

## **Service Export and Economic Growth in The Selected Developing Asian Countries**

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### **ABSTRACT**

Services trade is regarded as a new source of income, especially for developing countries. Even though services trade only represent 20.2 per cent (2010) to total world trade, interestingly, recent trend shows that the share for developing countries in services trade increased to 32 per cent (2010) as compared to only 20 per cent in 1990. Moreover, the share of service export to total exports also increased from 18 per cent in 1990 to 30 per cent in 2010. Although, most of the developing countries are still net importers of services, there is a widespread belief among scholars and policy makers that there is great potential for services exports to grow further as new source of income for developing countries. Thus, the main purpose of this study is to examine the impact of service export on economic growth using panel dynamic OLS (DOLS) in selected Asian countries (i.e. China, Hong Kong, South Korea, India, Iran, Indonesia, Malaysia, Philippines, Singapore, Thailand, Kuwait, Saudi Arabia and Turkey). Annual data covering the period from 1985 to 2012 was utilized. The findings indicate that all of the macroeconomic variables tested are co-integrated in the long run. Service export also has a significant and positive impact on economic growth. The findings implies that the Asian developing countries should focus on formulating appropriate policy measures to enhance the performance of services sector and service export to stimulate the economic growth.

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## INTRODUCTION

In recent decades, the services sector has been identified as the new engine of growth for most countries, especially developing countries, due to its increasing importance in international trade and investment (Mattoo and Stern, 2007). Since the mid-1980s, many services that were previously considered non-tradable are now being actively traded. Sampson and Snape (1985) and Bhagwati (1988) proposed a conceptual view on service trade that was later formalised into the World Trade Organization's (WTO) General Agreement on Trade in Service (GATS). GATS came up with four modes of supply classifications; namely mode

1, mode 2, mode 3 and mode 4 (refer to Table 1). Meanwhile, McGuire (2002) defined tradability of services as the possibility for the cross-border delivery of final services or of individual components in the services production chain without the movement of the producer or the customers. International trade in services covers trade in intangibles (such as peoples' skills) through the four modes. This implies that services do not physically cross national border and is not affected by tariff and other taxes applied to merchandise trade. Service export is defined as any service provided by a resident in one country to people or companies from another. According to the World Trade Organization (WTO)(2014), estimates on trade in services shows that services trade are taking a more pronounced role in global trade and are increasingly embodied in the production of manufactured goods. Thus, it is believed that services can play a key role in defining the competitiveness of a country's export, and help countries take on tasks with a higher value added in the global value chains.

Table 1: Trade in Services and Mode of Supply

Mode of Supply	Description
Mode 1: Cross-border supply	Services supplied from the territory of one country into the territory of another—for example, software services provided by a supplier in one country by mail or electronic means to consumers in another country.
Mode 2: Consumption abroad	Services supplied in the territory of one country to consumers in another—for example, when the consumer moves to consume tourism or education services in another country. This mode also covers activities such as ship repair abroad, where only the property of consumer moves.
Mode 3: Commercial presence	Services supplied through any type of business or professional establishment of one country in the territory to another—for example, when an insurance company owned by citizens of one country establishes a branch by means of foreign direct investment (FDI) in another country.
Mode 4: Movement of natural persons	Services supplied by nationals of one country in the territory of another. This mode includes both independent service suppliers and employees of services suppliers of another member. For example, a doctor from one country might supply services in another country through his physical presence, or the foreign employees of a foreign bank might provide services on a temporary basis.

Source: Mattoo, Stern and Zanini (2007).

Several classical and modern theoretical models have provided explanations of the determinants of trade. These theories mostly focused on trade in goods. Thus, in the case of the services trade, the main question raised by international trade economists is whether the classical concept of comparative advantage can be used to explain service export or trade patterns. Some scholars, such as Hindley and Smith (1984) and Deardorff (1985), have asserted that the standard concepts of comparative advantage and product specialisation, which are based on the Hecksher-Ohlin (H-O) framework, can also be applied to services trade in both developing and developed countries. Most commonly used determinants of service export or export demand are real Gross National Product (GNP) of a country's trading partners (foreign income), relative prices and effective exchange rate (Bahmani-Oskooee, 1986).

The rapid increase in traded services is also closely related to the globalisation of the world economy and technological progress made in the information and communication services (Organization for Economic Co-operation and Development [OECD], 2002). Studies by Freund and Weinhold (2002) and Choi (2010) provided evidence that the Internet and advancement in information communication technology contribute significantly to growth in services trade. Study by Karam and Zaki (2013) found that being a WTO member and the number of commitments and binding commitments increase exports, imports and trade in services. Meanwhile, recent study by Ahmad, Kaliappan and Ismail (2017) found that real exchange rate, foreign income, foreign direct investment, the value added by services and the communication facilities are significant determinants of service export in selected Asian countries.

Table 2: World merchandise trade, 2005-2013 (Annual percentage change)

	Merchandise Exports			Merchandise Imports		
	2005-2013	2012	2013	2005-2013	2012	2013
World	8	0	2	7	0	1
North America	6	4	2	4	3	0
South and Central America	9	-1	-2	12	3	3
Europe	5	-4	4	5	-6	1
Commonwealth of Independent States (CIS)	11	2	-3	13	6	0
Africa	9	5	-6	12	9	2
Middle East	12	6	0	11	8	6
Asia	10	2	2	10	4	1

Source: WTO (2014), International Trade Statistics.

A recent trend shows that world exports of commercial services have registered relatively higher growth (6%) compared to merchandise exports (2%) in 2013 (WTO, 2014) (see Table 2 and Table 3). Although increasing in terms of growth, trade in services accounts for a much lower share in terms of overall value. As of

2013, world trade in goods was valued at more than USD18.5 trillion, while trade in services accounted for almost USD 5 trillion (United Nation Conference on Trade and Development [UNCTAD], 2014). Meanwhile, in terms of share, trade in services represents

about 20% of total trade globally (WTO, 2010). This development has a greater impact on countries that focuses on generating additional income from the external sector, especially through service export.

