as well as other major groups and civil society (UN, 2014). However, the same inclusivity in goals means more complex and diverse goals. This also means that there needs to be a more dynamic approach to achieving these goals. The challenge lies in engaging the various stakeholders to work together "at the right time and place to solve complex poverty and sustainability problems" (Patterson, 2015).

Not all countries can, and will, be able to prioritize all seventeen goals of the SDGs. In order to make progress on the SDGs, countries will need to make trade-offs. As pointed out by James Patterson, "it is crucial to recognise that difficult choices will also need to be made that may involve winners and losers, at least in the short term" (Patterson 2015). For example, some countries benefit from continued urbanisation in order to address income inequality (Kanbur, Zhuang and Rhee 2014). Rapid industrialisation and urbanisation were crucial in the increase of income and living standards for East Asian countries like Japan, South Korea and Taiwan.

However, unchecked urbanisation can, if not always, result in unsustainable development practises. In the case of Malaysia, although poverty level is low, rapid urbanisation in Malaysia can increase economic and social cost such as ballooning real estate value, pressure on employment and increases the vulnerability of marginal groups which include low income families, the handicapped and the elderly (Siwar et al., 2016). Vietnam is also experiencing rapid urbanisation which contribute to increasing transport and land cost, congestion and distortion of land market around the two main urban areas, Ho Chi Minh and Hanoi (World Bank, 2011).

Another example of trade off would be the need to prioritise long-term preservation of natural resources. The EU's consumption pattern needs to be scaled down drastically. It has been reported that "by 2050 a European lifestyle would require, under present production and consumption patterns, natural resources of at least two Planet Earth" (European Commission, 2016b). At the end of the day, equity and sustainability serves a larger purpose beyond a country's economic growth.

Conclusion

Although ASEAN and the EU differ significantly in their form and function, both organisation play an important role in supporting their member states in the issue of sustainable and equitable development. The experience of both regional organisation shows that while there both organisations have placed priority on both issues of sustainability and equity, there is still much that needs to be done. Disparity between and within member nations need to be addressed as well as the growing rural-urban divide. Growth should be supplemented with policies to help those most likely to be left behind and social security also has to take into consideration circumstances that could create vulnerable groups such as the elderly. Like the rest of the world, both regions also need to tackle the issue of resource consumption, pollution and environmental degradation.

In the future, it would be beneficial for both ASEAN and EU to continue partnering for development. It would also be important that the dynamic of the relationship between ASEAN and EU should not be one of a donor-recipient relationships but rather one of mutual learning. Ensuring progress on the SDGs, monitoring and accountability, engagement of all stakeholders and management of trade-offs would continue to pose as challenges to the individual member governments and to ASEAN and EU as regional organisations.

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Chapter Seven
Malaysia's Experience in Technology and Innovation

Ng Boon Kwee

Introduction

Technology and innovation capabilities are two interrelated driving forces of economic growth, social well-being and sustainability of a nation. Technology, in broad parameter is defined as the totality means employed by people to provide material objects for human sustenance and comfort (Fischer, 1975). It is also understood as a total societal enterprise (knowledge, people, skills, facilities, methods, etc.) devoted to the research, development, production and operation of technics (McGinn, 1991). Technology is embodied in people, materials, cognitive and physical processes, plants, equipment and tools (Hall, 1994). In this respect, technology capabilities exist in three forms, i.e. production, investment and innovation. The first capability is for productive facilities, the second is for expanding capacity and establishing new production facilities, and the third is for developing technologies (Kim, 1999).

Innovation is the implementation of new or significantly improved product, process, marketing and organisational method (OECD, 2005). It is recognised as an iterative process in which complexity and inter-disciplinarity are the key characteristics that underpin the discourse surrounding technological innovation (Betz, 2003; Janszen, 2000; Mowery, 1995). Thus, management of innovation has to encompass both specific and general areas. The management of research and development (R&D), new product development, operation and production, the commercialisation process, technological collaboration and technological strategy are examples of specific area management, while the management of complexity, risks, knowledge, creativity and learning are examples of general area management (Dodgson, 2000).

Governance and Institutions

In Malaysia, the five-year master plan known as the Malaysia Plan (MP) is the medium-term development plan formulated for national development that include development agendas related to STI. Since its independence in 1957, Malaysia's economy has been transformed from agriculture-based (1st MP-3rd MP, year 1957-1980) to manufacturing-based (4th MP-7th MP, year 1981-2000), and innovation-led (8th MP – 11th MP, year 2001-current). Development during the agriculture-based economy was heavily focused on basic inputs such as land and labour. During the manufacturing-based economy, focuses were given to the development of infrastructure, collateralised risk-free capital, labour and institutional support. As for innovation-led economy, the government has allocated more efforts in developing several critical success factors to innovation capabilities development such as harnessing emerging technologies, talent, value creation from R&D and market forces (see ASM, 2017). Nonetheless, Malaysia has yet to achieve a full innovation-driven economy. In the Global Competitiveness Report (GCR), Malaysia has been classified as an economy in transition from the stage of efficiency-driven to innovation-driven since 2012. The latest GCR 2017-2018 placed Malaysia at 22nd position (out of 137 countries) in the World Competitive Index (Schwab, 2017).

Education and Skilled Workforce

As of 31 August 2016, there are 20 public universities, 34 polytechnics, 94 community colleges and 497 private Higher Education Institutions (HEIs) in Malaysia offering courses in diverse areas related to Science, Technology, Engineering and Mathematics (STEM) (MASTIC, 2017). With the ultimate aim to intensify development of critical mass for S&T, the Second National S&T Policy and Action Plan launched in 2003 outlines the adoption of 60:40 ratio of students

pursuing STEM to non-STEM disciplines in upper secondary schools and universities in order to produce more STEM workers. Nonetheless, after one and a half decades, the outcome is far behind the target. This is clearly reflected in the number of graduates at the first-degree level amongst Malaysia's tertiary education programmes during the period of 2010-2015 as shown in Table 7.1. The total number of STEM graduates produced is relatively low in comparison to non-STEM graduates, at the average ratio of 35:65. This is completely opposite to the determined target of 60:40 and this ratio is consistent during the 6-years period of 2010-2015. The average percentage of STEM PhD graduates at 56% is the only group of graduates coming close to the targeted 60% of STEM graduates. The group of graduates with a Master's degree is the group with the lowest percentage of STEM graduates at the average of 19%.

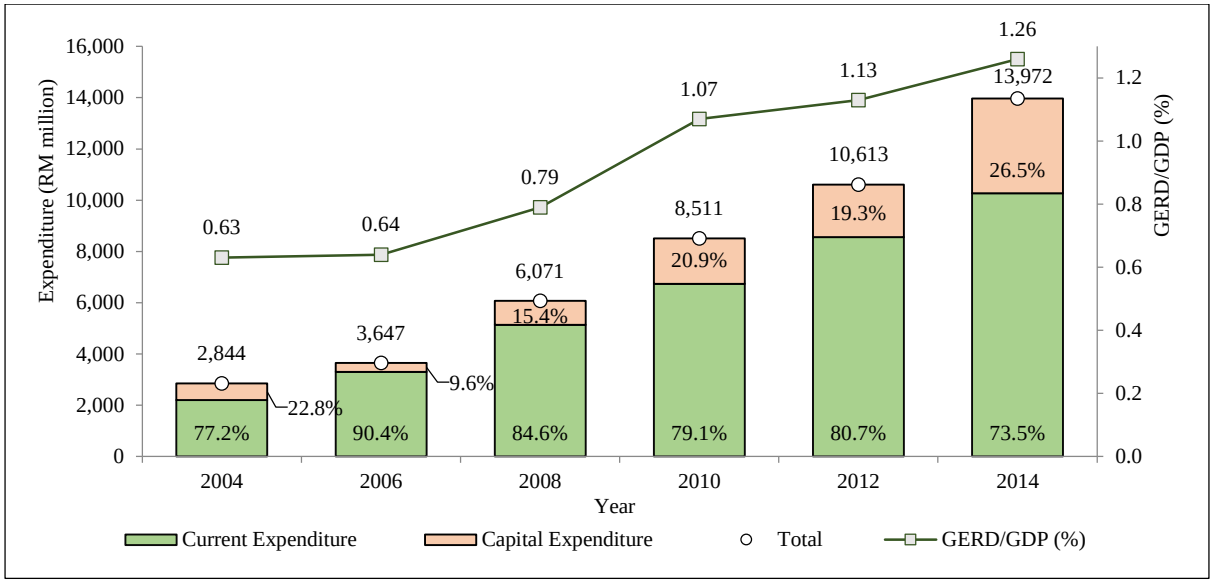
Table 7.1: Statistics on Graduation of Malaysia's Tertiary Education Programmes, 2010-2015

Degree	Field	Year						Average (2010-15)
		2010	2011	2012	2013	2014	2015	
First	STEM (%)	42	42	44	42	42	40	42
	Non-STEM (%)	58	58	56	58	58	60	58
	SUM 1 (No.)	*66,445*	*66,372*	*66,421*	*68,025*	*71,273*	*68,606*	*67,857*
Master's	STEM (%)	17	16	20	20	20	19	19
	Non-STEM (%)	83	84	80	80	80	81	81
	SUM 2 (No.)	*27,685*	*29,552*	*31,457*	*34,742*	*34,677*	*34,582*	*32,116*
PhD	STEM (%)	50	54	56	59	57	59	56
	Non-STEM (%)	50	46	44	41	43	41	44
	SUM 3 (No.)	*1,134*	*1,527*	*2,064*	*2,333*	*2,790*	*3,377*	*2,204*
Overall	STEM (%)	35	35	37	35	36	34	35
	Non-STEM (%)	65	65	63	65	64	66	65
	Total (No.)	*95,264*	*97,451*	*99,942*	*105,100*	*108,740*	*106,565*	*102,177*

Source: Data extracted from Malaysian Science, Technology and Innovation Indicators Report 2016

R&D Investments and Funding Programmes

The gross expenditure on R&D (GERD) measures both current (such as labour and operating costs) and capital expenditures (such as land, buildings and other structures, vehicles, plants, software, machinery and equipment) related to R&D activities. It indicates the R&D intensity of a country – both in the public and private sectors. Figure 7.1 exhibits that there is a two-fold growth in Malaysia's R&D intensity (as represented by the percentage of GERD over gross domestic product (GDP)) during the period of 2004-2014, from 0.63 in 2004 to 1.26 in 2014. The total amount allocated has increased nearly five-fold from about RM2.84 billion in 2004 to RM13.97 billion in 2014. Most of the investments are for current expenditure rather than capital investment. However, as reported in the IMD World Competitiveness Yearbook 2016, the R&D intensity of Malaysia is considered lacking behind when compared to other countries in the region such as the Republic of Korea (4.29), Japan (3.59), Taiwan (3.00) and Singapore (2.20).



Source: Adopted from National Science, Technology and Innovation Report 2016

Figure 7.1: Gross Expenditure on R&D, 2004-2014

Since 1980s, the Malaysian government has been given a high commitment in strengthening the national STI development through the setting up of various R&D and innovation funding mechanisms – both fiscal and non-fiscal. An extensive range of grants, loans, incentives and programmes have been designed and implemented by various ministries and agencies to support activities at different stages, namely pre-R&D or ideation, research, development, and commercialisation. MOSTI has always been one of the key ministries in designing and implementing the various funding mechanisms related to STI development. There are four R&D clusters, which are the priority areas set by MOSTI, namely, S&T Core, Industry, Sea to Space, Biotechnology, ICT and Nanotechnology. The fund division is responsible for managing funds related to these four clusters.

Knowledge- and Technology-Intensive Industries

The level of value added, and knowledge-intensive activities indicate the technological capabilities of Malaysia's industries. The Science and Engineering 2018 Report by the United States National Science Board defines Knowledge- and Technology-Intensive (KTI) to include three sub-sectors, namely:

a) Knowledge-intensive (KI) services (business, financial, communications, education and health),
b) High-technology (HT) manufacturing (aerospace, communications and semiconductors, computers and office machinery, pharmaceuticals, and scientific instruments and measuring equipment); and
c) Medium-high-technology (MHT) industries (motor vehicles, electrical machinery and apparatus, chemicals excluding pharmaceuticals, railroad and other transportation equipment, and machinery and equipment).

