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When does trade reduce poverty? Revisiting the evidence for East Asia

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Abstract

East Asia's openness to trade is often credited as one of the main drivers behind the region's impressive gains in economic growth and poverty reduction. In this paper, we examine the literature to determine whether there is a sound theoretical and empirical basis for this presumed relationship between trade and poverty reduction. Like many other studies on this topic, we find that the linkages are not automatic; the impact of trade on poverty is highly context-specific, and many factors come into play. Complementary policies are necessary to maximise trade's potential impact on poverty reduction. We also explore the role of Aid-for-Trade in addressing specific trade-related capacity constraints which prevent developing countries from maximising the benefits from trade.

Key words: east Asia, trade, poverty, aid for trade

JEL codes: C12, C51, D31, D63

When does trade reduce poverty?

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I. Introduction

East Asia's economic story has been one of impressive growth and declining poverty. Over the past 4 decades, East Asia's real gross domestic product (GDP) has grown by an average of 4.1% per year, higher than the global average of 3%. East Asia's economic achievements are reflected in dramatic improvements in social conditions. Real GDP per capita in the region increased almost fivefold from US\$1,915 in 1970 to US\$8,769 in 2016, and absolute poverty had declined across the region, although pockets of poverty remain in a few countries. Access to all kinds of social services has likewise improved dramatically.

These strides in economic growth and living conditions are associated with increased trade as a result of outward-oriented policies. The share of trade in goods and services in East Asia's real GDP more than doubled from 20% in 1970 to 48% in 2016, with manufactured exports accounting for the bulk of merchandise exports. As a result, the region's share of global merchandise trade nearly tripled from 9.5% in 1970 to 23% in 2016. Despite some setbacks as a result of the 1997 Asian Financial Crisis and the 2008 Global Financial Crisis, East Asia's trade performance has proven remarkably resilient. Even the global trade slowdown, which started around 2010, appears to have bottomed out, with East Asia leading the recovery. Robust external demand fuelled an expansion in trade, with export growth in the second half of 2017 reaching 7.9% in the People's Republic of China (PRC) and 16.5% in the five largest economies of the Association of Southeast Asian Nations (ASEAN): Indonesia, Malaysia, the Philippines, Thailand, and Viet Nam (ADB, 2018).

Amongst most economists and development practitioners is a general presumption that trade has played a critical role in both economic growth and poverty reduction in the region. But what do theory and evidence tell us about this presumed relationship? The linkages between trade and growth are fairly well understood, and the weight of evidence suggests that, given the right conditions, trade can lead to increased growth. The linkages between trade and poverty, on the other hand, are far more complex and fraught with controversy. What are the channels through which trade affects poverty, and what does the existing evidence tell us

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about the strength of these linkages? Is it possible to isolate the impact of trade on poverty from other variables?

This paper attempts to address these questions by reviewing the existing evidence and drawing lessons learned from the East Asian experience.

For purposes of this paper, we focus mainly on trade's potential role in reducing absolute rather than relative poverty; that is, we consider trade to be poverty-reducing if it lifts the poor above a defined poverty line, regardless of trends in the poor's relative income share. While some reference to inequality is made, we refrain from a fuller analysis of the complex relationships between trade, growth, poverty, and inequality.

This paper is organised into five parts. Following this introduction, Section 2 provides an overview of East Asia's achievements in trade, growth, and poverty. Section 3 then reviews what theory and evidence tell us about the possible linkages between trade and poverty. We focus our analysis on a selection of studies to draw out common issues and conclusions.² Section 4 then focuses on the role of Aid-for-Trade (AfT) in addressing specific trade-related capacity constraints which prevent developing countries from maximising the benefits from trade. A final section concludes.