Table 3: World commercial trade in services, 2005-2013 (Annual percentage change)

	Service Export			Service Import		
	2005-2013	2012	2013	2005-2013	2012	2013
World	8	2	6	8	3	5
North America	7	5	5	6	3	3
South and Central America	9	6	2	14	6	6
Europe	7	-2	7	6	-2	5
Commonwealth of Independent States (CIS)	14	9	9	14	18	15
Africa	6	7	-3	11	2	-1
Middle East	9	9	4	12	5	7
Asia	11	7	5	10	8	4

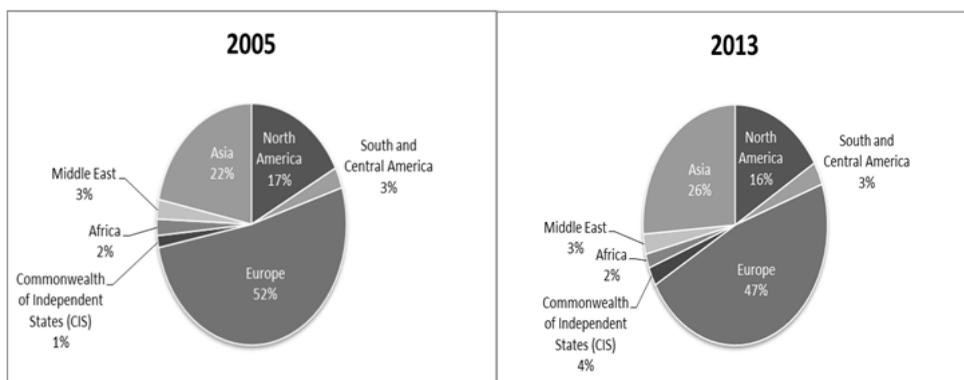
Source: WTO (2014), International Trade Statistics.

On a regional basis, developing economies accounted for 43% and 34% of world merchandise and commercial services trade in 2013, respectively (WTO, 2014). Among the developing economies, Asia achieved the highest growth in merchandise exports at 4.5%, followed by North America (3%). As for the share of commercial service export, between 2005 and 2013, only Asia and the Commonwealth of Independent States (CIS) regions saw an increase (i.e. 22% to 26%) in their share of exports of commercial services compared to those of North America, South and Central America, Europe, Africa and the Middle East (see Figure 1). Although trade in services has generally been growing faster than merchandise trade, it is apparent that the growth rates remain quite different across regions.

In general, developed countries account for about half of global trade in goods and about two-thirds of trade in services. Additionally, developed countries account for most of the demand (imports) and supply (exports) in the world trade in services, especially in computer and information services, financial services, royalties and license fees and communication services (UNCTAD, 2014). Nevertheless, service export in developing countries have been increasing in most sectors, especially since 2011, and it is of interest to note that their export of service has grown much faster than that of developed countries, especially in personal, cultural and recreational services, construction services, insurance services, computer information services, travel and other business services.

Moreover, in terms of share of the value added by services, the developed economies accounted for a dominant share compared to the developing economies as whole. As depicted in Table 4, amongst the developed economies, America and Europe were the main contributors, with shares of 45.0% and 39.7% in 2013, respectively. The rest came from Asia and Oceania. As for the developing economies, the share of services value added is dominated by the Asian region (51.6 and 67.1% in 1990 and 2013, respectively). If we separate the developing Asian countries further, China accounted for the largest share, 34.7% in 2013 (compared to 15.4%

in 1990). This is followed by India (13.5%) and Korea (10.6%) (UNCTAD, 2014). Finally, in terms of value of exported services, developing Asian countries recorded USD 1120.3 billion in 2013, which is an increase of 10.7 % from USD 95.6 billion in 1990 (UNCTAD, 2014). As shown in Table 5, the 13 selected developing Asian countries contributed approximately 84.3% to the total service export of the Asian countries as a whole, with China, India, Hong Kong, Singapore and Korea accounting for the largest shares. In sum, the significant progress shown by the developing Asian countries in recent years in contributing to the increased trade in services has provided an avenue for us to explore the impact of service export on economic growth in the present study.



Source: WTO (2014), International Trade Statistics

Figure 1: Exports of commercial services (share in global exports), 2005 and 2013

Table 4: The share of services value added by region (percentage), 1990 and 2013

Developed Economies			Developing Economies		
Region	1990	2013	Region	1990	2013
America	43.0	45.0	Africa	11.3	9.3
Asia	15.1	12.7	America	36.8	23.4
Europe	40.1	39.7	Asia	51.6	67.1
Oceania	1.9	2.6	Oceania	0.4	0.2

Source: UNCTAD Statistics Database Website, 2014.

Table 5: Share of service export in Selected Asian Developing Countries (percentage), 1990 and 2013

Year/Country	1990	2013
China	6.1	18.4
India	4.8	13.5
Hong Kong	19.1	11.9
Singapore	13.4	10.9
Korea, Republic of	10.7	10.1

Table 5 (Cont.)

Thailand	6.7	5.3
Turkey	8.4	4.2
Malaysia	4.0	3.6
Indonesia	2.6	2.0
Philippines	3.4	1.9
Saudi Arabia	3.2	1.0
Iran (Islamic Republic of)	0.5	0.6
Kuwait	1.3	0.5
Selected sample countries	84.3	83.9
Other countries	15.7	16.1
Total Asian	100.0	100.0

Source: Author's own computation from UNCTAD Statistical Database (2014).

The importance of export or trade in the long-run economic growth of countries is well documented, both theoretically and empirically. The relationship between export and economic growth has been widely tested in the context of Export Led Growth Hypothesis (ELGH) and also endogenous growth theory which exerted that exports can promote long-run economic growth. As in the ELGH, services trade is said to have positive effect on long run economic growth through various channels such as foreign exchange earnings, stimulating investment in new infrastructure, stimulates other economic industries through forward and backward linkages, employment creation, economies of scale, diffusion of technical knowledge, stimulation of research and development and the accumulation of human capital (Brida, Lanzilotta, Lionetti and Risso, 2010).

Nowadays the liberalization of services is considered important as countries could progress forward only with an efficient services infrastructure (WTO, 2001). According to WTO (2001), the benefits of services liberalization extend far beyond the service industries themselves, meaning that they are felt through their effects on all other economic activities, direct and indirectly. Altogether six benefits are expected and can arise for countries pursuing service liberalization in areas such as; economic performance, development, consumer savings, faster innovation, greater transparency and predictability and technology transfer. Moreover, Hoekman and Mattoo (2008) highlighted that openness to trade in services may increase productivity at the level of the economy as a whole, and of industries and firms. They claimed that services are important for growth in many ways. The expansion in size and diversity of the services sector is both a reflection of and a precondition for economic growth. Trade openness is one important channel for improving service performance. Foreign suppliers are sources of new technologies as well as bringing the competition that is needed to a market characterized by dominant incumbents, often state-owned or controlled or former public monopolies.

Given the development of the services sector and services trade in developing economies, especially in Asia, it would be interesting to examine the impact of service export on economic growth. For developing countries and least developed countries (LDCs), service trade is the new frontier for enhancing their participation in international trade and, in turn,

realizing development gains. Within three decades, the contribution of the services sector in this region increased in line with economic growth momentum. The trend analysis of services export and economic growth (see Figure 2) suggests that service export seem to be constantly growing relatively more than economic growth, especially for the developed economies. This differs in the case of developing economies, where the growth of service export and economic growth seem to be inconsistent in terms movement in which sometimes the service growth is less than growth in GDP (during crises period in 1997 and 2008) and vice versa.