Table 7.2 demonstrates the share of value added KTI, HT and KI in Malaysia's GDP. Although the value terms of value added has been increased by 38.7% from about USD51.6 to USD71.6 billion during the period of 2008-2016, the share of value added of GDP has been consistent

over the years in the range of 22-24%. The segment of commercial KI services has contributed over half of the overall KTI value added in the range of 55-62%. Between HT and MHT, the share of HT in value added has overtook MHT since 2012, and the margin is getting wider since then.

Table 7.2: Malaysia's KTI Industries Value Added and Share in GDP, 2008-2016

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Nominal GDP ($USD millions)	230,812	202,257	255,018	297,989	314,412	323,280	338,073	296,285	296,359
Value added of KTI:									
- $USD (Millions)	51,643	47,404	59,460	66,961	73,384	77,138	79,830	71,168	71,615
- As % to GDP	22.4	23.4	23.3	22.5	23.3	23.9	23.6	24.0	24.2
Contribution by Sectors (%):									
- Commercial KI[1]	55.8	61.9	60.8	60.4	59.7	59.3	59.0	57.8	58.5
- HT manufacturing[2]	19.7	14.9	15.4	16.4	17.4	19.3	19.7	19.2	19.1
- MHT manufacturing[3]	19.0	17.2	18.0	17.3	17.1	15.5	15.3	16.5	15.8

Note: [1] Includes business, financial, communications, education, and health.
[2] Includes aerospace, communications and semiconductors, computers and office machinery, pharmaceuticals, and scientific instruments and measuring equipment.
[3] Includes motor vehicles, electrical machinery and apparatus, chemicals excluding pharmaceuticals, railroad and other transportation equipment, and machinery and equipment
Source: Data extracted from Science and Engineering Indicators 2018 (National Science Board, 2018)

Table 7.3 provides details of the trade activities in Malaysia's KTI industries. HT products have been dominating Malaysia's KIT exports and this is followed by MHT products. Although the export of commercial KI activities are the lowest among the three, the growth of export rate at 48.0% is impressive. Similar patterns can be observed in terms of imports of the KTI industries. In terms of trade balance, only HT products have shown a trade surplus during the period of 2008-2016. Both commercial KI services and MHT products experienced an extremely high trade deficit at 167.3% and 253.1% respectively.

Table 7.3: Trade in Malaysia's KTI Industries, 2008-2016

	2008	2009	2010	2011	2012	2013	2014	2015	2016	Growth (%)[1]
Exports of:										
- Commercial KI	6,082	5,979	7,517	9,708	11,451	11,829	10,587	8,940	9,001	48.0
- HT products	71,692	71,661	83,798	85,010	80,322	81,048	86,502	83,501	85,309	19.0
- MHT products	34,729	27,490	37,002	44,987	44,564	45,135	45,662	42,837	40,767	17.4
Imports of:										
- Commercial KI	8,104	8,419	10,884	12,924	14,499	15,272	14,567	13,448	14,406	77.8
- HT products	44,710	39,311	54,638	52,135	52,978	54,770	55,726	51,355	54,529	22.0
- MHT products	36,956	30,657	42,149	47,650	52,641	52,616	51,876	47,817	48,631	31.6
Trade balance										
- Commercial KI	-2,022	-2,440	-3,367	-3,216	-3,048	-3,443	-3,980	-4,508	-5,405	(167.3)
- HT products	26,982	32,350	29,160	32,875	27,344	26,278	30,776	32,146	30,780	14.1
- MHT products	-2,227	-3,167	-5,147	-2,663	-8,077	-7,481	-6,214	-4,980	-7,864	(253.1)

Note: [1] Figures in parentheses indicate percentage of growth in trade deficit.
Source: Data extracted from Science and Engineering Indicators 2018 (National Science Board, 2018)

Table 7.4 shows the share of Malaysia's HT and MHI industries in manufacturing sector during 2008-2016. The overall shares of HT industries have slightly increased from 18.0 to 21.0% while the share of MHI is quite stagnant at the range of 17%. Both HT and MHT are not the main contributors to the manufacturing sector value added in Malaysia. Semiconductor industries dominated more than half of the value added of HI; whereas the performance of the computers and office machinery industries shows a downward trend. In the case of MHI

industries, chemicals industries are the main player. This is followed by motor vehicles, trailers and parts industries.

Table 7.4: Share of Malaysia's HT and MHT Sub-Sectors in Manufacturing Value Added (%), 2008-2016

	2008	2009	2010	2011	2012	2013	2014	2015	2016
All manufacturing industries ($USD million)	56,689	48,138	59,760	69,492	72,749	73,859	77,422	67,539	65,173
Overall HT (%)	*18.0*	*14.7*	*15.3*	*15.8*	*17.5*	*20.2*	*20.3*	*20.3*	*21.0*
- Semiconductor	9.0	8.2	9.4	9.6	10.7	13.1	13.2	13.0	13.6
- Computers & office machinery	5.3	3.4	2.9	3.2	3.7	3.8	3.5	3.4	3.3
- Communications	1.7	1.1	1.0	1.0	1.1	1.1	1.3	1.2	1.3
- Testing, measuring & control instru.	1.0	1.0	0.9	0.8	0.8	0.8	0.7	0.8	0.9
- Aircraft and spacecraft	0.6	0.5	0.7	0.8	0.9	1.0	1.1	1.3	1.3
- Pharmaceuticals	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.6
Overall MHT (%)	*17.3*	*16.9*	*17.9*	*16.7*	*17.3*	*16.2*	*15.8*	*17.4*	*17.4*
- Chemicals (excl. pharmaceuticals)	9.3	9.2	9.8	8.9	9.0	8.4	8.1	8.3	8.2
- Motor vehicles, trailers & parts	2.8	3.0	3.4	3.3	3.5	3.4	3.4	4.1	4.0
- Machinery & equipment	2.6	2.6	2.6	2.4	2.4	2.3	2.2	2.6	2.6
- Electrical machinery	2.4	2.1	2.0	2.0	2.1	2.0	2.0	2.2	2.3
- Railroad & other transportation equip.	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2

Source: Data extracted from Science and Engineering Indicators 2018 (National Science Board, 2018)

Towards Industry 4.0: Issues and Challenges

Similar to other countries, Malaysia is currently facing the emerging exponential change driven by technology and innovation. Industry 4.0, which is based on cyber-physical production system and distributed mode of manufacturing, is one of the challenges that requires an immediate and serious attention by policymakers. However, before Malaysia is ready to venture into Industry 4.0, it is important for us to recognise the following limitations in our STI ecosystem:

a) *Governance and Institutions* – As a whole, Malaysia's STI governance is featured by a multiplicity of advisory committees and councils as well as ministries and agencies engaged in STI policy making, funding and implementation (OECD, 2016). However, such complicated framework has resulted in the risk of redundancy of work among the various entities. During the launching ceremony of the Science Outlook 2017 on 3 April 2018, the ASM indicates that there are about 157 agencies, statutory bodies or institutions; 46 national policies; 27 councils related to STI development in the country. Although the National Science Council (NSC) has been established in 2016 to provide better co-ordination of STI development, it is still too early for us to foresee the impact of NSC.

b) *Education and Skilled Workforce* – The number of STEM graduates is relatively low in comparison to non-STEM graduates and it is far from the target of 60%. This might be due to the unattractive career path in STEM disciplines. In addition, the quality of students is considered low compared to neighbouring countries in the region as reflected in both the PISA and TIMMS studies. There is similar issue for the TVET programmes. The 10th MP reports that generally only 10% of Malaysian students enrol in upper secondary level technical and vocation education whereas the average enrolment rate for OECD nations is 44% (EPU, 2010). From the supply side, this

signals that Malaysia TVET is not producing sufficient talent pool for the need of the industry. Moreover, the TVET graduates produced are still not fully aligned with the industry's demand. As reported in the 11th MP, though the number of jobs increased over the last five years, most of them were semi-skilled occupations that in turn contributed to relatively low labour productivity gains (EPU, 2015). At the same time, the Global Human Capital Report 2017 indicates that the enrolment rate for Malaysia's vocational education is ranked 67 out of 130 economies that were surveyed.

c) *R&D Investments and Funding Programmes* – More than 70% of R&D investments is for current expenditures such as labour, operating and maintenance costs. The existent of too many entities has caused resources and funds to be stretched thin besides weak coordination, especially in the monitoring and evaluation of STI related activities. An efficient and effective system of monitoring and evaluation of the funding programmes are not clearly designed and implemented. Thus, the real impact of the funding programmes is unknown. Although the recommendation to establish the Research Management Agency (RMA) as a central agency to host all the funding programmes has long been discussed and debated, the status of RMA is still unclear.

d) *Knowledge and Technology Intensive Industries* – Data on KTI industries performance shows that HT and MHI manufacturing are not the main contributors to the manufacturing sector value added in comparison to KI services industries. Also, the growth rates of HT and HTI exports – a proxy to level of technology capabilities of the industries, are less impressive if compared to KI services industries. Several main sectors critically linked to Industry 4.0, such as semiconductor; computers and office machinery; communications; testing, measuring and control instruments; and machinery and equipment are not showing encouraging progress in terms of manufacturing value added.

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Chapter Eight
Do Export Statistics Reflect Technological Capability? The Case of ASEAN

Kee Cheok Cheong and Shiau Peng Chew

Introduction

It has been argued on theoretical grounds that developing countries advance economically as a result of growing technological capability. In this process, not only will production embody more value added but also more high-tech products will be exported. Korea and Taiwan, two out of the four Asian "tigers" in the second wave of rapid development are examples of this growth strategy. Zhu and Fu (2013) using a cross country panel data set posited a set of determinants of export upgrading.

Some also associate globalization and trade liberalization with technology upgrading. Furata (2015), studying Indian manufacturing firms, found exporters' total factor productivity increased when trade costs fell. However, more recently, countries further back in the development chain have also seen their share of high-tech exports rise significantly.

In the relationship described above, the extent of technology upgrading and the technological intensity of exports would be closely linked. But is this inevitable? There has been no story of catch-up growth since the rise of Taiwan and Korea. Srholec (2005: 3), quoting Lall (2000), therefore asks whether the positive data showing up in exports in countries like Malaysia is "a statistics illusion". Developing countries being incorporated into international production chains is cited as a reason explaining this phenomenon.

This short chapter looks at domestic production and export link in the context of ASEAN, where technological capability varies considerably from country to country. To the extent where disconnect exists, it will attempt an explanation from the perspective of exports. In doing so, it supplements research on domestic constraints to technological upgrading (e.g. Intarakumnerd et al, 2015; Rasiah, 2010)

Technology Intensity of Exports

Table 8.1 shows the technology intensity of ASEAN country exports for the period 2010 – 2016. ASEAN member countries, while showing a wide range of high-tech export shares (Singapore, the Philippines and Malaysia) have high export shares. Vietnam and Lao PDR have also seen their shares of high-tech exports rise. Resource exporters Brunei, Indonesia, and Myanmar have the lowest shares of high-tech exports.

For these countries, high-tech exports most likely consist of electronic components and electrical equipment (E&E).[8] Countries like the Philippines, Malaysia and increasingly Vietnam are participants of global supply chains in electronics which has also become a mainstay of their manufacturing sector.

[8] E&E exports include items exported under the following HS 2-digit classifications – 84, 85, 90, 91 and 92. Scientific instruments have been included.

Table 8.1: ASEAN: Share of High-tech Exports in Manufactured Goods Exports, 2010-2016

Country/Year	2010	2012	2014	2016
Brunei	n.a.	12.8	7.8	17.9*
Cambodia	0.1	0.1	0.5	0.4
Indonesia	9.8	7.3	7.0	5.8
Lao PDR	6.6	8.7	24.9	33.6
Malaysia	44.5	43.7	43.9	43.9
Myanmar	0.0	1.0	0.6	7.6
Philippines	55.2	48.8	49.0	55.1
Singapore	49.9	45.3	47.2	67.4
Thailand	24.0	20.5	20.4	21.5
Vietnam	8.6	20.5	26.9	n.a.