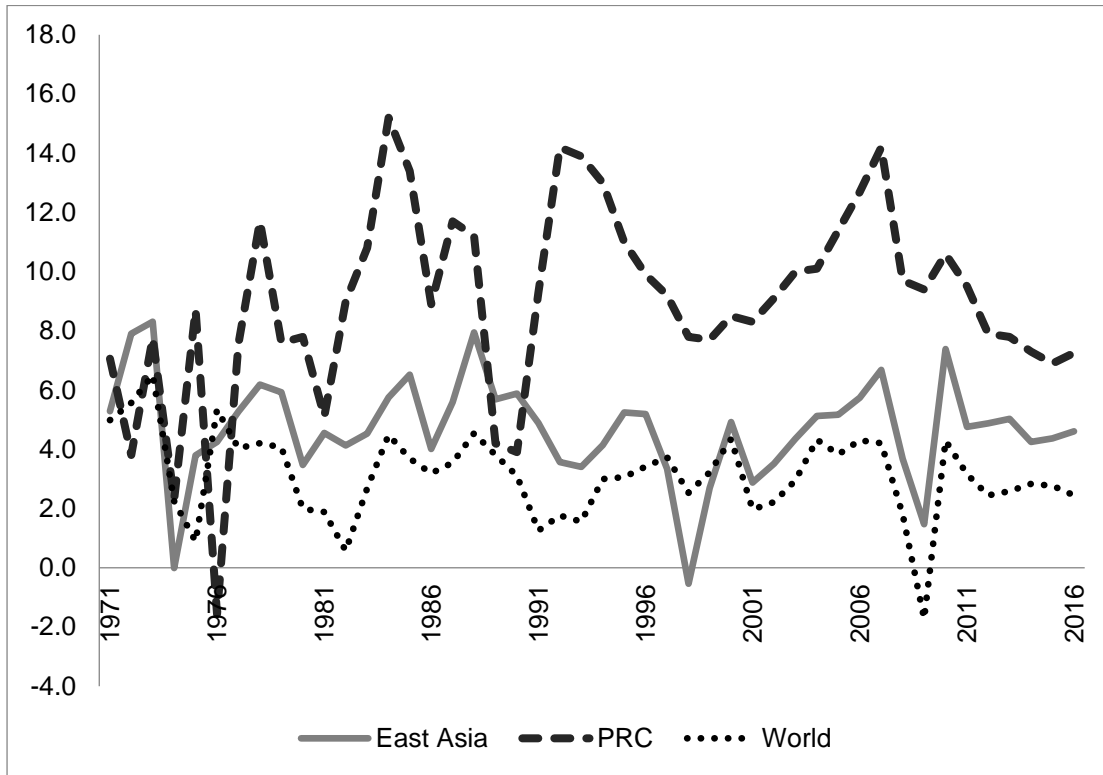
II. Trade, Growth, and Poverty in East Asia

A. Economic growth performance

East Asia's economic transformation in the course of 4 decades has been nothing short of spectacular. East Asia's real GDP has grown at an average of 4.1% per year since the 1970s, except for the years during and immediately after the 1997 Asian Financial Crisis. The region has consistently outpaced global GDP growth in real terms (Figure 1). As a result, East Asia's share of global GDP doubled from a mere 12% in 1970 to 25% in 2016 (Figure 2).

² For a more comprehensive review and critique of the literature, see Winters and Matruscelli (2014), Santos-Paulino (2012), Bineau and Montalbano (2011), Winters et al. (2004), and Krueger and Berg (2003).

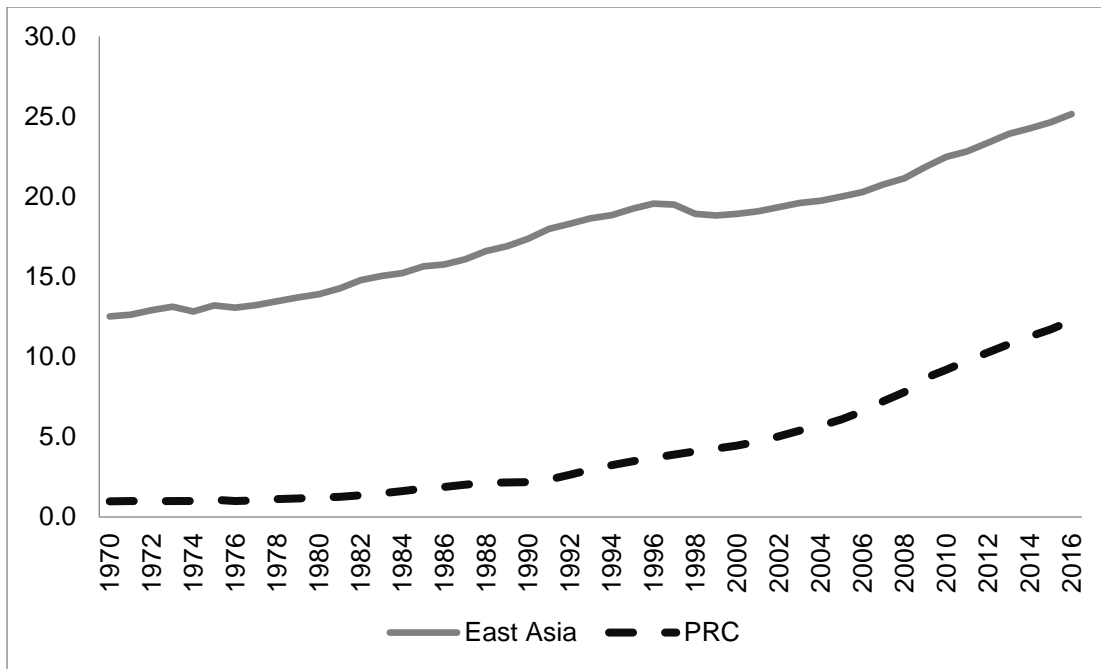
Figure 1: Real GDP Growth, 1971–2016
 (constant 2010 US\$)