Despite this impressive performance, developing countries’ presence in the global market as suppliers of services is generally more limited, as international markets are largely supplied or dominated by developed countries. This explains, to some extent, why most developing countries incur a deficit in their services account while sustaining a surplus in their merchandise account. This makes it a matter of urgency for developing countries to find ways increasing the contribution of services exports and eventually to expand their presence in the international services market. It has been pointed out that reforms in the exported service sector could contribute positively to the sector’s performance and eventually positively affect the overall development of nations (Hoekman, 1996). Although services contribute more than 50% to the gross domestic product (GDP) in most developing countries, the sector’s role on the external front has been quite unsatisfying, despite positive progress, especially in the case of developing (especially Asian) countries.

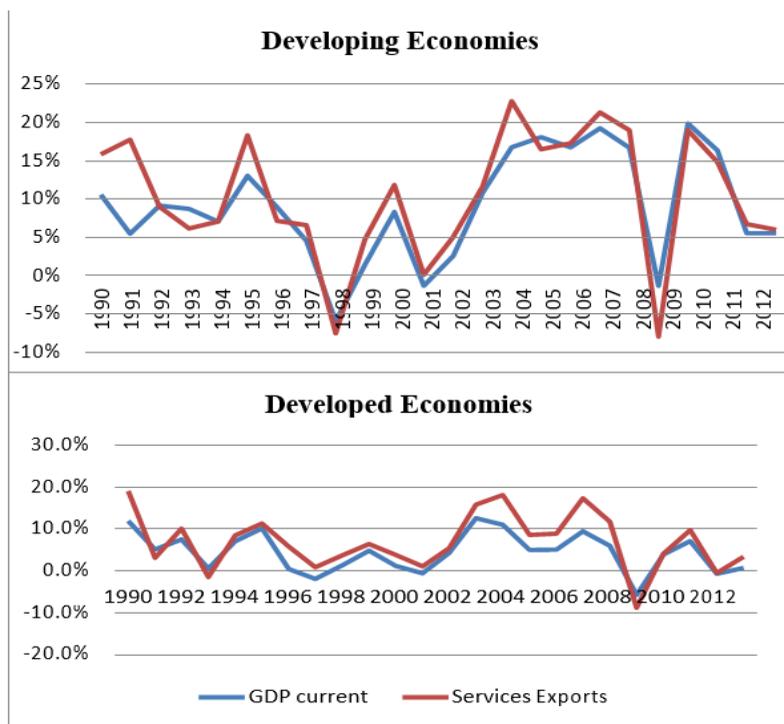


Figure 2: Percentage Annual Growth Rates of Service Export and GDP in Developed and Developing Economies, 1990-2013.

Source: UNCTAD Statistics Database Website, 2014

Since the pioneering theoretical models of international trade by classical economists, many studies have examined issues related to trade flows, focusing largely on trade in goods and services (in aggregated form). Despite the growing importance of the services sector and the rapid internationalisation of services, very few studies have explored issues related to trade in services or service export in isolation. The existing literature on services largely focuses on the growth impact of the services sector, determinants of service trade, the growth impact of service trade or service export and the determinants and impact on growth of the services-based FDI (e.g. Francois and Schuknecht, 2000; Li, Greenaway and Hinex, 2003; Khoury and Savvides, 2006; Gabriele, 2006; Mishra, Lundstrom and Anand, 2011; Lorde, Francis and Drakes, 2011; Dash and Parida, 2013; Alege and Ogundipe, 2015; Kaliappan, Khamis and Ismail, 2015). Thus, the present study seeks to fill the void by examining the impact service export on economic growth in selected developing Asian countries.

The present study complements the existing literature, especially with regard to the growth effects of services trade, as there are currently only a few studies on this issue. Service export can be an important part of a developing country's strategy for growth. This study focuses empirically on services exports in order to assess the impact on economic growth. Such analysis is crucial not only from an academic perspective but also for policy implication. The findings should provide some insights for policy makers as many developing countries are involved in WTO and regional trading arrangements, in which liberalization of services trade is one of the main agenda in trade negotiations among member countries. It is apparent that many developing countries are reluctant to liberalize their services sector because of uncertainty about competitiveness and its growth impact. Findings from the present study may to some extent provide some insights on policy implications for developing countries as a whole. The present study would also serve as platform for more studies to be undertaken on issues relating to service trade in the future.

This paper is organised as follows: section 2 provides a review of related literature; section 3 describes the empirical model, the econometric method and the data; section 4 encompasses a discussion of the empirical findings; and section 5 summarizes the study and suggests some policy implications.

## LITERATURE REVIEW

### Theoretical Review

The importance of international trade to a nation's economic welfare and development has been heavily documented in the economics literature since Adam Smith's (1776) pioneering inquiry into the nature and causes of the wealth of nations. The rationale underlying the nature and causes of nation's welfare suggests that countries need to export goods and services in order to generate revenue to finance imported goods and services that cannot be produced indigenously. Over three decades, many theories have sought to answer the question of why countries and individual business enterprises engage in international trade. In line with these theoretical developments, many empirical studies have been published, addressing various aspects of international trade (e.g. Dollar, 1992; Edwards, (1993); Harrison, 1996; Frankel and Romer,

1999). In recent decades, the services sector has been identified as the new engine of growth for this millennium in most developed and developing countries (Noland and Estrada, 2012; Park and Shin, 2012). This is because of widespread belief that an efficient services sector is highly important for international trade and economic growth (McGuire, 2002). In general, the services sector provides crucial support to other sectors in the economy and industries as a whole—for instance, through finance, transportation, communication, wholesaling, communications and other business services. Besides its significant contribution to various economic activities, an increase in services trade and the availability of various subservices may also boost economic growth by improving the performance of other industries. This is due to the fact that the services sector can offer key intermediate inputs, especially in an increasingly globalised world economy.

Copeland and Mattoo (2008) pointed out that services trade differs from trade in goods in two ways. First, trade in goods involves shipping goods from one country to another, but in the case of trade in services, cross-border trade is not the most important way of conducting international transactions. Second, services tend to be highly regulated, and many types of service are provided or produced by regulated monopolies. Barriers to trade in services arise from domestic regulations that often serve the dual purpose of responding to market failures (e.g., quality standards for medical practitioners) and protecting local suppliers from foreign competition. Qasenivalu (2008) noted that because trade in services is invisible, services are not treated as trade, leading to their non-inclusion in the initial negotiation of the 1947 General Agreement on Trade and Tariffs (GATT). However, in the mid-1980s, services gained recognition as a subject of trade and were included for the first time in the WTO's Uruguay round of trade negotiations, held between 1986 and 1993. Under the General Agreement on Trade in Services (GATS), services trade was classified into four modes of supply (Mattoo and Stern, 2007).