* 2015 value
Source: UN Comtrade Database

The significance of these exports would suggest that these countries have a comparative advantage for the electronics sector. This is confirmed in Table 8.2, where the revealed comparative advantage (RCA) coefficients for this sector are all greater than one for all countries except Indonesia, and considerably greater than one for Malaysia, the Philippines and Singapore. However, RCAs implicitly assume arms-length trade which global supply chain-related trade is not. Since the decision to locate parts of the supply chain rests with multinationals, RCAs may simply reflect MNCs' perceptions of a host country's comparative advantage in respect of that part of the supply chain that the MNC intends to locate in a host country.

Table 8.2: Selected ASEAN Countries: Revealed Comparative Advantage Coefficients for Electronics, 2010-2016

Country/Year	2010	2012	2014	2016
Indonesia	0.37	0.36	0.35	0.34
Malaysia	1.63	1.53	1.50	1.54
Philippines	1.44	2.20	2.03	2.10
Singapore	1.85	1.77	1.75	1.83
Thailand	1.20	1.17	1.20	1.13
Vietnam	0.54	1.02	1.18	1.34

Source: Authors' estimates.

Indicators of Domestic Technological Capability

Indicators of domestic technological capability are broadly of two types. The first consists of country level indicators compiled by different organisations under alternative auspices. The second deals with specific characteristics evidencing or attributes of technological capability. Of the former, we use the Technological Readiness Sub-Index that is a component of the Global Competitiveness Index of the World Economic Forum. Data for the technological readiness sub-index show that outside of Singapore, which is ranked in the top decile of over 100 countries, all other ASEAN countries do relatively poorly (Table 8.3). Malaysia is the next most highly ranked, at just below rank 40. The Philippines, the other big-hitter of high-tech exports, ranks in the bottom half of countries.

Table 8.3: ASEAN: Country Ranks of Technological Readiness Sub-index, 2010-2016

Country/Year	2011/2	2013/4	2015/6	2017/8
Brunei	57	71	n.a.	60
Cambodia	110	97	105	97
Indonesia	94	75	85	80
Lao PDR	N.a.	113	119	110
Malaysia	44	61	47	46
Myanmar	n.a.	148	138	n.a.
Philippines	83	77	68	83
Singapore	10	7	5	14
Thailand	84	78	58	61
Vietnam	79	102	92	79
Total no. of countries	142	148	140	137

Source: WEF Global Competitiveness Report 2011-12, 2013-14, 2015-16, 2017-18

The picture looks better when viewing the share of medium and high-tech manufacturing value added in total manufacturing value added (Table 8.4). Here, Malaysia, the Philippines and Thailand all have shares above 40%, with Vietnam joining the group in 2015. Singapore is the standout at over 80%. To the extent this pattern depicts production in global supply chains and is consistent with that portrayed by exports, it does not say much about technological capability, however.

Table 8.4: ASEAN: Share of Medium- & High-tech Manufacturing Value-Added in Total Manufacturing, 2010 & 2015

Country/Year	**2010**	**2015**
Brunei	3.32	3.32
Cambodia	0.26	0.26
Indonesia	40.3	35.1
Lao PDR	n.a.	n.a.
Malaysia	42.6	42.6
Myanmar	11.6	6.6
Philippines	45.7	46.0
Singapore	84.8	80.4
Thailand	43.8	40.7
Vietnam	25.4	40.4

Source: UNIDO: Industrial Development Report 2018, Annex B3.

Another indicator portraying specific attributes of technological capability, specifically research and development (R&D) expenditure as percentage of GDP and patent applications, reveal much the same story as that emerging from the macro-indicators described above. Table 8.5 shows ASEAN countries expenditure as percentages of their respective GDPs, benchmarked against the newly industrialized economies of Korea and Taiwan, as well as China as the emerging science and technology powerhouse.

Table 8.5: ASEAN and Selected East Asian Economies: R&D Expenditure as % of GDP, 2010-2016

Country/Year	2010	2012	2014	2015
Brunei	n.a.	n.a.	n.a.	n.a.
Cambodia				0.1
Indonesia	0.1 (2009)		0.1 (2013)	
Malaysia	1.0	1.1	1.3	1.3
Philippines	0.1 (2009)	0.1 (2011)	0.1 (2013)	n.a.
Singapore	2.0	2.0	2.2	n.a.
Thailand	0.2 (2009)	0.4 (2011)	0.5	0.6
Vietnam	n.a.	0.2 (2011)	0.4 (2013)	n.a.
China	1.7	1.9	2.0	2.1
South Korea	3.5	4.0	4.3	4.2
Taiwan	2.8	3.0	3.0	3.0

Source: World Development Indicators; OECD

Leaving aside Singapore and the resource exporting countries, only Malaysia spends 1% or more of its GDP for R&D. Thailand spends about half that share in 2015 while Vietnam has also increased its share but from a very low base. The Philippines spends minimally (0.1%) on R&D. These proportions are far less than the minimum of 2% which advanced countries spend on R&D to stay at the frontier of technology. China, although not yet an advanced country, has achieved that percentage by 2014, while Korea's and Taiwan's R&D spending exceed that threshold by quite a margin.

Explaining the Discrepancy

The explanation of this discrepancy comes from the fact that the share of high tech exports has to do with global supply chains in electronics locating in these countries (Gangnes and Van Assche, 2010). These chains are controlled by MNCs, which locate production of parts of the chain in a country which possesses comparative advantage in that segment of production. Host countries have limited leverage over their segments of the supply chain and likewise the technology embodied in that segment. For ASEAN countries except Singapore, their comparative advantage is still defined by their relatively low labour costs rather than technological sophistication (HKTDC, 2017)

The intensive participation of ASEAN countries in these chains can be shown by high estimated values of the Grubel Lloyd Index, the most commonly used indicator of intra-industry trade (IIT) (Table 8.6).[9] The closer the index is to the value 1 the larger the proportion of intra-industry trade. Since the index is calculated as the magnitude of IIT divided by total trade in a sector, it can be interpreted as the share of IIT in total trade in a sector.

[9] The Grubel Lloyd Index, developed in 1975, remains the most commonly used for measuring the intensity of intra-industry trade. A value of one for the index signifies complete intra-industry trade, i.e., all trade is within the same industry while a value zero signifies the absence of intra-industry trade. To the extent that the level of data aggregation affects what is included or excluded in calculating IIT, the accuracy of the calculated index depends on the extent of data aggregation.

Table 8.6: Selected ASEAN Countries: Grubel Lloyd IIT Indices for Electronics and Electrical (E&E) Goods, 2010-2016

Country/Year	2011/2	2013/4	2015/6	2017/8
Indonesia	0.61	0.53	0.55	0.5
Malaysia	0.92	0.92	0.92	0.90
Philippines	0.92	0.87	0.77	1.0
Singapore	0.87	0.89	0.87	0.9
Thailand	0.96	0.93	0.99	1.0
Vietnam	0.65	0.90	0.94	1.0

Source: Authors' estimates.

Table 8.6 shows the overwhelming importance of IIT in the ASEAN countries with major E&E exports, the sole exception being Indonesia. With the exception of Singapore and possibly Malaysia, location of supply chains in Southeast Asia is often to take advantage of low cost labour in host countries. Labour intensive (relative to other parts of the supply chain) assembly is what ASEAN host countries specialize in. In this situation, the transfer of technology may be limited. It is therefore highly plausible for low domestic technological capability to be compatible with relatively high technology-intensive exports.

It can also be noted that if assembly operations are undertaken, then not much value is added to the products in these chains. One way to test this is to review the value of net exports, which is exports minus imports of the same product, in this case, E&E. This is shown in Table 8.7.

Table 8.7: Selected ASEAN Countries: Net Exports of E&E as % of Manufactured Exports, 2010-2016

Year	2010		2012		2014		2016	
Country	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Indonesia	25.6	-33.1	26.8	-46.7	24.1	-39.9	21.7	-57.7
Malaysia	67.1	9.9	65.6	8.6	67.0	9.7	68.1	12.0
Philippines	69.7	12.3	70.7	15.8	70.9	26.1	75.0	3.1
Singapore	71.6	15.9	67.4	13.3	67.6	15.2	70.2	15.9
Thailand	46.6	3.2	43.4	-6.8	44.0	0.5	45.3	1.1
Vietnam	23.7	-25.8	39.1	-9.0	42.8	-5.0	49.1	-1.3

Source: UN Comtrade Database

Table 8.7 shows the wide disparity between gross export and net export values. For Malaysia, the Philippines and Singapore, and in the near future Vietnam, from shares of gross exports in manufactured exports of around 70%, the net export share of manufactured exports is reduced to less than a quarter of the gross export share. This translates into high import content for these countries' E&E exports.

A more direct way to visualize the domestic contribution of E&E exports is to calculate the value-added of these exports. While such data are unavailable for ASEAN countries, the modest values of net exports suggest that such value-added should be modest. Further, the technology intensity of E&E exports has most certainly originated from imports.

Conclusion

There is a clear disconnect between trade indicators of export performance and domestic indicators of technological capability in ASEAN countries. The source of this disconnect has been shown to be countries' hosting global supply chains. Participation in these chains has contributed to export earnings, provided employment, and stability in exports except in times of global recession. But it is also hostage to decisions made by MNCs over which the host country has no say. And, as shown here, it has done little to upgrade domestic technological capability. Technology transfer has not occurred for ASEAN countries because they are engaged in low value-added, such as assembly operations.

For sectors with global chains, gross exports overstate the actual value of exports contributed by the country, since import content is also counted as exports. Alternative measures, such as export value-added, give a much better picture of a country's export performance. These supply chains are an integral part of the globalization process – the growth of intra-Asian trade owes much to the expansion of these networks in this part of the world (HKTDC, 2017). But globalization is under threat, and protectionist sentiment is on the rise in the US, and in response to the US posture, in Europe. This will have negative consequences on the operations of these global supply chains.

On the positive side, the gradual shift not only of supply chains but also of markets to Asia affords ASEAN countries' MNCs to establish their own supply chains and for these chains to engage in higher value-added activities (Oizumi, 2013). While the possibilities for technology transfer are higher, the primary source of technological capability is still domestic and countries need to develop this capability domestically. For the supply chains themselves, issues are emerging that include timeliness to market, flexibility to vary output in response to changing market conditions, and responsiveness to customer needs, all of which occasioned by the rise of e-commerce, especially in China (Tsang et al., 2015). Reconfiguration of supply chains will result as some ASEAN countries begin to lose their labour cost advantage. For these countries especially, but even for ASEAN member countries as a whole, the need to upgrade technological capability is imperative.

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Chapter Nine
EU's Role as a Proponent for Tech Innovation

Roberto Benetello

Introduction

If one recalls a time when one would watch certain movies and observe the depiction of a world so modernised and advanced, one would certainly raise the personal question as to whether such feats would be even possible to realise. In this current day and age, what was initially seen as visualisation is now the centrepiece for technology, as nations are building up to the concept of digitalization and racing to be at the forefront of the 4th Industrial Revolution (IR 4.0). The utilisation of Artificial Intelligence, robotics and machine learning in various sectors have proved to be essential in maximising productivity and have assisted organisations in acquiring these technologies to realise their economic potential at astounding rates. Such is the case for the European Union, which is seen as a potential digital hub due to its large market size, which may increase baseline projections of GDP up to 10%. This means that digitalization will be earning the bloc an additional €2.5 trillion of GDP in 2025, according to McKinsey estimates. Maserati, world renowned sports and luxury car manufacturers from Italy, in 2015 took to venturing into the usage of IR 4.0 advanced solutions in the production of their vehicles. This not only saved 30% of their production time and tripled their production capacity, but also expanded their design variety, as seen with the Ghibli model which comes in 70,000 combinations. It is within the successful adoption of these evolving technologies that we will see significantly enhanced performances and gains of competitive advantage. Apart from the commonly acknowledged notions of labour substitution that stems from the utilisation of AI, one can also see that it will have the potential to enhance productivity; raise throughput; improve predictions, outcomes, accuracy, and optimisation; and enable the discovery of novel solutions and possibilities. These potential opportunities when realised on a larger scale, can definitely translate into empowering growth of productivity for entire economies nationwide and on a macro-regional scale. It must be taken into consideration that the near future will observe a rising aging population, decline of birth rates, and dwindling interest towards marital commitment. All of which will act as factors that will lead to slow, if not reducing rate of growth for the European labour supply. Inevitably, productivity growth will need to increase to sustain economic growth, especially in Europe. It is important to look at what measures can be considered essential for Europe to take in the wake of the emerging but surely-to-be vibrant digitalisation market. For the most part, the measures can be observed through aspects such as the embracing and advocating for digitalising industrial development, driving investment towards the direction of technology and digital advancements, as well as consideration towards the question of human capital.