PRC = People's Republic of China.

Source: Authors' calculations using data from UNCTADStat, data downloaded March 2018.

Figure 2: East Asia's Share of Real Global GDP, 1970–2016
 (constant 2010 US\$)



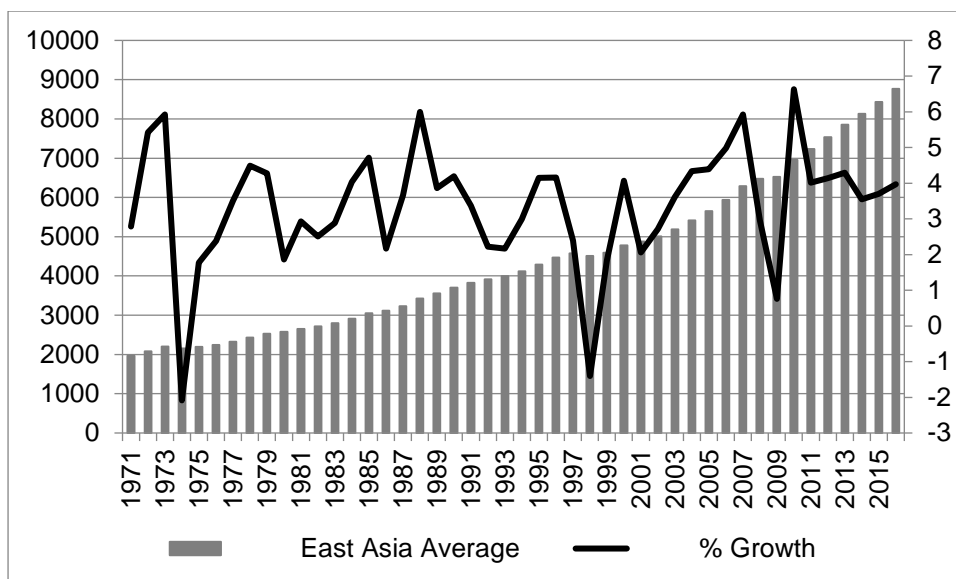
PRC = People's Republic of China.

Source: Authors' calculations using data from UNCTADStat, data downloaded March 2018.

B. Gains in poverty reduction and welfare outcomes

Along with these economic gains, East Asia has managed to greatly improve living standards and conditions. Having grown at around 3.4% of GDP annually since the 1970s, real income per capita in East Asia increased almost fivefold from US\$1,969 in 1971 to US\$8,769 in 2016 (Figure 3).

Figure 3: Real GDP per Capita Growth in East Asia, 1971–2016
(constant 2010 US\$)



Source: Authors' calculations using data from UNCTADStat, data downloaded March 2018.

Extreme poverty (as measured by the US\$1.90 poverty line) has declined across the region, and other indicators of well-being such as health and education outcomes have improved as well, as suggested by trends in infant mortality rates and literacy rates (Table 1). While pockets of extreme poverty do remain, particularly in the Lao PDR, the Philippines, Indonesia, and Myanmar, on the whole, economic growth in East Asia seems to have been poverty-reducing.