As for the theoretical foundation, scholars held the view that the standard concepts of comparative advantage and product specialisation could be applied to services trade to determine the patterns of trade in services (Hindley and Smith, 1984; Deardorff, 1985). Hindley and Smith (1984) argue that, from a conceptual point of view, there is no difficulty in applying the standard toolkit of the international economist to the problems of trade and investment in services. Accordingly, in the absence of a developed theory of trade in services, theories that are used to explain trade in goods (such as comparative cost theory and new trade theory) are often applied to services trade as well. This has been supported by Sapir & Winter (1994), who argued that, 'under perfect competition'; the theory of comparative advantage could be applied to international trade in services.

Nevertheless, some argue that the introduction of services does require a different approach, necessitating a reinterpretation of the law of comparative advantage. According to Melvin (1989), when the principle of comparative advantage and the Heckscher-Ohlin (H-O) theorem are applied to services, they must be interpreted differently. Moreover, Francois (1990) argues that the non-transportability of services affects the basic economic concepts of international trade. For one thing, for goods, it is unlikely that an integrated world market for services will lead to uniform prices in different national markets, as it is not possible to reproduce in country B the price-quality combination of the services produced in country A, as is possible in the case of

goods. So, although in general the theory of trade in goods has been applied to trade in services, the unique characteristics of services (e.g., non-transportability and intangibility) require a new theory of trade in services to help explain the cross-country patterns of specialisation in services. Despite on-going debates on the relevance of new and classical trade theory in explaining the determinants of patterns in the trade of services and of services exports, some empirical studies have applied conventional international trade theories.

Developments in growth theory began with the standard neoclassical growth model introduced by Solow (1956), involving a series of equations that showed the relationship between labour time, capital goods, output and investment. This model is based on the assumption that a country deploys its resources efficiently so that labour and capital are fully utilized. In other words, economic growth is determined by population, capital accumulation and technology as well as by how these are combined. On this view, the role of technological change is also crucial, more important even than the accumulation of capital; countries can continue to grow by inventing new technology. In the long run, output per capita depends on the rate of saving, but the rate of output growth should be equal for any saving rate. The process by which countries continue to grow despite diminishing returns is called ‘exogenous’ growth and represents the creation of new technology that allows more production with fewer resources; technology improves, the steady state level of capital increases and the country invests and grows.

In the late 1980s, dissatisfied with Solow's model, Romer (1990) and Lucas (1988) developed a theory of endogenous growth that includes a mathematical explanation of technological advancement. This model also incorporated a new concept of ‘human capital’—the skills and knowledge that make workers more productive. Unlike physical capital, human capital increases the rates of return, so that investment in human capital eventually improves a nation's economic returns and prospects. The rate of return will depend on how much a nation can invest in human capital in the first place. The increment can be exponential, meaning that a nation plans ahead to improve its human capital, providing good training and necessary education and skills to start work at a greater pace and with more productive output than those without any proper human capital development plan. This is where the service sector plays an important role, as well-developed human capital can offer legitimate services to the receiver better than anyone else. All a receiver needs is a service in return for a charge (s) he pays; satisfaction is a matter of quality, which can only be ensured by whoever is delivering the service, and in trade and business, this makes a big difference. In 1983, Feder introduced the export-led growth theory. According to this theory, one of the main causes of growth is exports. The theory emphasizes that increasing the amount of labour and capital not only generates growth but also grows exports, which are the engine of growth. The association between exports and economic growth is often attributed to the positive externalities for the domestic economy arising from participation in world markets, as for instance in the reallocation of existing resources, economies of scale and various labour-specification effects (Krueger, 1978).

## Empirical Review

Majority studies on exports or trade-growth relationship used aggregated exports which combined goods and services. There are limited studies connecting service trade or service export with growth. Some studies have focused on sub-service exports such as tourism, telecommunication and financial. The pioneering study by Goldsmith (1969) emphasized the role of financial services in channelling investment funds to their most productive uses, so that growth in output and income could be promoted. Goldsmith used the ratio of value of financial intermediary assets to GNP to gauge financial performance, entering it in a regression with economic growth and financial development. Subsequent study by Mattoo, Rathindran and Subramaniam (2001) shows how the impact of services liberalization (focusing on telecommunication and financial) on output growth differs from the liberalization of trade in goods because the former necessarily involves factor mobility and leads to scale effects that are distinctive though not unique. The finding indicates that that openness in services influences long-run growth performance. They found that countries with fully open telecommunication and financial services sectors grow up to 1.5 percentage points faster than other countries.

Rather than focusing on aggregate measure of services trade, Li et al. (2003) examined service imports-economic growth nexus using a panel of 82 countries. The results suggest that service imports have a significant positive impact on economic growth in developed countries but a negative impact in the case of developing countries. The results also suggest that imports of other services have significant positive effects in developed countries while imports of transportation and travel have no significant effect. Another related important study by Gabriele (2006) explored the nexus between GDP growth and two components of total exports, focusing in particular on the role of services exports in developing and transition countries. The study covered 114 countries for the period of 1980–2000. The study found that services exports have a positive impact on GDP growth in developing countries, although the impact is weaker than that was found in developed countries.

Using threshold regression method, Khoury and Savvides (2006) examine the relationship between openness in services trade (both telecommunication and financial) and economic growth to test for a differential impact between low- and high-income countries. In other words, the study tests the hypothesis whether a threshold level of development (per capita income) exists in the relationship between services trade openness and economic growth. The study found a positive and significant relationship between openness in telecommunication services and growth for countries with income per capita below an endogenously determined threshold level and no evidence of a significant relationship for countries above the same threshold. As for the financial services sector, an opposite result was obtained in which a positive and significant relationship between openness and growth for countries with income per capita above the threshold and no significant relationship for countries below the threshold.

Besides looking at threshold effect on the service openness-growth nexus, study by Kumar and Prasad (2007) explored quantitatively the nexus between the level of output and the export of services, focusing particularly on the Fijian economy. The study utilized two-time series methods; namely the LSE/Hendry general to specific (known as GETS) and Engle Granger two step (EG) approach to analyse the relationship. The findings show that

service exports have a positive impact both in the short run and long run on the output level in Fiji. On the other hand, Mishra, Lundstrom and Anand (2011) try to address the question of whether increasing sophistication in service exports lead to economic growth due to the fact that services are now becoming more productive and tradable. The main contribution of the study is the authors constructed an index of —service exports sophistication and the finding from panel data estimations reveals a positive relationship between growth in per capita income and higher sophistication of service exports.