EU's Course of Action

It is imperative that we see Europe assert the role of trendsetter and tastemaker in spearheading the world into the techno era. This can be evident when we start to see European governments set ambitious digitalisation targets for their own public sectors, leading by example while raising efficiency, and improving citizen interaction and delivery of citizen services – as Estonia has done. It is also instrumental that the EU accelerates efforts to complete a 'digital single market', as common legal and regulatory frameworks can enable digital companies to scale within and beyond individual countries, and realise the potential of the single market. In a socially concentrated context, European governments could strongly support the enabling, creation, and growth of large-scale digital platforms and digital innovators. Apart from acknowledging that digital platforms have proved instrumental in boosting cross-border

commerce as well as helping small and mid-level organisations gain global outreach, they also have assisted in the facilitation of job matching.

The EU should also look through the angle of the investor in a sense, to understand what investors are looking for within the digitalization of industrialisation. Within this effort, European governments can strongly advocate for increased investments in digital infrastructure and digital skills and to deepen and expand its digital ecosystem. AI technologies can also be a targeted market for EU investors. This is considering the landscape of the continent itself which has many AI and next gen startups, with vibrant ecosystems in the making in cities including Amsterdam, Barcelona, and Stockholm. The companies around these territories can look at investors' sentiment premised around incentives and access to capital. Another premise the EU can look at is the development of human capital towards the direction of digitalisation. Strategic moves revolving around this sentiment include moves to spur entrepreneurship, business dynamism, and job creation. The argument for this is that new products, new activities, and new business models will be especially important in Europe, as the continent's relatively high wage levels will likely speed up automation adoption. There also needs to be a strong and effective educational base as this will allow both faster digitisation and preparation of workers for the transition. Nations realise this when they start to improve science, technology, engineering, and math (STEM) skills and put a new emphasis on creativity as well as critical and systems thinking. Greater mobility and better matching of talent with opportunity is needed across Europe to increase fluidity. This is where digitalization comes into play, in a sense that digital platforms can support that and open up myriad opportunities for individuals to earn income outside of traditional employment contracts. A rethinking of worker support could serve instrumental for the outflow of ideas such as conditional transfers, adapted social safety nets, different forms of taxation, or even universal basic income may need to be considered and tested, as Finland and the Netherlands are currently doing.

The Digital Market Initiative

The continuous integration of EU member states and the borderless nature of digitalisation states push for the embodiment of the Digital Single Market initiative adopted by the bloc in 2015. The initiative revolves around the pillars, namely: much more liberal access for organisations and consumers to the digitalisation of goods and services; the creation of platforms that enable fair competition for digital networks to actualise their economic potential; and the maximization of overall growth potential of the digital market. As far as efforts and strategizing is concerned, there have been numerous proposals in the spirit of realising the Digital Single Market initiative through various forms of action. One of those forms is the sentiment of investing in digital infrastructures. In September 2016, the EU Commission crafted the European Electronic Communications Code to modernise the current legislative framework for communication in 2009. Seeing as how it takes into consideration the emergence of AI technology and elements of digitalisation, it offers a more attractive regulatory environment that will foster investments in top-quality infrastructure and technologies across the EU. In the same year, a goal was set that by the end of 2017, whereby the European Commission will also update the European guidelines that help national telecoms regulators decide when to intervene in markets. Then, there is guaranteeing the free flow of personal data which can be realised through a clear, comprehensive and predictable framework for data storage and data processing services. This will contribute to a more competitive and integrated EU market. Another form of action vital within this push is strengthening the EU's Creative Sector.

In September 2016, two proposals were fronted to the EU Commission which was reforming copyright rules which will guarantee fair remuneration for journalists, publishers and authors and reinforce their position to negotiate for their creative content, while boosting consumers' choice to content online and across borders. Another was an update of European audio-visual media services rules will create a fairer environment for all, promote European films, protect children and better tackle hate speech online. Correlating to that, the same time last year there was a call for the enhancement of European Cyber Security through the formation of a European Cyber-Security Agency to assist Member States in dealing with cyber-attacks, as well as a new European certification scheme that will ensure that digital products and services are safe to use. Boosting E-Commerce in the EU is one form of action that the EU Commission have taken rather dynamic steps in. Earlier in December 2015, it was called for that there should be a modernisation of EU contract rules that would encourage consumers to shop online, as well as businesses to expand without the fear of costing. The following year saw a proposal for regulations on geo-blocking that was proposed to ensure that consumers no longer face unjustified barriers such as being re-routed back to a country-specific website, or asked to pay with a debit or credit card from a certain country. It also saw a revising on parcel delivery for cross-border destinations. The complication this move wanted to address was a situation where sending send a parcel from the Netherlands to Spain would cost currently €13, while to do the same thing in reverse would cost €32.74. Apart from that, in 2016, there was an assertive push that EU Member-states should soon agree on our Value Added Tax (VAT) for e-commerce proposals to allow consumers and companies to buy and sell goods and services easily online. Once agreed by all Member States, the new set-up for VAT rates on e-publications would allow Member States to align the rates on e-publications to those on printed publications ensuring a level-playing field for both products.

Challenging in Embodying the Fourth Industrial Revolution

Despite an assertive push by governments within the EU that behoves them to up their wits in coping with the technological times, the challenges that act as a stumbling block towards achieving this vision of a digitalised Europe must be recognised and strategically resolved to ensure smoothness in this transition. For instance, many barriers still impede the free flow of cross-border data within the European economy; only 15% of EU consumers buy online from another EU country, whereas nearly 50% do so domestically, according to the EU Commission. This may stem from the fear of data theft and manipulation, as well as the fear of having individual cyber security compromised. Threats such as these, topped by the existence of the dark web, a coveted layer of the internet where users of this platform are anonymous and set themselves as untraceable make for rather petrifying possibilities. It must be considered that a digital single market could double the ratio of cross border to national digital trade of goods and services. Digital cross-border flows beyond e-commerce could also increase as companies take advantage of the single market scale. While this is seen as a favourable paradigm, it also translates into higher standards of competency that businesses would need to keep up with to ensure their market survival. It would be a burden on EU member countries to see establishments closing their doors due to the inability to align their own with the wave of digitalisation, which may appear as costly in its earlier stages of bloom. While we've centred the EU as the base of discussion, we cannot downplay the prospects of competitors diving into IR 4.0 and the possibility of nations such as the United States and China surpassing the regional bloc in terms of investment, policy craft, and digital infrastructure development. With Europe aiming to be the digital hub of the world, it would need to be maximising efforts and strategically immobilising the commitment of member states in stepping on the gas to win the rat race. All in all, we see so much possibility in growth trajectory moving in a positive direction when countries take up the call to digitalise the construct of their life quality,

economies and infrastructure. A nutshell contextualisation would say EU members would need to aim for inclusive growth to ensure that everyone profits from the digital dividend; digitalisation cannot remain restricted to a handful of regions or nation-states. The EU's effective coordination of national policies allow for effective knowledge and best practice sharing, emphasise need for specialised support in integrating SMEs into IR 4.0 global value chains. More importantly, to strengthen industry-driven approaches (or bottom-up participation) instead of applying a top-down governance approach, giving a greater say to be involved stakeholders.

Chapter Ten
The ASEAN-EU Comparative Perspective in Science, Technology and Innovation (STI)

Sameer Kumar

Introduction

Agenda to co-operate between ASEAN and EU has been part of ministerial meetings and joint communications since 2007. Research is an investment into our future and both ASEAN and EU have put policies and framework to ensure that the future of its citizens is secure. Blueprints for smart, sustainable and inclusive growth is formulated by both regional blocs in an effort to promoting research, development and innovation in all spheres of science and technology. Such efforts are also expected to finally lead to bolstering of economy and creation of jobs. An analysis of the average business R&D investment from 1995 to 2006 against the GDP per capita of 2011 convincingly showed countries that had higher R&D investment demonstrated higher GDP per capita, and vice versa (Source: Eurostat data). The data reassures that investment into knowledge boosts economic performance of countries. Commercialization of R&D outputs ensures a regular supply of better and innovative products and services. This creates and sustains new markets, paving the way for jobs creation at various levels. Better jobs report is a key indicator of a booming economy.

The ASEAN – EU Plan of Action 2018-22 is one of the most prominent plans for joint R&D co-operation between ASEAN and EU. This plan was replaced by the ASEAN-EU Enhanced Partnership Plan of Action which was active from 2013 to 2017. The Plan of Action is a broad ranging plan encompassing all three pillars of ASEAN. The gist of the STI Component within Economic Co-operation of the Plan of Action is to promote the implementation of APASTI for COST and EU joint action on STI and taking it forward through FP7 and other mechanisms:

> "(a) Continue dialogue between the ASEAN Committee on Science and Technology (COST) and the EU to promote cooperation in science, technology and innovation;
> (b) Promote the implementation of the ASEAN Plan of Action on Science, Technology and Innovation (APASTI) 2016-2025 as a strategic platform for ASEAN-EU Science, Technology and Innovation (STI) cooperation;
> (c) Enhance cooperation of S&T centres of excellence and other S&T stakeholders, including through the EU's Framework Programme and relevant ASEAN mechanisms as well as national programmes in the EU and ASEAN, in areas of mutual interest; and
> (d) Promote the exchange and mobility of scientists and researchers between ASEAN and the EU through exchange programmes and other appropriate arrangements in accordance with the respective laws, rules, regulation, and national policies."
> -- ASEAN EU Plan of Action (2018 – 22) – S&T

APASTI is the Plan for Action on STI brought about by ASEAN Committee on S&T and is active from 2016 till 2025. Mobility of researchers remains an important component of this section of Plan of Action.

There is paucity of evidence to gauge research collaborations taking place between the two regional blocs. But if one were to gauge research collaboration, how could it be done? One of the ways is to take research papers with authorships that have institutional affiliation in both ASEAN and EU countries, as the proxy of research collaboration and analyse the same. Hassan, Haddawy, Kuinkel, Degelsegger, and Blasy (2012) carried out an analysis of research activity in ASEAN related to the EU in FP7 priority areas in the period of observation between 2004 and 2008. The study found that about 85% of EU-ASEAN co-publications were in the fields

of Health, Food, Agriculture, Biotechnology and Environment. However, Salton measure (total collaboration between EU and ASEAN in a FP7 area/total publications in FP7 area) showed Environment area towering over others – inferring high joint research activity in this field. The heightened research activity in this area reflects the concern of Climate change world-over and the serious transboundary haze and deforestation an issue in the ASEAN region of Indonesia, Malaysia and Singapore. Nonetheless, EU produces far more papers than ASEAN and miniscule proportion of this is a joint research activity between ASEAN and EU. This is a matter of concern especially since ASEAN and EU have strong trade relations, but this is not reciprocated through their joint research activity.

The European Union has launched a series of international cooperation network (INCO-NET) projects with the aim to supporting bi-regional policy dialogue (Hassan et al., 2012). The projects promote and structure the participation of third countries in the activities of the Seventh Framework Program for Research and Technological Development (FP7) thematic areas - Nanotechnology; Energy; Health; Food, Agriculture and Biotechnology; Environment; Information and Communication Technology (ICT); and Industrial Technology. As we may notice most of them are core Technology areas that promise to make our lives better. Discussion on FP9 are in the works now.