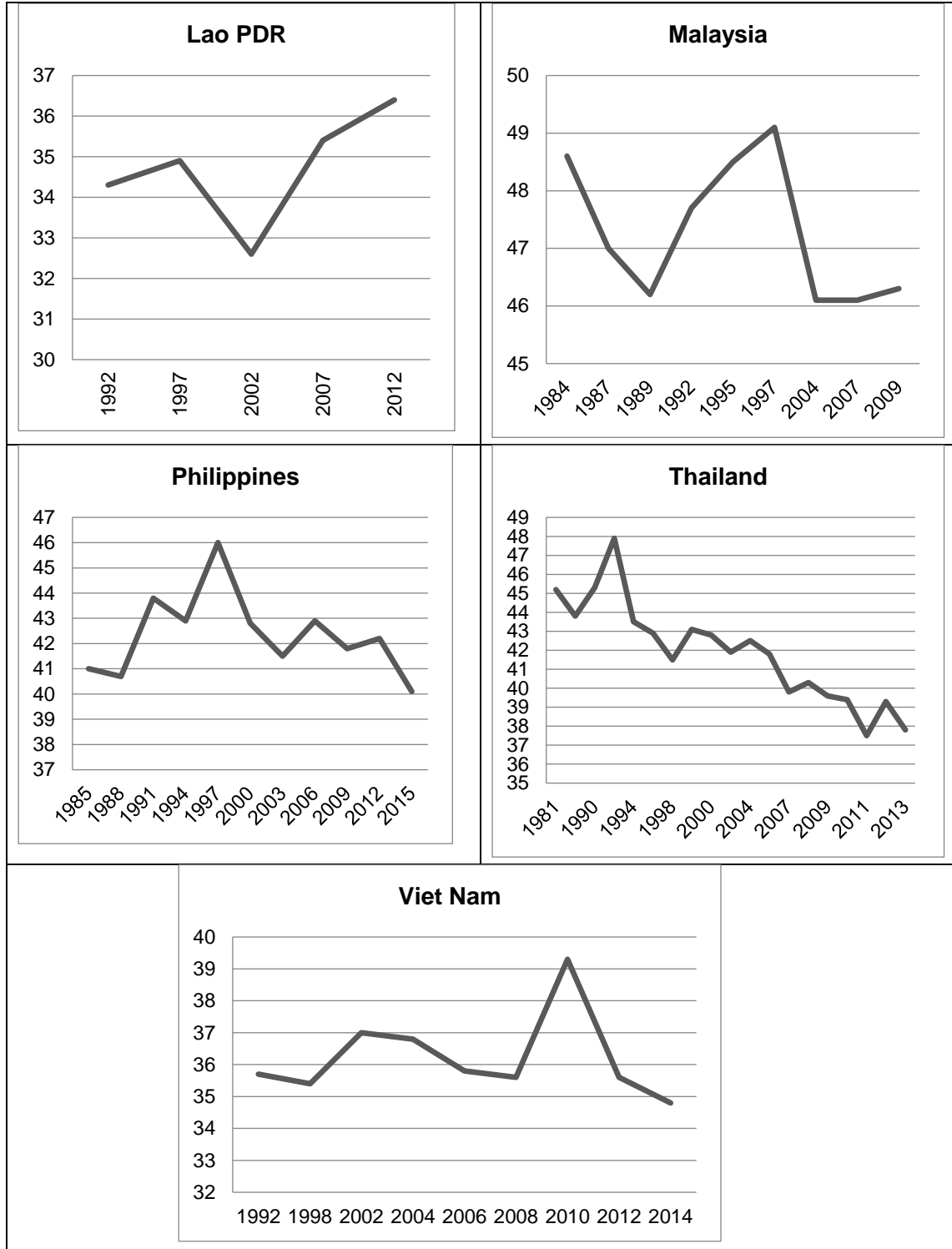
East Asia's performance in terms of reducing inequality, however, leaves much to be desired. Compared to the 1980s, recent data reveals improved income distribution in most countries (Table 1). But the changes in inequality levels have been far more erratic than changes in poverty incidence: Inequality actually increasing slightly in Malaysia, the Philippines, Thailand, and Viet Nam before declining again (Figure 4). Most worrisome is the case of the Lao PDR, where declining poverty has come with rising inequality over the last 2 decades (Warr et al., 2015). Some increases in inequality may be inevitable in developing countries as they undergo structural reform. The extent to which inequality is bad would depend on whether it is [transitory or persistent](#). Persistent inequality in countries where a large proportion of the population remains poor may indicate that a significant share of the labour force is either underemployed or unemployed, or at least not participating fully in the growth process. This could potentially put at risk the sustainability of the growth process itself. If it is transitory, in the form posited by the famous Kuznets hypothesis, then its detrimental effects will be short-lived.