In recent study, Dash and Parida (2013) examines the linkages between inward FDI, services trade (export and import) and economic output using co-integration and VECM causality test. The linkages have been explored both at the aggregate and at the sectoral levels (manufacturing and services). The empirical findings confirm the long-run relationship among these variables. Causality results indicate the presence of bi-directional causal relationship between FDI and economic output as well as between services exports and economic output. At the sectoral level, the result reveal a unidirectional causality from FDI and services exports to both manufacturing and services output. In a way of complementing the work of Khoury and Savvides (2006), Alege and Ogundipe (2015) investigate the impact of services trade on economic development using the nonlinear framework on thirty-three Sub-Saharan countries. The authors used the endogenous growth model on disaggregated trade data (i.e. travel, transport and other services). The finding reveals that services exports, services imports, labour and capital enhance economic development process.

As mentioned earlier, there are limited studies using aggregate measure of service export or services trade. Nevertheless, there are quite many studies have been conducted in the case tourism sub services since many developing countries governments are paying a greater attention to support and promote tourism as a potential source of economic growth. The positive benefits produced by tourism are well-documented in the economics literature. The tourism-led growth hypothesis (TLGH) directly derived from ELGH was first empirically tested by Ghali (1976) in the case of Hawaii. Many subsequent studies were conducted testing TLGH in various countries. For instance, Shan and Ken (2001) on China, Balaguer and Cantavella-Jordà (2002) for Spain, Narayan (2004) on Fiji, Durbarry (2004), (2005) for Korea, Nowak, Sahli, Cortés-Jiménez (2007) for Portugal, Proença and Soukiazis (2008) for Portugal and Lorde, Francis and Drakes (2011) for Barbados and Lean, Chong and Hooy (2014) comparing Malaysia and Singapore. Most of these studies used techniques of multivariate cointegration and causality testing. Findings reveal the existence of a long-run relationship between tourism activity and economic growth. As for the causality, most of the studies indicated causality running from tourism to economic growth.

Although there are numerous studies on exports or trade-economic growth nexus, the focus has been on total trade or merchandise exports, with very few studies of the impact of services exports on economic growth (e.g. Francois and Schuknecht, 2000; Li et al., 2003; Khoury and Savvides, 2006; Gabriele, 2006; Mishra et al., 2011; Lorde et al., 2011; Dash and Parida, 2013; Alege and Ogundipe, 2015). This study aims to bridge that gap by exploring the impact of service exports on economic growth for selected Asian developing countries. Nevertheless, the number of such studies has recently increased with rising awareness and interest among researchers and policymakers on issues related to services trade liberalization

and the view that greater openness in services trade is associated with higher growth. Although momentum in the number of research papers is increasing, we believe that there is still scope for further research on the growth impact of service export, since the findings may vary across region, country, study period, variables and methodology used. Thus, the present study seeks to complement the existing literature by investigating empirically the growth effects of services exports in the case of Asian developing countries.

## DATA AND METHODOLOGY

### Theoretical Framework

In the midst of the 1950s, Robert Solow set a baseline model of economic growth that describes the relation between saving, accumulation of capital and technology with economic growth. The limitation with this model is that growth in per capita output converges to zero in the steady state due to exogenous technological. In the 1980s, new growth models, known as endogenous growth theory, were developed by Lucas (1988) and Romer (1990). They included technological enhancement as one of the factors which can increase growth. These models also incorporated human capital—the skills and knowledge that make workers productive. The simplest model which demonstrates the first approach is a model in which capital is linearly related to output. In this model, the production function takes a very simple form consist of physical and human capital. Assuming constant technology, any increase in the amount of labour and/or capital will increase the level of output in the economy. This production function is expanded according the new growth theory by Barro and Sala-I Martin (1995). Related to this, Mankiw et al. (1992) states that international trade affects economic growth and can indeed are regarded as a type of technology in that it converts non-specialized production into specialized production. Hence, according to the new growth theory, export expansion improves economy-wide efficiency in the allocation of inputs and leads to total factor productivity growth. Moreover, Grossman and Helpman (1991) demonstrate that exports can positively contribute to economic growth through different means, such as facilitating the exploitation of economics of scale or promoting the diffusion of technical knowledge. Feder (1983) claimed that the endogenous growth theory, emphasize the benefit stemming from a dynamic exports sector in a framework characterized by increasing returns to scale by a virtuous technological and managerial spill-over effect towards other sectors. This study will focus on the potential of services exports as an independent variable, as distinguished from exports on merchandise, in influencing economic growth. In addition, other basic variables, namely capital and labour, are also included.

### Model Specification

One of the approaches to analyse the impact of service exports on economic growth is to use an output growth equation. In particular, we can examine the sensitivity of the results to the inclusions of other variables found to be significant in growth equations. This study adopts a production function estimate approach which includes all the variables identified in earlier sections. The purpose of including these variables is to investigate whether exports in

services and exports in merchandise affects economic growth differently. Therefore, the basic specification for this model is adopted from Gabriela (2006) and Khoury and Savvides (2006) and represented as follows:

$$Y = f(K, LF, Serv, Mercv) \quad (1)$$

Where Y denotes annual real GDP growth, K represents capital (gross capital formation as a percentage of GDP), LF denotes the ratio of labour force to population, Serv denotes the value of services exports as a percentage of GDP and Mercv denotes the value of merchandise exports as a percentage of GDP.

Since, the objective of the study is to analyse the impact of service exports on economic growth and considering the extended dynamic production function from the basic equation, the model that can be specified as follows:

$$Y_{it} = \beta_0 + \beta_1 Y_{it-1} + \beta_2 K_{it} + \beta_3 LF_{it} + \beta_4 Serv_{it} + \beta_5 Mercv_{it} + \varepsilon_{it} \quad (2)$$

Where i denotes country, t denotes time and the remainder  $\varepsilon_{it}$  is the error term which is assumed to be white noised and varies over both country and time. In this study, the log form is applied and the final model can be expressed as follows:

$$LY_{it} = \alpha + \beta_1 LY_{it-1} + \beta_2 LK_{it} + \beta_3 L LF_{it} + \beta_4 L Serv_{it} + \beta_5 L Mercv_{it} + \varepsilon_i \quad (3)$$

## Variables' Description and Measurements

### *Real GDP per capita (Y)*

The dependent variable considered in this study is real Gross Domestic Product (GDP) per capita which has been widely used in the empirical and theoretical growth literature. Real GDP per capita is a measurement of the total economic output of a country divided by the number of people and adjusted for inflation. The measurement is based on 2005 constant United States dollar (\$).

### *Capital (K)*

Investment is the most fundamental determinant of economic growth as highlighted by both the neoclassical and endogenous growth models. According to the neoclassical model, the impact of investment on the economy is transitional or temporary, while the endogenous growth model asserted that investment as the permanent activity in an economy. The importance attached to investment by these theories has led to an enormous number of empirical studies examining the relationship between investment and economic growth (Levine and Renelt, 1992; Mankiw et al., 1992; Barro and Sala-I- Martin, 1995; Dewan and Hussein, 2001). All the studies showed that investment has a positive impact on economic growth. Investment is measured by the ratio of gross fixed capital formation to GDP.