Horizon 2020 and APASTI

Horizon 2020, the financial instrument implementing the Innovation Union, is EU's flagship initiative aimed at securing Europe's global competitiveness. Running from 2014 to 2020 with a budget of just over €70 billion (or €80 billion in current prices), the EU's new programme for research and innovation is part of the drive to create new growth and jobs in Europe. The instrument has parity with FP7. The signed collaborative projects under Horizon 2020 are mainly in the same areas - as earlier EU Research Programme FP7, namely Health, Food, ICT, Environment, and Nanotechnologies, which indicates a sustained continuity. The initiative is to take ideas from lab to market faster and anyone meeting the eligibility criteria could apply.

In a recent meeting held in July 2018 in Brussels, European Council has confirmed to set-up a European Innovation Council for market-creating innovation under the next EU long-term budget. The Council also invited the Commission to launch a new pilot initiative on breakthrough innovation within the remaining time of Horizon 2020.

ASEAN Plan of Action on STI (APASTI) 2016-2025, adopted at 16th ASEAN Ministerial Meeting on S&T on 6 Nov 2015 in Vientiane, Lao PDR, is very comprehensive - consisting of 4 thrust areas, 6 Goals, 8 Clusters, 9 Focus fields and 43 Priority areas. APASTI maps well with the EU's H2020. There are similarities between the APASTI and EU STI policy objectives, and within its process there are many avenues for collaboration open to researchers.

One of the major initiatives of EU-ASEAN S&T co-operation was demonstrated through the implementation of SEA-EU-NET project, under FP7-INCO, that ran for 4 years, from January 2008 to December 2012. EU contributed majority of the total funding of approximately47 million Euros, with the rest (about 13%) coming from the other beneficiaries. SEA-EU-NET and later SEA-EU-NET 2 played an important role in disseminating and facilitating joint actions by both EU and ASEAN in the field of STI during FP7.

The 'driver seat' effort by the EU to increase the number and quality of joint projects between EU and Southeast Asian counterparts was in line with its policy to contribute to its S&T foundation, thereby meeting its political, social and economic aims. Some of the major issues

with regards to efficient bi-regional co-operation has been lack of awareness of the funding opportunities, complexities in funding systems and weak networks among researchers themselves. Thus, through EU-level approach, efficient systems are incorporated to strengthen S&T dialogue. The annual events known 'STI days' was quite popular and attracted hundreds of participants. The project came to an end in April 2017.

Researchers in Motion or EURAXESS, is a pan-European initiative delivering information and support services to professional researchers, currently under H2020 (Commission, 2018a). EURAXESS ASEAN has been serving researchers in all fields interested in a research career/mobility since 2007. Information services are offered by EURAXESS, and opportunities for jointly funded SEA-EU projects through the Southeast Asia-Europe Joint Funding Scheme (JFS). In JFS, each country funds "their own researchers" according to their respective rules and in principle there is no money crossing borders. Data from DG Research and Innovation (Commission, 2018b), shows that MSCA (Marie Skłodowska-Curie actions) has been quite popular with ASEAN member states. However, there is uneven contribution from the part of ASEAN counterpart – ASEAN member states have been mainly beneficiaries of the EU funds and their own contribution in the joint effort has lesser than EU's contribution. Co-operation agenda is sustained through bottom-up research initiatives by scientists whereas focused policy exchange is brought forward through the top-down approach. There is already extensive joint activity in the areas such as Health (i.e. co-operation in the elimination of infectious diseases), food, technologies (Nanotechnology, ICT), and researcher mobility (Erasmus+ plays a very important role here). In addition, there are proposals at advanced level for management of Water resources (Commission, 2018b)

In the recently held 7th ASEAN-EU Dialogue of S&T held in Myanmar in 2017, there was stress on Joint Funding Scheme (JFS), researchers' mobility and promotion of specific areas such as aquaculture and environment. Held in conjunction with the 10th ASEAN STI Week (ASTIW), the meeting provided an opportunity for the government officials and scientists to discuss STI co-operation with the EU (EURAXESS, 2017), especially in response to depleting natural resources and the threat of Climate change the world is seeing increased impetus to sustainable development efforts. The theme of this ASTIW too was aptly titled "Science, Technology and Innovation for Sustainable, Equitable and Inclusive Growth".

Concluding Thoughts and Suggestions

We heard the first three speakers on STI from the perspective of ASEAN, EU and Malaysia, respectively. They deliberated on the issues, opportunities and challenges of this area. My effort here will be to carve out some of the issues that lay specifically with EU-ASEAN joint or parallel STI initiatives. I will try to remain as succinct as possible here.

These issues are in no way exhaustive. But may serve as indicators. These are primarily STI Issues in ASEAN (vis-à-vis EU) and could be set as priorities of ASEAN, which is also the theme of this ASEAN-EU dialogue (Commission, 2018b):

(1) Low R&D Budget: There is low percentage of investment in R&D in most ASEAN countries, barring Singapore and perhaps Malaysia. It is about 2% in Singapore and 1% in Malaysia to about 0.04% to 0.2% in other ASEAN nations. (Germany has about 3%)

(2) Weak link between public and business sector, and the fact that business sector contributes most of the R&D.

(3) No effort for a giant leap: Since the R&D budget is typically small, businesses focus on small innovation steps.

Here are a few suggestions. In the wake of Industry 4.0, there is need for developing further mechanisms to pursue partnerships and co-operations with other stakeholders in STI. There may be a need for an organisational restructuring for the meaningful delivery of STI agenda. While EU is on tracks with its cutting-edge innovation agenda, ASEAN needs to step up research and turn it into new products and services. Such innovative ecosystem would help propel businesses (especially SMEs) to be ready to enter global markets with their disruptive breakthroughs. For ASEAN-EU joint efforts in STI there needs to be greater appetite for risk taking. For this, favourable regulatory environment is required. Greater government, industry and universities collaboration (or Triple Helix) is needed to take full benefit of fundamental and applied research conducted at the institutions. While EU has a Euro 80 billion H2020 budget with large support to ASEAN counterparts from these funds, ASEAN needs to reciprocate with similar initiative to benefit its EU counterpart. At the moment, ASEAN is largely a beneficiary of EU efforts.

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Chapter Eleven
ASEAN's Experience in Skilled Labour Mobility

Tham Siew Yean

Introduction

The human capital view of economic development emphasises the important role of human capital in economic growth and development through its contribution towards productivity and technology improvements. Traditionally, a country increases its endowment of human capital through investments in education and training. Differences in investments in education as well as the efficacy in educational spending in a country can therefore contribute to the human capital gap between countries, especially between developed and developing countries. Migration of workers, encouraged in part by the differences in the returns to labour, can serve to narrow or exacerbate the human capital gap between countries. For example, skilled labour migration from the developing to the developed world can exacerbate the shortage of skilled workers in the developing world while augmenting skills shortage in the developed world.

Regional groupings such as the European Union (EU), have sought to harness the full potential of a region's human capital by allowing for intra-regional mobility of EU citizens. ASEAN's own model of economic cooperation have also recognised the importance of human capital for the establishment of the ASEAN Economic Community (AEC). Consequently, the free flow of skilled labour was identified as one of the AEC 2015 targets in the AEC Blueprint that was adopted in November 2007. The focus on skilled labour is to facilitate member countries to enhance their economic development by moving towards higher value-added production of goods and services which require the utilization of this type of labour.

The objective of this chapter is to review the initiatives that have been undertaken to promote the mobility of skilled workers in ASEAN based on its own targets in the AEC 2015 Blueprint to the AEC 2025 Action Plan. ASEAN's achievements to date is also discussed while the challenges encountered are synthesised from the literature. The conclusion summarises the main experiences of ASEAN in the mobility of skilled workers.

ASEAN: Plans and Achievements in the Mobility of Skilled Workers

Mobility of skilled workers is used to facilitate the establishment of a single market and production base, which is one of the four key pillars in the Strategic Schedule of the AEC Blueprint (2008-2015) (ASEAN Secretariat, 2018a). To facilitate the movement of professionals, ASEAN initiated Mutual Recognition Agreements (MRAs) in 2005, for eight occupational groupings (ASEAN Secretariat, 2018b). These are engineering, architecture, accountancy, surveying, nursing, medical practitioners, dental practitioners and tourism professionals.

Subsequently, in 2012, the ASEAN member states (AMS) signed two milestone agreements to streamline the movement of specific individuals within the region. The first is the ASEAN Agreement on the Movement of Natural Persons (MNP), which provides the legal framework to facilitate the temporary cross-border movement of people who are engaged in the conduct of trade in goods, services and investment (ASEAN Secretariat, 2018c). These are usually business visitors, intra-corporate transferees, and contractual service suppliers. This agreement applies only to the services sector as it is Mode 4 in the supply of services as encapsulated in the ASEAN Framework Agreement on Services (AFAS) and it is therefore not applicable for the manufacturing sector. Since AFAS commitments are based on a positive approach or the commitments offered for liberalisation by each AMS, there are large variations in the

commitments in terms of sectoral coverage as well as depth of commitments such as the length of stay permitted. The second agreement is the ASEAN Comprehensive Investment Agreement (or the ACIA), which grants entry, temporary stay and work authorization to investors, executives, managers and board members of corporations in the process of committing a substantial amount of capital or other resources (ASEAN Secretariat, 2018d). The ACIA balances out the MNP as it covers all sectors where there are investments. But, neither MNP nor ACIA, apply to individuals seeking employment, temporary or permanent residence, or citizenship in another AMS (Papademetriou, et. al., 2015). The ACIA, in particular, specifically applies only to individuals employed by a registered company in the country of origin.

An important question in the movement of skilled workers is their qualifications and the recognition of these qualifications in other countries. Consequently, in 2014, a common reference framework that enables comparisons of education qualifications across participating AMS was put forward to support worker mobility (or the ASEAN Qualification Reference Framework (AQRF) (ASEAN Secretariat, 2018e). But the framework is to be used for referencing only in order to establish the relationship between the eight-level AQRF and the National Qualification Framework (NQF) or qualifications system of participating AMS. As stated clearly in the web-site, the AQRF acts as an information tool for facilitating the recognition of qualifications and does not replace the national process of AMS.

Despite the number of initiatives launched, the Strategic Schedule of the AEC 2015, showed that the action plan specifically focused on two areas only, which is namely the completion of the MRAs for major professional services and the development of the core competencies for job/occupational skills required in the priority integration sectors (ASEAN Secretariat, 2018a). Nevertheless, as in the case of other ASEAN initiatives, implementation is left to each AMS to undertake. Since the AMS have different capacities and capabilities for implementation, especially in matters requiring technical expertise, progress in implementation varied considerably from one AMS to another. For example, in the matter of submission of notifications of participation after signing the engineering MRA, Lao PDR, Singapore and Malaysia took less than two years each to submit their respective notifications (Mendoza and Sugiyarto, 2017). By contrast, Brunei Darussalam, Myanmar, and Cambodia took the longest at seven, six and five years respectively. Notably, it took Malaysia and Singapore ten years to complete the process needed for the MRA in the engineering MRA. Since professionals who wish to work in other AMS need to register in the ASEAN registry for their respective professions, Table 11.1 shows the number of professionals registered as of 2016.