Table 1: Trends in Poverty and Welfare Indicators in East Asia

Country Name	Poverty Headcount Ratio at US\$1.90/day (2011 PPP) (% of population)		Mortality Rate, Infant (per 1,000 live births)		Literacy Rate, Adult Total (% of people ages 15 and above)		GINI Index	
	Earliest	Latest	1970	2016	Earliest	Latest	Earliest	Latest
Brunei Darussalam	..	..	11.9 (1982)	8.5	77.7 (1981)	96.1 (2011)	..	..
Cambodia	..	..	177.4 (1975)	26.3	67.3 (1998)	73.9 (2009)	..	..
Indonesia	70.3 (1984)	6.8 (2016)	112.7	22.2	67.3 (1980)	95.4 (2016)	..	39.5 (2013)
Japan	..	0.3 (2008)	13.4	2	..	..	..	..
Lao PDR	33.6 (1992)	22.7 (2012)	141 (1978)	48.9	60.3 (1995)	58.3 (2011)	34.3 (1992)	36.4 (2012)
Malaysia	2.9 (1984)	0.3 (2009)	42.2	7.1	69.5 (1980)	93.1 (2010)		
Myanmar	..	6.5 (2015)	119.3	40.1	78.6 (1983)	75.6 (2016)	48.6 (1984)	46.3 (2009)
Philippines	28.1 (1985)	8.3 (2015)	55.5	21.5	83.3 (1980)	96.4 (2013)	41 (1985)	40.1 (2015)
PRC	66.6 (1990)	1.9 (2013)	80.6	8.5	77.8 (1990)	95.1 (2010)	42.8 (2008)	42.2 (2012)
Rep of Korea	0.3 (2008)	0.3 (2012)	48	2.9	..	..	31.7 (2006)	31.6 (2012)
Singapore	..	..	22	2.2	82.9 (1980)	97.0 (2016)	..	..
Thailand	19.6 (1981)	0 (2013)	71.6	10.5	88.0 (1980)	92.9 (2015)	45.2 (1981)	37.8 (2013)
Viet Nam	49.2 (1992)	2.8 (2014)	54.3	17.3	87.6 (1989)	93.5 (2009)	35.7 (1992)	34.8 (2014)

Source: World Bank World Development Indicators, data downloaded 20 March 2018.

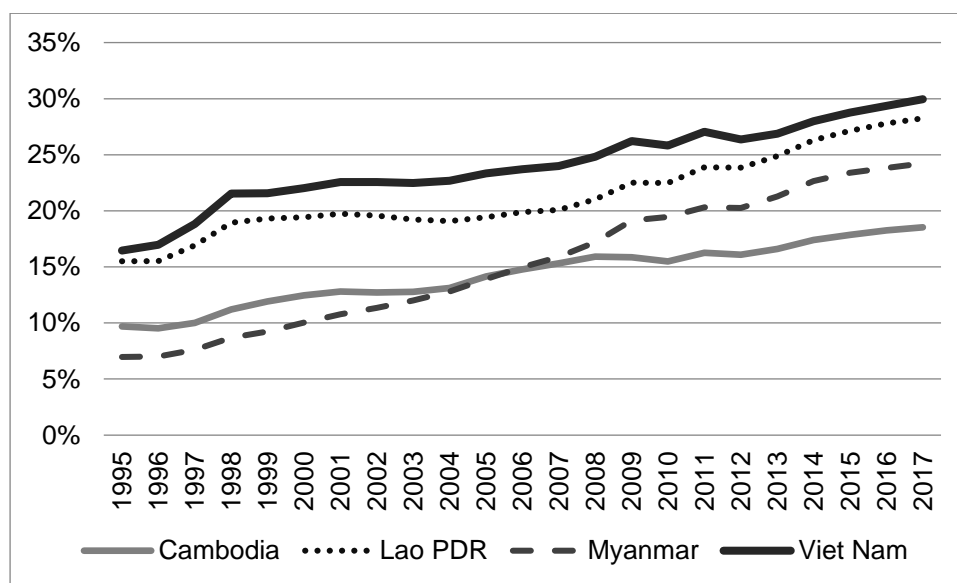
Figure 4: Trends in Inequality in Selected East Asian Countries (GINI Index)



Source: World Bank World Development Indicators, data downloaded 20 March 2018.