### *Labour Force (LF)*

Optimum utilization of resources depends on the labour force. In this study, labour force will be measured by the ratio of labour force to the total population. Nelson and Phelps (1966) suggested that a large sized labour force will facilitate the country in absorbing new products

or ideas that have been discovered elsewhere. Meanwhile, Romer (1990) stated that the quality labour force generates new products or ideas that underlie technological progress. He also notes that those countries with a large and well developed labour force experience a more rapid rate of introduction of new goods and thereby tend to grow faster. The size and availability of the labour force can be properly utilized in a country that, in turn, expands the exports sector. Therefore, labour force is expected to have positive impact on economic growth. This is in line with study conducted by Phimphanthavong (2014).

**Merchandise Export (MERCV)**

Merchandise export refers to tangible exports. In this study, merchandise exports are measured by the value of merchandise exports as a percentage of GDP. A large number of studies have confirmed a positive relationship between the exports and GDP, which mainly refers to merchandise exports and economic growth. Among others are Dollar (1992), Sach, Warner, Aslund and Fisher (1995), Edwards (1998) and Dollar and Kraay (2001). Since most developing countries rely on merchandise exports as a source of growth, it is important to see the impact of merchandise exports separately to economic growth.

**Services Exports (SERV)**

Services exports are measured by the ratio of services exports to GDP. Since the objective of this study is to examine the impact of services exports on economic growth, services exports is also included separately to see whether service exports and merchandise exports affects growth differently. Li et al. (2003) found that services exports have a significant impact in developed countries, while their effect does not appear to be significant in developing countries, yet, it is still positive. The expected sign of services exports is positive.

Table 6: Summary Descriptions of Variables

Variables	Description	Expected Results
Investment (K)	Gross fixed capital formation to GDP	Positive
Labour Force (LF)	Size of labour force	Positive
Services Exports (Serv)	Services exports as percentage of GDP	Positive
Merchandise Exports (Mercv)	Merchandise exports as percentage of GDP	Positive
Economic Growth	Real GDP per capita	

**Empirical Methodology**

The method used for the estimation is Dynamic Ordinary Least Square (DOLS). The application of DOLS consists of three stages. Firstly, a panel unit root tests are employed to check the stationary of the variables. The unit root tests of Levin, Lin and Chu (2002), Im, Pesaran and Shin (2004) and Fisher Chi-square (ADF) were used to get the robust results. Secondly, if the variables are stationary after first difference, the next stage is to test for cointegration. The method used is Pedroni panel cointegration test (1999, 2001, 2004). Pedroni panel cointegration consists of two dimensions, which is: (i) within dimension based statistics [contain four test: panel v-statistics, panel p-statistics, panel t- statistics (non-parametric) and panel t-statistics

(parametric)]; (ii) between-dimension [referred as group mean panel cointegration statistics with three tests: group p- statistics, group t-statistics (non-parametric) and group t-statistics (parametric)]. Finally, if the variables are cointegrated, the Panel Dynamic Ordinary Least square (DOLS) is employed to examine the impact of service export on economic growth. In this paper we used different number of leads and lags in order to get robust results which are consistent with the theory and empirical review .The estimation model can be formulate as follow:

$$LY_{it} = \beta_0 + \alpha LY_{it} + \beta LK_{it} + \delta LLF_{it} + \Phi LSer_{it} + \sigma LMerc_{it} + \sum_{j=-q}^p C_{ij} \Delta LY_{it+j} + \sum_{i=-q} \Phi LY_{it+j} + \sum_{j=-q} \sigma_{ij} \Delta LLF_{it+j} + \sum_{i=-q} \omega_{ij} \Delta LSer_{it+j} + \sum_{j=-q} \varphi_{ij} \Delta LMerc_{it+j} + \varepsilon_{it}$$

Where p and q are the numbers of lag and lead respectively. The use of lag and lead is to capture the serial correlation and endogeneity of the regresses so that an unbiased estimation could be obtained. The advantage of using DOLS is that even if the variables are cointegrated and have endogeneity problem, the results will be unbiased. DOLS was proven to be more powerful than FMOLS or other estimation methods. DOLS is advantageous in estimating both homogenous and heterogeneous data. This means that it uses both within and between dimension approaches. The property of the pool mean group should contain a larger cross section and time period. While the within dimension gives the results which are the same in each country. Hence, the study used the within estimation since it does not need for averaging. In addition, the approach does not need the use of instrumental variable nor exogeneity assumption and would still give robust results when variables which are not cointegrated are omitted.

**Data Sources**

The panel data set used in this study consists of 13 countries out of 40 developing Asian countries; namely, China, Hong Kong, South Korea, India, Iran, Indonesia, Malaysia, Philippines, Singapore, Thailand, Kuwait, Saudi Arabia and Turkey. The analysis used secondary data from the UNCTAD statistical database (2014) (refer to table 7). The selection of countries is based on the significant share of services exports to total exports of developing Asian countries and the availability of data. The selection of variables in the model is based on the theoretical and empirical literature and also data availability. The data covers the period from 1985 to 2012.

Table 7: Summary of Data Sources

Variables	Source
Labour Force (LF)	UNCTAD
Investment (K)	UNCTAD
Services Exports (SERV)	UNCTAD
Merchandise Exports (MERV)	UNCTAD
Real GDP Growth	UNCTAD

## FINDINGS AND DISCUSSIONS

This section presents and discusses the empirical results for the estimated model. Tables 8 and 9 present descriptive statistics and correlation analyses for the main variables included in the analysis. A total of 364 observations are recorded for each variable. The highest mean was recorded for the merchandise exports (LMERCV), with a value of 4.114 and with maximum and minimum values of 7.620 and 0.100, respectively. Services exports (LSERV) recorded a mean of 2.314, with a standard deviation of 1.338. The maximum and minimum values are 5.250 and 1.610, respectively. The mean of the labour variable is 2.99, with maximum and minimum values of 6.700 and 0.410, respectively. The standard deviation for labour is 1.860. As for capital (LK), the mean is 3.844, while its standard deviation is 1.191. At the same time, the maximum and minimum values are 7.632 and 0.693, respectively.

Table 8: Descriptive Statistics for Key Variables

Variable	Mean	Standard Deviation	Min	Max
LY	5.314	0.986	3.140	8.430
LK	3.844	1.191	0.693	7.632
LLF	2.991	1.860	0.410	6.700
LSERV	2.314	1.337	1.610	5.250
LMERCV	4.114	1.198	0.100	7.620
Observation	364	364	364	364

Table 9 shows the correlation between the independent variables used in this model. The purpose of correlation test is to identify the strong relationships between variables that can lead to multicollinearity problems. The correlation results show that there is no high correlation between the independent variables used in the study since all the values are lower than 80% benchmark percentage (Sulaiman, Abdul-Rahim, Mohd-Shahwahid and Chin, 2017).