Table 11.1: Number of Registered Professionals, by Occupation and Country, at February 2016

Country	Engineering		Architecture		Accountancy	
	ACPE	RFPE	AA	RFA	ACPA	RFPA
Brunei Darussalam	6	0	4	0	0	0
Cambodia	30	0	4	0	0	0
Indonesia	746	0	90	0	0	0
Lao PDR	11	0	7	0	0	0
Malaysia	261	5	35	0	0	0
Myanmar	200	0	12	0	0	0
Philippines	174	0	53	0	0	0
Singapore	235	2	78	0	0	0
Thailand	123	0	24	0	0	0
Vietnam	196	0	10	0	0	0
Total	1,483	7	300	0	0	0

Notes: AA: ASEAN Architect; ACPA: ASEAN Chartered Professional Accountant; ACPE: ASEAN Chartered Professional Engineer; RFA: Registered Foreign Architect: RFPA: Registered Foreign Professional Accountant; RFPE: Registered Foreign Professional Engineer.
Source: Mendoza and Sugiyarto (2017)

The largest number of registered professionals are the engineers, while the least are accountants. Indonesia has the largest number of registered engineers, followed by Malaysia and Singapore. However, registration was not followed with mobility as none of the seven RFPE in Malaysia and Singapore has actually moved to these countries to practice their profession. Hence, there were no application to shift to practice in another AMS, despite registration and even though it has been ten years since the MRA in Engineering Services was signed (Mendoza and Sugiyarto, 2017). It should be cautioned though the data used to indicate the mobility of skilled workers may not fully capture what is happening in each country since there are serious data gaps in the mobility of the highly skilled and there are also anecdotal evidence of foreign professionals working in ASEAN. Similarly, it is also important to test if ASEAN initiatives have contributed to the actual movement, however small.

Challenges in Implementation and Practice

Several studies have examined the reasons for the lack of mobility in ASEAN in practice, despite the initiatives and on-going implementation efforts. These studies indicate two main challenges are encountered in moving professionals around the AMS, despite the excess demand prevailing in each country: namely regulatory and non-regulatory barriers.

Regulatory Barriers

In practice, there are strong domestic regulatory barriers in each AMS that restricts the movement of skilled workers. Papademetriou et. al. (2015) lists a sample of these such as constitutional provisions reserving particular occupations for nationals; complex and opaque requirements and procedures for employment visas, including limits on spousal employment of the highly skilled, restrictions on sectors or occupations in terms of the number foreign professionals and skilled manpower allowed, economic and labour market tests to show that there are no locals available for these sectors or occupations, localisation requirements over time, and local language proficiency. Table 11.2 indicates some of these requirements for the medical profession, but it is not confined to these professions only.

These regulatory barriers add on to the burden of skilled professionals who are seeking employment in other AMS so that instead of mutual recognition, "double recognition" have been used to describe the dual process that have emerged in ASEAN (Mendoza and Sugiyarto, 2017). The first recognition process refers to the ASEAN process while the second refers to the national process. Given these regulatory burdens, it is not surprising that actual mobility is limited.

Table 11.2: Number of ASEAN Countries with Additional Requirements, by Occupation

Requirements	Medical	Dental	Nursing
Practice limited to specialists	3	0	0
Local language requirements	5	2	6
English language requirements	1	3	5
Degree must be earned from a recognised or accredited institution	4	0	0
Minimum years of study	0	7	4
Must pass national licensure exam	2	5	7

Source: Mendoza and Sugiyarto (2017)

Non-Regulatory Barriers

Institutional challenges have been raised as one of the key barriers for the successful implementation of the MRAs in ASEAN (Mendoza and Sugiyarto, 2017). Resource constraints remain an issue as implementation of MRAs. This includes both financial as well as non-financial resources such as human resources as governments need to provide resources for training, certifications and other due processes for the MRAs. Developing countries in ASEAN that face fiscal constraints are hard pressed to put in the necessary resources for the implementation of many of the ASEAN initiatives, including the MRAs (Tham and Basu-Das, 2015). This is especially pertinent when domestic consensus is lacking in the first place. Since there are several stakeholders involved, implementing the MRAs also require coordination efforts among the different government agencies that are involved. But bureaucratic bottlenecks and turf mentalities as well as inter-ministry rivalries may obstruct coordination efforts. The less developed AMS may face additional problems as they may not have the necessary regulatory authorities or even legislations and laws in place to govern their own professionals, much less at a cross-border level. For example, The Council of Engineers in Thailand, only covers seven engineering disciplines: chemical, civil, electrical, environmental, industrial, mechanical, and mining and not others (Mendoza and Sugiyarto, 2017).

The second non-regulatory barrier pertains to demand side variables such as the demand to work in ASEAN and the demand to hire ASEAN professionals as the initiatives focus on supply-side issues. There is no comprehensive data to indicate that ASEAN professionals are interested to work in other AMS (Papademetriou et. al., 2015) since socio-cultural, economic and language differences continue to divide the region that has yet to develop a strong regional identity and consciousness as can be seen in the EU. The development gap in terms of wages, exchange rates and living conditions may also deter mobility as professional workers seek a better life for themselves and their families when they venture abroad to work. Thus, the focus of professional migrant workers is on the overall living environment, including schooling for their children. There is therefore a tendency for the professionals from developing countries to seek employment in developed countries rather than another developing country.

Likewise, it would appear that employers and professional associations are not necessarily fully involved in the implementation of the MRAs, although there are on-going efforts to increase awareness at the level of the ASEAN Business Club and ASEAN Business Advisory Council (Papademetriou et. al., 2015). However, for businesses to hire a foreign professional, it must make economic sense in terms of the workers' ability to contribute towards better productivity, efficiency and higher profits for the firm, notwithstanding supply shortages. There are as yet, not enough studies to show that this is the case for ASEAN, to motivate firms to move towards hiring foreign ASEAN professionals, except in perhaps an acute labour shortage situation.

Conclusion

Although the AEC was launched in 2015, numerous targets in the AEC Blueprint were not met and these were carried forward to the AEC 2025 vision (ASEAN Secretariat, 2015). Likewise, the movement of skilled labour was also carried forward to the 2025 vision, to specifically include the movement of business visitors who are engaged in trade in goods, services or investments. It reiterates that the objective for facilitating the movement of skilled labour is to allow these professional practitioners to practice in other AMS. The Consolidated Strategic Action Plan for the AEC 2025 indicates that there are two main priority actions, namely to expand and deepen commitments under the ASEAN Agreement on MNP where appropriate; and reduce, if not standardise, documentation requirements (ASEAN Secretariat, 2018f).

The review in this chapter indicates that the issue of skilled labour mobility does not necessarily lie in the commitments but in the implementation issues. While ASEAN has made progress in this area, it has been slow and laborious. In particular, better data collection on the professional workers who are actually working in each AMS is badly needed as the applications of registered foreign professionals to work in another AMS may not fully capture the situation on the ground. More studies are therefore needed to ascertain the actual extent of mobility and as to whether ASEAN initiatives have contributed towards this mobility, however limited. Though the reduction of documentation will be helpful in reducing bureaucratic delays, perhaps greater attention to general principles of transparency and free information-sharing on processes and procedures may help the professional workers to better understand what is needed to work in another AMS.

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Chapter Twelve
Fundamental Characteristics of Asian and European Labour Markets

Fumitaka Furuoka, Aida Idris, Beatrice Lim and Rostika Petrus Boroh

Introduction

This chapter examines the main characteristics of labour market in Asia and Europe. The main feature of Europe is that unemployment rates are persistently high. In Europe, unemployment rates tend to increase when a country faces an economic crisis and will reduce when the economy recovers from the crisis. However, the level of reduction often does not reach pre-crisis rates. This appears to be mainly due to provisions of generous unemployment benefits in Europe, where policymakers often have to make a paradoxical balance between labour market flexibility and employment protection.

By contrast, the main feature of Asian unemployment is that unemployment rates are quite stable, whereas for Europe they are persistently high. In Europe, unemployment rates tend to increase when a country faces an economic crisis and will reduce when the economy recovers from the crisis. However, the level of reduction often does not reach pre-crisis rates. In Asian countries, unemployment rates do not seem to be affected by economic conditions. Some possible factors contributing to this trend include a weaker unemployment protection mechanism, a strong existence of an informal sector and a prevailing culture of self-help in the region.

Main Characteristics of Labour Market in Europe

Persistently high unemployment rates among European countries have been a well-known fact among economists since the 1980s. Some of the leading researchers who have debated on this issue include two American economists, Olivier Blanchard of Massachusetts Institute of Technology and Lawrence Summers of Harvard University. They argue that, particularly in the 1980s, unemployment rates in Europe would increase during economic crisis but would not decrease to original levels even after the end of the crisis. This interesting phenomenon in the European labour market is called "unemployment hysteresis" (Blanchard and Summers, 1986).

In the European labour market, employment protection mechanisms, such as unemployment insurance, is seen as a potential cause of persistently high unemployment rates. It has been argued that the strong existence of employment protection in the region can prevent the labour market from becoming flexible enough to absorb negative shocks in the labour market.

There is an on-going debate on the relationship between worker protection provided by labour market institutions and the flexibility of labour market. This debate is known as the labour market flexibility debate. Some economists who believe in the importance of flexibility argue against employment protection. These neoclassical economists promote the importance of natural rates of unemployment, the efficiency wage theory and the job search theory to explain the market equilibrium of labour supply and demand. According to this school of thought, unemployment insurance can be seen as a "social wage" which contributes to high unemployment. This line of argument is promoted by some international organisations, such as the Organisation for Economic Cooperation and Development (OECD) and the International Monetary Fund (IMF). Thus, this economic thought is also known as the OECD-IMF orthodoxy for the labour market. For example, the OECD has proposed the OECD Jobs Strategy for all its member countries. Under this policy recommendation, the OECD suggests that all member countries should promote higher flexibility of the labour market and

recommend some policy reforms with respect to "working time", "wage and labour costs", "employment protection legislation" and "social security benefits" (Berg and Kucera, 2008).

Alternatively, other economists view employment protection as an important labour market policy to ensure decent working conditions for all workers. A number of international organisations, such as the International Labour Organisation (ILO), have made recommendations to its member countries to establish appropriate labour market policies and action plans to protect the rights of workers. These recommendations are known as the "ILO Standards" (Berg and Kucera, 2008).

Thus, a most crucial challenge in the European labour market is to strike an effective balance in the relationship between labour market flexibility and employment security. On the one hand, policymakers need to ensure that the labour market is business-friendly by making it more flexible. On the other, there is an urgency not to destroy the existing high standard of employment security in the region. This is a fundamental paradox in labour market dynamics. As a result of this paradox, there is a rise of 'non-standard' labour in Europe. More precisely, during an economic crisis, European employers may face a difficulty to decrease the wage level of workers. This is mainly because strong wage-setting mechanisms, such as the employment protection laws, will resist any negative change in wages. In response to this, European employers may try to increase the usage of part-time workers who are not protected by employment protection laws. It means that the presence of non-standard workers has played the role of a "cushion" during economic crisis in the region (Muffels, 2008).

At the same time, there has also been a tremendous change in work values across Europe. Current trends in demographic, cultural, economic and legal environments have had an impact on many aspects of employee recruitment and retention strategies globally (Idris, 2014; Vaiman et al., 2012). Specifically, the quest for work-life balance, considered nowadays as a basic requirement by an increasingly enlightened workforce, has contributed to the demand for flexible working practices (Smith et al., 2011). Although monetary factors such as salary, bonus, and allowance are still important, non-monetary benefits including flexible working are increasingly being used as a tool in managing employee turnover. More significantly, Arvanitis (2005) argues that monetary benefits are not sustainable drivers of job motivation and commitment since social value shifts have resulted in a greater concern for work-life balance among the younger generations.