As for inequality between countries, research by Madhur and Menon (2014) and Menon (2012) suggests that a process of convergence has started taking place, at least within ASEAN. More rapid growth in Cambodia, the Lao PDR, Myanmar, and Viet Nam – driven by trade, investment, and other market reforms – has reduced income differences between this grouping and ASEAN-6. Figure 5 illustrates this vis-à-vis these countries' closest neighbour, Thailand. As a share of Thailand's real GDP per capita, we can see that there has been significant catch-up since 1995. However, despite these notable achievements in narrowing per capita income differences, the gaps themselves still remain quite large. In 2017, real per capita incomes in Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV countries) as a share of Thailand's real per capita income still ranged from only 19% to 30% (Figure 5). The development divide becomes even starker when one looks at differences in real GDP per capita for East Asia as a whole (Figure 6)

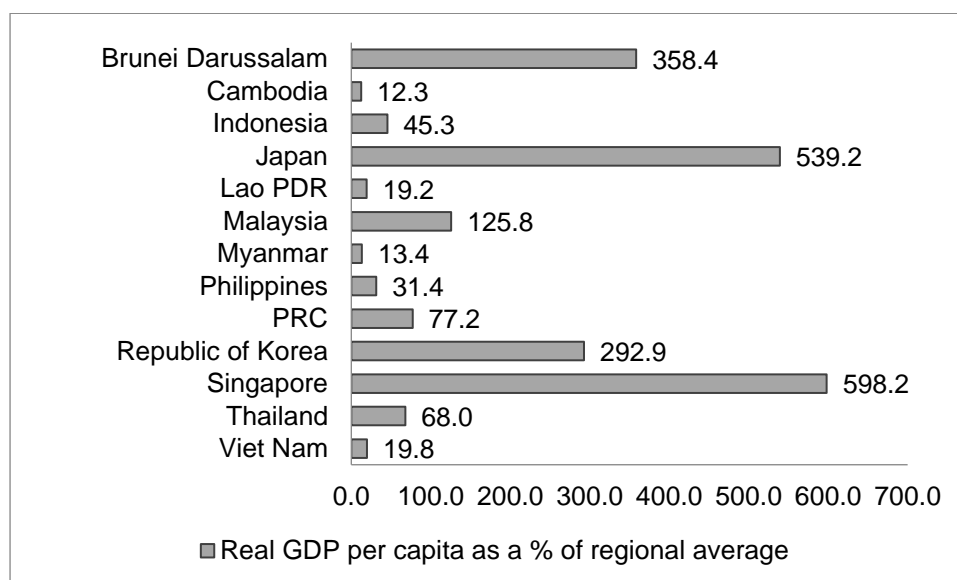
**Figure 5: CLMV's GDP Per Capita
as a Share of Thailand's GDP Per Capita, 1995–2017
(constant 2010 US\$)**



CLMV = Cambodia, Lao PDR, Myanmar, and Viet Nam; GDP = gross domestic product.

Source: Author's calculations using data from the World Bank World Development Indicators, data downloaded 26 September 2018.

Figure 6: Real GDP Per Capita as a Percentage of East Asian Regional Average, 2016 (constant 2010 US\$)



GDP = gross domestic product, PRC = People’s Republic of China.

Source: Authors’ calculations using data from UNCTADStat, data downloaded March 2018.