Table 9: Correlation Coefficient between the Variables

Variable	LK	LLF	LSERV	LMERCV
LK	1.0000			
LLF	0.7293	1.0000		
LSERV	0.6279	0.1823	1.0000	
LMERCV	0.6931	0.1748	0.7525	1.0000

In order to fulfil the estimation of DOLS, two tests need to be carried out to verify the non-stationary issues and to identify the co-integration relationships between the panel variables—namely, the unit root test and panel co-integration test. In order to determine the presence of the unit root in panel data, Levin, Lin and Chu (LLC) and Im, Pesaran and Shin (IPS) tests were used. Their null hypothesis is that the individual time series in the panel contains a unit root (non-stationary) against the alternative that none of the series contain unit root (stationary). Meanwhile, the co-integration relationship between variables is identified by using standard panel, Group ADF and PP test statistics, as suggested by Pedroni (1999, 2001 and 2004). After that, the dynamic OLS is used to determine the impact of services exports on economic growth.

Table 10: Panel Unit Root Test Result (Level)

Variables	ADF TEST		IPS TEST		LLC TEST	
	Constant	Constant with trend	Constant	Constant with trend	Constant	Constant with trend
LY	13.967 (0.973)	22.628 (0.654)	4.195 (1.000)	0.081 (0.532)	0.926 (0.823)	-1.596 (0.055)
LK	27.930 (0.362)	43.581 (0.017)	-0.078 (0.469)	-2.415 (0.007)	0.194 (0.577)	-1.017 (0.154)
LLF	39.406** (0.045)	23.380 (0.611)	-0.804 (0.211)	0.673 (0.749)	-4.036*** (0.000)	0.205 (0.581)
LSERV	29.503 (0.289)	24.878 (0.525)	-0.358 (0.360)	0.710 (0.761)	-1.036 (0.149)	-0.192 (0.576)
LMERCV	30.101 (0.263)	47.892*** (0.005)	-0.891 (0.186)	-1.308* (0.095)	-2.985*** (0.001)	0.199 (0.579)

Note: Asterisks, \*\*\*, \*\*, \* denote statistical significance at the 1%, 5% and 10% levels, respectively.

The results of the panel unit root test at level 1(0), based on ADF, LLC and IPS, are shown in Table 10. The results of the ADF, LLC and IPS at a constant level indicate that all the variables are non-stationary (i.e. statistical results indicate that p-values is greater than 5 percent level of significance), except for labor force (LLF) for ADF and LLF and merchandise exports (LMERCV) for LLC test (Table 10). Therefore, the null hypothesis is accepted meaning that there is a unit root problem in all variables at a constant level, except for the variables mentioned above. It can also be concluded that most of the variables were non-stationary either with or without a time trend for at level form for most of the tests.

To rectify correct the problem, first differencing were performed and the variables underwent first differencing and retested with ADF, IPS and LLC (Table 11). The results show that the null hypothesis of non-stationary can be rejected since the p-values for of all the variables included are all significant at the 1 percent level for all of the tests. Therefore, the variables were found are stationary in order (1) in constant and constant with the trend or in other words, the variables are integrated in the order I (1).

Table 11: Panel Unit Root Test Results (First Difference)

Variables	ADF TEST		IPS TEST		LLC TEST	
	Constant	Constant with trend	Constant	Constant with trend	Constant	Constant with trend
LY	145.795*** (0.000)	116.247*** (0.000)	-10.029*** (0.000)	-8.638*** (0.000)	-10.441*** (0.000)	-9.445*** (0.000)
LK	166.056*** (0.000)	126.043*** (0.000)	-11.549*** (0.000)	-9.451*** (0.000)	-10.939*** (0.000)	-8.836*** (0.000)
LLF	123.049*** (0.000)	102.698*** (0.000)	-8.364*** (0.000)	-7.484*** (0.000)	-6.227*** (0.000)	-5.363*** (0.000)
LSERV	180.141*** (0.000)	136.997*** (0.000)	-12.354*** (0.000)	-10.034*** (0.000)	-12.583*** (0.000)	-9.217*** (0.000)
LMERCV	236.992*** (0.000)	198.339*** (0.000)	-16.032*** (0.000)	-14.810*** (0.000)	-14.686*** (0.000)	-13.624*** (0.000)

Note: Asterisks, \*\*\*, \*\*, \* denote statistical significance at the 1%, 5% and 10% levels, respectively. The numbers in parentheses indicate the p-value.

Table 12 presents the results of the panel data co-integration test for several alternative versions, namely, panel v- statistics, panel p-statistics (RHO), panel t-statistics (PP), panel t-statistics (ADF), group p-statistics (RHO), group t-statistics (PP) and group t-statistics (ADF). The co-integration test involved a test for constant and constant with trend. At the constant level, we found that panel PP, panel ADF, group PP and group ADF are significant at the 5% level, rejecting the null hypothesis of no co-integration in both constant and constant with trend. On the contrary, the results prove that panel V, panel RHO and group RHO are not co-integrated in both constant and constant with trend. According to Pedroni (1999) the panel non-parametric (t-statistics) and parametric (AD- statistics) are more reliable, especially in constant with trend; therefore, it can concluded that four out of seven statistics reject the null hypothesis of no cointegration. Narayan, Smith and Prasad (2007) maintained that with at least four statistics are significant to validate the existence of cointegration. Moreover, Pedroni (1999) suggests that among the seven statistics, panel ADF and group ADF have an advantage in small sample size and power properties, which are fulfilled in the present study where both panel ADF and group ADF are significant.

Table 12: Pedroni Panel Co-integration Test Result

Dependent variable = LY		
Independent variables = LK, LLF, LSERV, LMERCV		
Statistics	Constant	Constant with trend
Panel V	0.410(0.341)	-1.177 (0.880)
Panel RHO	-2.216 (0.013)**	-0.736 (0.231)
Panel PP	-6.521 (0.000)***	-7.193 (0.000)***
Panel ADF	-8.011 (0.000)***	-6.751 (0.000)***
Group RHO	0.939 (0.174)	0.195 (0.577)
Group PP	-8.639(0.000)***	-13.112 (0.000)***
Group ADF	-12.402 (0.000)***	-8.243 (0.000)***

Note: Asterisks, \*\*\*, \*\*, \* denote statistical significance at the 1%, 5% and 10% levels, respectively. The numbers in parentheses indicate the p-value

Dynamic OLS (DOLS) is used to estimate the long run relationship between service export and economic growth in the selected developing Asian countries. This study employed Schwarz Information Criteria (SIC) to determine the lead and lag lengths. Based on the lag length determined from the SIC method, this model used a different number of leads and lags in order to obtain more robust results, which is consistent with the theory and empirical studies. Therefore, the results show that using 1 lag and 1 lead in the first model and 2 lag and I lead in the second model gives consistent results (refer Table 13).