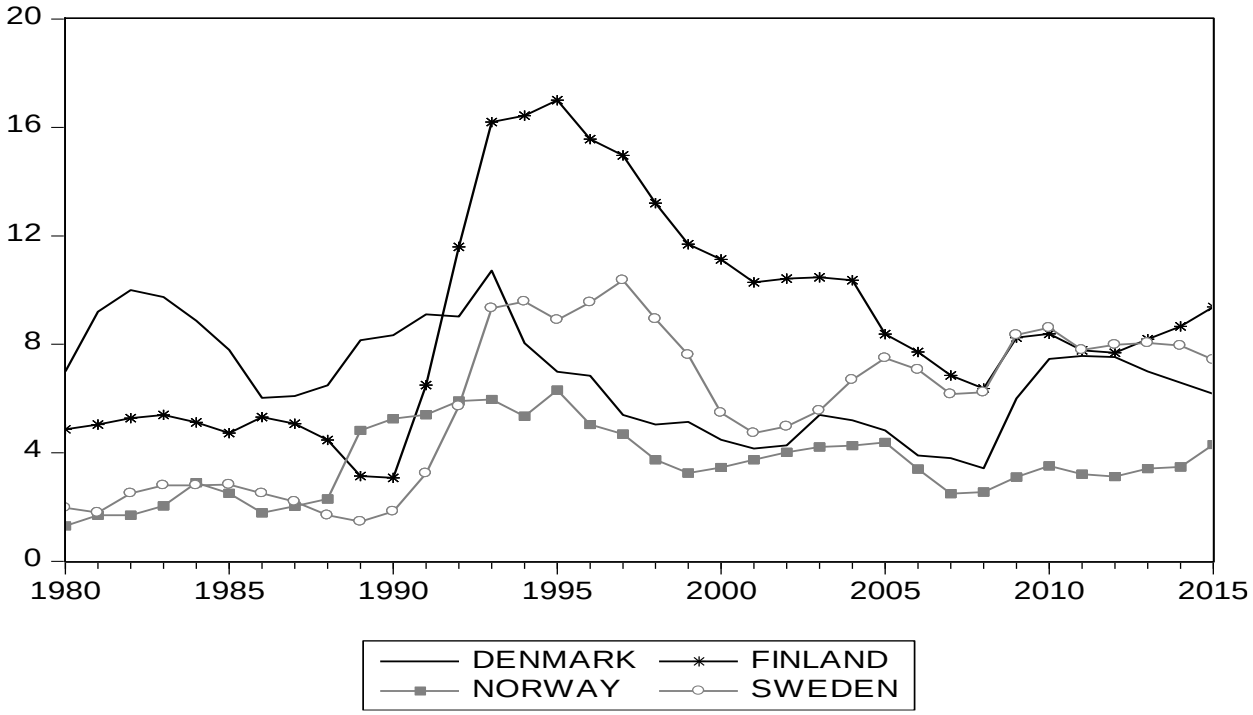
Consequently, there has been a decline in permanent, full-time employment within the region. The standard career pattern in European countries is shifting toward a more diverse working experience with a richer variety of the non-standard work forms, such as flextime and flexplace, part-time employment, temporary employment and labour-sharing. In the 1980s, only ten percent of European workers were employed as part-time employees. By the 2000s, this figure had increased to around twenty percent. With such a rapid increase in the number of workers engaged in non-standard employment in recent decades, currently a fundamental question in the European labour market is how to provide sufficient protection to this category of workers (Muffels, 2008).

In the Nordic countries, part-time employment is a manifestation of 'flexicurity' (a combination of flexibility and security) which allows women more options depending on the stage of their life-cycle without having to opt for career breaks (Kinoshita and Guo, 2015, p.16). The flexibility in work arrangements allows women to juggle their work and family responsibilities. The Nordic model of female labour supply which emphasises on work-life

balance is highly successful, with Norway having the highest rate of female labour force participation among OECD countries (Kinoshita and Guo, 2015). Recent statistics show that about 83 percent of mothers with young children are employed (Kinoshita and Guo, 2015). This is attributed to comprehensive parental provisions and subsidised child day-care for working parents.

Nordic countries are often known as 'welfare states' and generally provide ample social security to their workers (Furuoka, 2017a). For example, Finland extends generous public support to families through high levels of maternity and parental leave allowances, long periods of payment and excellent day-care service provisions (Kinoshita and Guo, 2015). Additionally, strong gender equality in Nordic countries provides equal opportunity and labour market access to women. The utilisation of female workers, especially in view of their rising education level in the long term, can contribute to a country's economic growth. Non-standard work forms provide more alternative to workers, enabling them to remain employed while enjoying greater personal autonomy, increased earning potential, flexibility, and more control over work-life balance (Walker, 2011). This can potentially reduce unemployment problems. Furuoka (2017a) suggests that this explains why some European countries, such as Nordic welfare states, may not have problems of high unemployment.

Figure 12.1 presents the unemployment rates of Nordic countries from 1980 to 2015 (World Bank, 2018). Despite some occasional differences among them, there is still a common pattern in the unemployment dynamics of these countries, especially since the mid-2000s. In the 1980s, the unemployment rates in Nordic countries, with the exception of Denmark, were low, at four percent or less. Although the mid-1990s saw a rise in these figures, instances of high unemployment were relatively short-lived compared to other European countries such as Germany, France, Spain and Italy. Norway, in particular, has maintained an unemployment rate of approximately four percent since the late 1990s, while the rates for Denmark and Sweden have been stabilising at less than eight percent over the past ten years. In other words, these countries seem to have smaller unemployment issues than other European economies. It should be noted that Norway is one of the wealthiest countries in the region and the country provides well-established social security for its workers. Although Norway has generous provision of social security protection, the country does not face the problem of unemployment hysteresis. As suggested earlier, this is likely a result of its flexible working conditions and non-standard employment practices.



Source: World Bank (2018)

Figure 12.1: Unemployment rates in Denmark, Finland, Norway and Sweden (1980-2015)

Main Characteristics of Labour Market in Asia

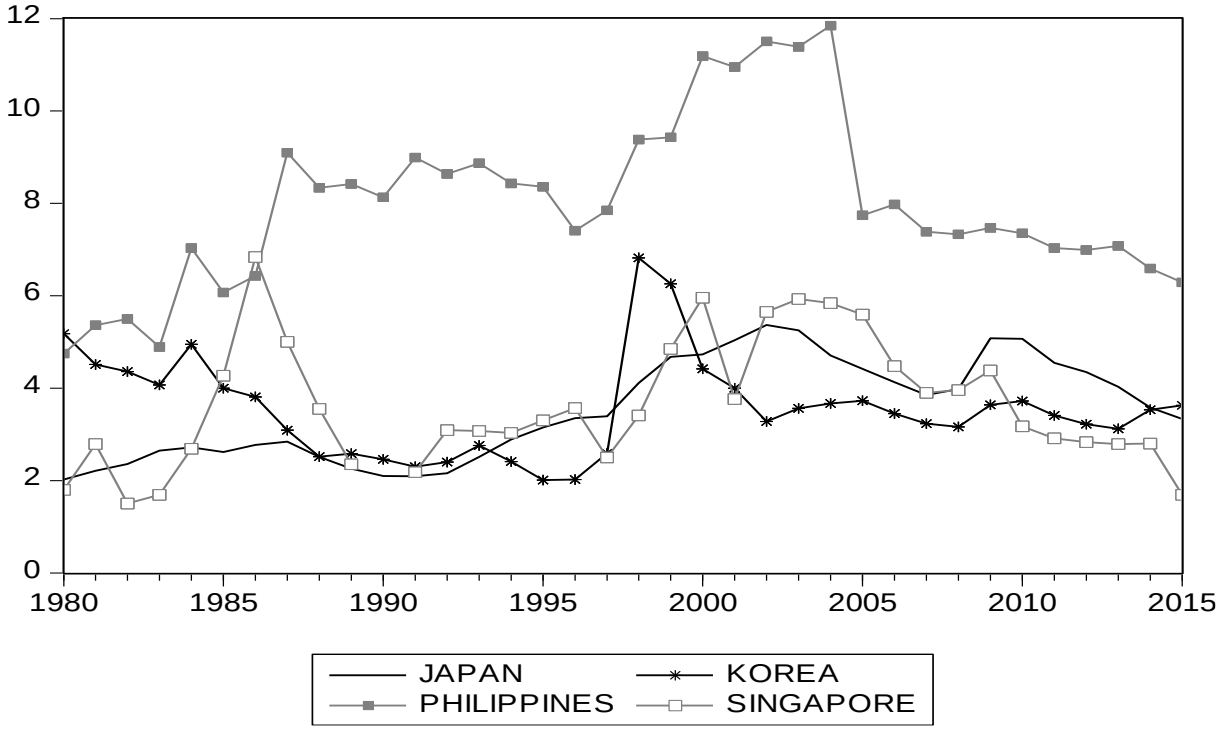
The main characteristics of labour market in Asia that unemployment rate is typically low. A distinctive feature of the Asian unemployment pattern is that unemployment rates are quite stable and do not appear to be affected by economic conditions (The Economist, 2018a). This contrasts with the situation in Europe, where unemployment rates are much more volatile and react sensitively to the ups and downs of the economy.

The most salient characteristic of the labour market in Asia is that unemployment rates in the region tend to be low even during periods of economic crisis. This raises the question of why many Asian countries have consistently lower unemployment than European countries.

There are three main reasons which can explain the lower unemployment rate in Asia. Firstly, there is still a lack of adequate labour protection in the region, so much so that unemployment may be considered as a 'luxury good' (The Economist, 2018a). Simply put, Asians cannot afford to be unemployed. In many Asian countries, social security for workers is underdeveloped and unemployment benefits are patchy. Some countries, such as Thailand and Malaysia, have various types of unemployment insurance. However, the level of protection for unemployed workers is very weak. For example, in Thailand, they are entitled to receive only 1,650 baht (US$52) per month for six months. Secondly, there is a strong informal sector which can readily absorb unemployed workers in Asian countries. Unemployed workers may earn temporary income by becoming a casual day-to-day labour for manual jobs such as selling lottery or washing dishes (The Economist, 2018a). Thirdly, the poor social security in Asia could have originated from the Asian culture of self-help. According to Hofstede and Bond (1998), most Asian societies share common cultural values such as masculinity and long-term orientation, which promote the importance of hard work, sense of shame, thrift and financial

independence. Asians generally do not expect their governments to provide for their sustenance and instead accept the need to look after themselves (The Economist, 2018b). In a study by Furuoka (2017b), it was found that labour market dynamics in Asia can be classified into two basic patterns. The first pattern highlights countries which have unemployment rates with a weak reversion tendency, whereas the second shows those that have unemployment rates with a strong reversion tendency. These patterns suggest that some Asian countries face the issue of unemployment hysteresis while others do not.

As demonstrated in Figure 12.2, the first category is represented by Japan and Singapore. Unemployment rates in these countries tend to increase during economic crisis but do not revert to normal levels or mean values after the end of the crisis. For example, like other Asian countries, Japan and Singapore went through the Asian economic crisis in the late 1990s. Thus, there was a noticeable upward climb in their unemployment rates in the early 2000s. However, when the economy recovered in the late 2000s, unemployment rates in these countries did not immediately decrease to pre-crisis levels. A plausible explanation for this is the effect of aging population on unemployment rate (Serban, 2012). Since Japan and Singapore are two of Asia's fastest aging societies, unemployment among the older generation is an issue they have been struggling with for the past few decades. Thus, unemployment hysteresis is more likely to happen in these countries than others in the region.



Source: World Bank (2018)

Figure 12.2: Unemployment rates in Japan, South Korea, the Philippines and Singapore (1980-2015)

By contrast, South Korea and the Philippines seem to belong to the second group of countries which have fewer problems with unemployment hysteresis. Their unemployment rates have a stronger mean reversion tendency. South Korea's unemployment rate increased during the Asian Economic Crisis in the late 1990s, but almost immediately reverted to a lower level after the crisis ended. In the case of the Philippines, its unemployment rates are relatively higher.

Despite this, the country's unemployment rates have strong mean reversion tendency and reverted to a much lower level as soon as the economy recovered in the mid-2000s. Again this can be explained by the aging population theory (Serban, 2012). Since the aging population issue is not as severe in these two countries as it is in Japan and Singapore, they are likely able to overcome unemployment hysteresis more easily.

In recent years, changing work values and systems have also affected labour force participation in Asia, especially among women. Female labour force participation varies across Asian countries, reflecting differences in economic development, social norms and access to childcare (Asian Productivity Organisation, 2018). Kinoshita and Guo (2015) highlighted three main differences between Asian and Nordic countries that influence female labour force participation. First, childcare benefits and services are more generous in Nordic countries. The flexibility of the childcare system in Nordic countries reduces career breaks among female employees with young children. Second, paternal roles in childrearing are given equal emphasis as maternal role, resulting in higher work involvement for females. Third, family-friendly policies and flexible working arrangements enable women (and men) to balance work and family. Unlike the Nordic countries, the Asian region has less developed flexible work arrangements. Particularly in Japan and South Korea, long and inflexible working hours associated with full-time employment prevents qualified women to take up employment (Kinoshita and Guo, 2015). Nevertheless, due to the effects of globalization, there is now a growing awareness of the benefits of flexible working; hence an increasing demand for it (Asian Productivity Organisation, 2018; Idris, 2014). In Thailand, for example, flexible working arrangement has been found to increase female labour force participation (Asian Productivity Organisation, 2018).