Table 13: DOLS Estimates of the Long Run Effects of Service Export on Economic Growth for Two Models

Variables	Model 1	Model 2
	DOLS (1,1)	DOLS (2,1)
LK	0.929*** (0.000)	0.595*** (0.000)
LLF	-0.900*** (0.000)	-0.900*** (0.000)
LSERV	0.146*** (0.000)	0.151*** (0.000)
LMERCV	0.128*** (0.0000)	0.130*** (0.001)

Note: Asterisks, \*\*\*, \*\*, \* denote statistical significance at the 1%, 5% and 10% levels, respectively. The numbers in parentheses indicate the p-value.

Table 13 shows that capital (LK), service exports (LSERV) and merchandise exports (LMERCV) have positive and significant effect on economic growth, while labour force (LLF) exerts negative but significant impact on economic growth. The results are consistent with the neoclassical and endogenous theory models which states that an increase in the investment will result in an increase in output. The positive and significant impact of capital on economic growth is also in line with Mankiw et al. (1992) and Dewan and Hussien (2001). Capital investment is the spending of saved money on capital goods such as factories, machines, computers, vehicles, tools and other productive equipment. Improved capital goods increase labor productivity. Superior capital equipment directly makes individuals, businesses and countries more productively efficient. Increased productive efficiency leads to increased economic growth. As for developing countries, capital is a necessity to cushion for the economy to grow. In the selected developing Asian countries, the share of gross capital formation to total GDP accounted for 28.0% in 1985 and increased to 38.2% in 2012. On average, they recorded a growth of 11.8% per year for the same period. Thus, it can be concluded that for selected Asian developing countries capital can boost its economic performance.

As for the merchandise exports (LMERCV), the result is in accordance with the theoretical prediction and empirical studies such as Sach et al. (1995), Edwards (1998) and Dollar and Kraay (2001) who also found that merchandise exports have a significant and positive impact on economic growth. Generally, economists have studied free trade extensively and although it creates winners and losers, the main consensus is that free trade generates a large net gain for society. Specifically, based on export-led growth hypothesis (ELGH), export expansion is one of the main determinants of growth. It holds that the overall growth of countries can be generated not only by increasing the amounts of labour and capital within the economy, but also by expanding exports of merchandise as well as service. As for developing Asian countries, the share of merchandise exports accounted for more than 80% of total exports, and this condition implies that this region still relies on merchandise exports as a source of growth. This supports the positive and significant relationship between merchandise export and economic growth in the case Asian developing countries.

Furthermore, services exports (LSERV) also have a significant and positive impact on economic growth. The elasticity of economic growth with respect to services exports' growth seems to be a bit higher than that of merchandise exports, whereby a 1% increase in services exports gives an impact on economic growth of about a 0.14% and 0.15 increments in both models. However, Gabriele (2006) suggested that merchandise exports still tend to be more relevant in spite of the rise of services, but this study finds otherwise. During the period of 1985 to 2011, the fast momentum in the services exports sector had an average of 12.7%, which outpaced the average growth recorded by merchandise exports (12.4%), and is probably one of the reasons for the finding. Services trade is said to have positive effect on long run economic growth through various channels such as foreign exchange earnings, stimulating investment in new infrastructure, stimulates other economic industries through forward and backward linkages, employment creation, economies of scale, diffusion of technical knowledge, stimulation of research and development and the accumulation of human capital (Brida et al., 2010). This finding is also in line with Mattoo et al. (2001), Gabriela (2006), Khoury and Savvides (2006), Kumar and Prasad (2007) and Mishra et al. (2011).

As for the relationship between labor force and economic growth, surprisingly the finding indicates a significant but negative impact on economic growth. With a 1% increase in labour force, economic growth will decrease by 0.9%. This contradicts the theoretical prediction because labour, along with capital and the technological level, is considered a major factor in the neoclassical models of economic growth. Sustained long-term economic growth comes from increases in worker productivity. However, the impact on economic growth also to some extent depends on the specific characteristics of the labor market in the country. Most of the developing countries including in Asian still rely on unskilled labour force that produce lower value added products. Among the countries in the sample, only Hong Kong, Korea and Singapore can considered as having large pool of skilled workers compared to other countries, with Singapore having almost more than 50% of their labor force are highly skilled. In this case, when the economies in these countries develop, they need more skilled and knowledgeable workers rather than unskilled workers to support their economy. This could possibly explain the negative and significant relationship between labour force and economic growth.

## CONCLUSION

The objective of this study is to examine the impact of service export on economic growth of the selected developing Asian countries. Based on the dynamic OLS (DOLS) model, it is found that, except labour force, all other variables (i.e. capital, services exports and merchandise exports) have a positive and significant effect on the selected developing Asian countries. The finding suggests that the Asian developing countries should emphasize on increasing investment in capital and the contribution of the external sector, including merchandise and service exports. They should periodically review their trade policies in line with changing global environment so that both merchandise and service exports could be enhanced and eventually contributing to economic growth. As far as merchandise trade in concern, there is relatively less issue because most of the countries have consistently registered surplus. As long the trading environment is

stable without any external shock or crisis, merchandise export could contribute significantly to the growth of the countries in the present study.

As for the service export, the findings also depicted a significant and positive impact on economic growth. It is certainly true that service-related economies are slowly gaining their place and will be in the forefront of future economic development. Although it is observed that the share of value added services has been increasing over the period of the study, but most countries still rely on low value added services activities such as wholesale and retail while primarily depending on industrial activities to boost the economy. Moreover, most of the countries only registered surplus in selected sub services such tourism, travel, education and transportation. Thus, in order to increase its contribution of service export to the overall economic development, policymakers need identify the export-oriented services activities that have potential to have comparative advantage and competitive edge. They may have to develop their labour force to be more skilful and knowledgeable based on the need of industries through a structured education and human capital planning. This is because highly skilled labour forces are needed for the development of the service sector as the economy move towards service or knowledge based economy. Therefore, higher value added services activities such as professional, technical, communication and finance may grow further and will boost the service exports.

A major implication of this study for developing countries is that they will need to refocus their export-led development strategies toward services rather than manufacturing. To take full advantage of all the prospects for service exports, developing countries would need to adopt a neoclassical approach to international trade by formulating appropriate public policies. According to Samli and Jacobs (1995) to achieve the strongest competitive advantage in the international market there should be congruence between macro- and micro strategies. Thus, service export-enabling policies and actions are necessary on the part of the governments of developing countries. Liberalizing trade in services would not only allow greater service exports for developing countries but would also encourage imports of essential high-tech services and equipment that could benefit domestic service providers. However, liberalization policies should take into account the level of development of each country and developing countries should embark on liberalization with necessary exceptions.

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