Conclusion

The current study made an attempt to examine labour market outcomes in Asia and Europe. The main characteristics of labour market outcome in Europe is that unemployment rate would be strongly affected by economic conditions. Thus, Europe's unemployment rates are much more volatile and higher. European countries generally show less capacity to absorb the shock effects of economic crisis on unemployment. In addition, Europe appears to face a greater problem with unemployment hysteresis, where unemployment rates tend to increase during an economic crisis but do not immediately reduce to pre-crisis levels even after the economy has recovered. On the other hand, the findings indicated that the main characteristic of the Asian labour market is that the unemployment rates are more stable and lower. This means that unemployment rates of Asian countries are less affected by economic conditions. Furthermore, Asian countries show excellent capacity to absorb the shock effects of economic crisis on unemployment in the region. Although some Asian countries also demonstrate a similar trait, the severity of the problem is less because the effect of economic crisis on unemployment tends to be smaller.

In the case of Europe, the persistently high unemployment rate may be caused by the provision of generous unemployment benefits. This has produced a challenge for policymakers to make a paradoxical balance between labour market flexibility and the employment protection. Additionally, an aging population poses its own threats for some European countries. In this regard, Europe may be able to benefit from non-standard and flexible work systems which meet the needs of the 21st century workforce. In the case of Asia, the relatively lower unemployment rates are mainly due to weaker unemployment protection mechanisms, the existence of a large informal sector and the prevailing culture of self-help in the region. However, an aging

population poses its own threats for some Asian countries. In this regard, Asian countries would need to take appropriate actions to deal with aging population in this century.

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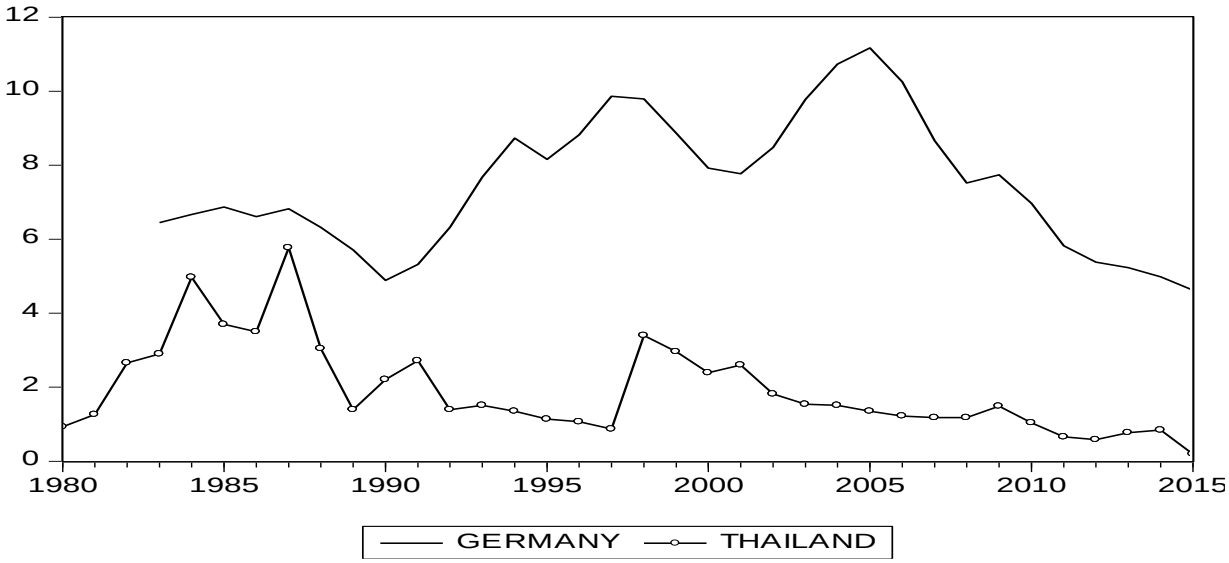
Chapter Thirteen
Labour Markets in Asia and Europe: A Comparative Analysis

Fumitaka Furuoka, Aida Idris, Beatrice Lim and Rostika Petrus Boroh

Introduction

This chapter compares labour market outcomes, particularly unemployment rates, labour market institutions and unemployment protection mechanisms, in Asia and Europe. In the case of Europe, unemployment rates would increase when a country faces an economic crisis and would reduce when the economy recovers from the crisis. However, the problem is that the level of reduction often does not reach pre-crisis rates. This appears to be mainly due to provisions of the generous unemployment benefits in Europe, where policymakers often have to make a paradoxical balance between labour market flexibility and employment protection. By contrast, in the case of Asia, unemployment rates do not seem to be affected by economic conditions. Some possible factors contributing to this trend include a weaker unemployment protection mechanism, a strong existence of an informal sector and a prevailing culture of self-help in the region.

For a typical example, the unemployment rates for the period of 1980-2015 in Germany and Thailand are depicted in Figure 13.1. As the graph clearly indicates, the unemployment rates for Germany are much higher than for Thailand. In Germany, the unemployment rates in the 1980s were around 6 percent and increased to around 8 percent in the 1990s. Much of Europe, including Germany, faced an economic crisis in the mid-2000s. As a result, the unemployment rates in Germany were around 11 percent during this period. After a slow recovery from the crisis, by 2010 the rate had gone down to 7 percent. By contrast, unemployment rates in Thailand were around 4 percent in the 1980s. Southeast Asian economies, including Thailand, enjoyed a high economic growth in the first half of the 1990s, during which the unemployment rates in Thailand were around 1 percent. Even when the region faced the Asian economic crisis at the end of the 1990s, unemployment rates in Thailand jumped to only 3 percent. After its recovery from the economic crisis, unemployment rates in the country decreased back to 1 percent (World Bank, 2018).



Source: World Bank (2018)

Figure 13.1: Unemployment rates in Germany and Thailand (1980-2015)

In short, European countries tend to suffer from high unemployment rate which is known as unemployment hysteresis. By contrast, there is no high unemployment problem in Asia. It would mean that the presence of unemployment hysteresis is the main characteristic in Europe and the lack of unemployment hysteresis is the crucial aspect of labour market in Asia.

Theoretical Perspectives on Labour Market Dynamics

There have been numerous empirical studies of labour market dynamics since the seminal publication on unemployment hysteresis by Phelps (1972), and Blanchard and Summers (1986). Some researchers have used the time-series unit root method to examine labour market dynamics (Neudorfer *et al*., 1990; Brunello, 1990; Mitchell, 1993; Røed, 1996) while others opted for the panel unit root method (Song and Wu, 1998; Chang et al., 2005; Christopoulos and Leon-Ledesma, 2007; Camarero and Tamarit, 2004). There are also those who have used more advanced methods, such as the Lagrange Multiplier (LM) test and the fractional integration method, et cetera (Romero-Avila and Usabiaga, 2007a; Romero-Avila and Usabiaga, 2007b; Lee et al., 2009). Geographically speaking, most of these empirical works have focused on European countries and there is very limited research on this topic done on Asia. Some notable exceptions are studies conducted by Smyth (2003), Lee et al. (2010), Furuoka (2012), Furuoka (2017a), and Furuoka (2017b).

More importantly, there is no formal theoretical model to describe labour market dynamics. However, an employment model suggested by Blanchard and Summers (1986) could be used for the baseline model to underline some basic characteristics of labour market dynamics. This employment model has been further developed by other researchers (Song and Wu, 1998; Bell and Mankiw, 2002; Furuoka, 2017a; Furuoka, 2017b). To summarise, the employment model assumes that money supply (m) has a positive impact on the firm's output (y_i). Additionally, it also assumes that the price level in the country (p) has a negative impact on the output. In this model, there is a difference between output price in the firm (p_i) and the price level in the country (p). This difference in price level would have a negative impact on the output. The output function is expressed as;

$$y_i = (m - p) - a(p_i - p) \qquad (13.1)$$

where *a* is a constant. The demand of labour could be considered as a "derived" demand in which the firm's output is proportional to labour demand in the firm. In this sense, the output function can be used for the employment function in the firm (n_i). In this employment function, the price (p) is replaced with the wage (w) in the output function. It means that the employment function can be expressed as;

$$n_i = (m - w) - a(w_i - w) \qquad (13.2)$$

This employment function may be simplified by assuming that employment and wage level is the same in all firms. In this simplified version, the level of employment at time *t* can be expressed as;

$$n_t = m_t - w_t \qquad (13.3)$$

where n_t is the employment level at time *t*, m_t is the level of money supply at time *t* and w_t is the wage level at time *t*. The level of employment would be determined by the difference between the level of money supply and level of wage rate. In the case that the increase in money supply is greater than the increase in wage level, this would cause a positive effect on the employment level. By contrast, in the reverse case that the increase in wage level is greater than the increase in money supply, this would cause a negative effect on the employment level.

Under the insider model of employment, the insider in the firm would have a maximum bargaining power to ensure that the expected level of employment (n^e) is equal to the level of employment at time of the negotiation (n_{t-1}). It would mean that the bargaining parameter (β) is equal to unity under this insider model of employment. In the case that the insider's bargaining power is less than the maximum value, the expected level of employment could be less than the level of employment at time of the negotiation. The employment function can be reformulated as:

$$n_t = \beta(n_{t-1}) + (m_t - m_t^{\,e}) \qquad (13.4)$$

where β is a bargaining parameter that would measure the level of strength of insider in the firm. This employment formula indicates that some insiders could lose their employment during an economic recession if β is less than one. More importantly, if the bargaining parameter is less than unity, the monetary shock will disappear in the long-run. It means that a monetary shock would have a transitory impact on the employment. In this case, the unemployment rates would follow a stationary process. In other words, a higher-than-normal unemployment rate would revert to an equilibrium level. However, if the bargaining parameter is equal to unity, a monetary shock would not disappear. In this case, the unemployment rates would follow a unit root process (Furuoka 2012; Furuoka, 2017a; Furuoka, 2017b).

In a nutshell, the main point of this theoretical framework on the employment model is that the strength of the insider in the firm will determine the labour market dynamics. In other words, the insider power could be the main element which determines whether unemployment rate would follow the stationary process. It means that the unemployment rate could follow a unit

root process if the bargaining parameter of the insider in the firm is equal to unity under the pure insider model. Otherwise, the unemployment rate would follow the stationary process[10] .

Conclusion

This chapter made an attempt to compare labour market outcomes, namely unemployment rates, labour market institutions and employment protection mechanisms, in Asia and Europe. Results of secondary data analysis demonstrate that there is a remarkable difference in labour market outcomes, especially unemployment rates, between the two regions. On the one hand, the main characteristic of the Asian labour market is that the unemployment rates are more stable and relatively lower than those in Europe. The above differences between Asian and European labour market outcomes can be explained by the unique characteristics of labour market institutions and socio-cultural background of the two regions. In the case of Europe, the persistently high unemployment rate may be caused by the provision of generous unemployment benefits. This has produced a challenge for policymakers to make a paradoxical balance between labour market flexibility and the employment protection. In the case of Asia, the relatively lower unemployment rates are mainly due to weaker unemployment protection mechanisms, the existence of a large informal sector and the prevailing culture of self-help in the region. However, an aging population poses its own threats for some Asian countries. In this regard, both Asia and Europe may be able to benefit from non-standard and flexible work systems which meet the needs of the 21st century workforce.

[10] This paper's theoretical foundation is based on the employment function within the insider-outsider theory suggested by Blanchard and Summers (1986). More recently, Gustavsson and Österholm (2007) have provided empirical evidence to indicate a distinctive difference between unemployment and employment hysteresis. According to them, empirical tests tend to produce mixed evidence for hysteresis in unemployment. By contrast, unit root tests are able to produce more consistent results to support hysteresis in employment.

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