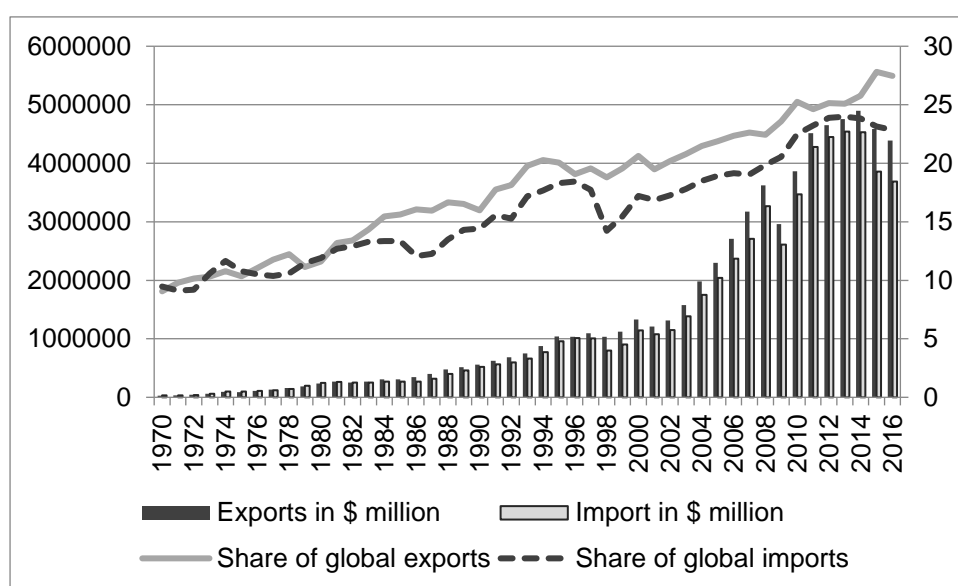
These trends in inequality both within and across countries highlight the complex relationship between growth, poverty, and inequality. They illustrate how it is possible for the poor to become better off in absolute terms while finding themselves worse off in relative terms. While we refrain from fully covering issues of inequality in this paper, the risks posed by high or growing inequality does warrant emphasis. The most obvious reason to address inequality is the threat it poses to social stability and cohesion. Even the mere perception of growing economic inequality can quickly contribute to social unrest and political instability. But there is another reason why inequality must be addressed, and this relates to inequality’s link to poverty reduction. Both growth and income distribution matter for poverty reduction, and other things equal, high inequality can dampen the poverty-reducing impact of growth (Naschold, 2002; Ravallion, 2001).

C. Expansion in Trade and Integration: Key Driver of Development

East Asia’s gains in economic growth, poverty reduction, and welfare outcomes are associated with an expansion in trade over the last 4 decades. There has been a dramatic rise in both the region’s volume and share of global trade (Figure 7).

East Asia’s trade performance is particularly impressive if you consider that countries within the region have had highly diverse experiences with economic integration. During the colonial era, many countries in East Asia were more or less connected to the global economy through the metropolitan powers, sometimes on a preferential/discriminatory basis. In the early postcolonial era, only Japan, the Republic of Korea, Singapore, Malaysia, and Thailand remained open, in the sense defined in Myint’s (1972) typology of outward-looking economies. The PRC, Indonesia, and Myanmar deliberately chose to disengage from the global economy, while the Philippines adopted a comprehensive import-substituting industrialisation strategy. The three other Mekong countries – Cambodia, the Lao PDR, and Viet Nam – were increasingly engulfed in conflict, and then isolated from the west and from global markets for more than a decade from 1975 (Hill and Menon, 2014). Despite their different starting points, however, all 13 countries in East Asia have managed to successfully transition towards more outward-oriented economic policies

Figure 7: East Asia’s Volume and Share of Global Trade, 1971–2016
(current US\$ million)



Source: Authors’ calculations using data from UNCTADStat, data downloaded 12 March 2018.

Trade has been identified as a major determinant of growth in East Asia (ADB, 2007). The region's support for labour-intensive and low-technology export manufacturing is credited for having aided its rapid transformation from a predominantly agrarian region in the 1950s and 1960s to an established manufacturing-based economic powerhouse by the 1990s (Athukorala and Menon, 1999; Agenor et al., 2012; and Eichengreen et al., 2011).

While one can reasonably argue that trade has been a critical driver of economic growth in East Asia, could the same thing be said for trade and poverty reduction in the region?

In the next section, we review what theory and evidence have to tell us about this particular relationship. In this review, we try and highlight the key findings and issues that emerge in the literature to focus our discussion on the more pressing policy issues for developing countries.

III. The Linkages Between Trade and Poverty: What Do Theory and Evidence Tell Us?

A. The indirect channel

One of the biggest challenge facing policymakers and scholars alike is tracing the many ways through which trade can affect poverty. The strongest link between trade and poverty is often presumed to be a dynamic, indirect one which operates through trade's impact on growth. Put simply, trade increases growth and growth, in turn, decreases poverty.

A vast literature examines the linkages between trade and growth on the one hand, and growth and poverty on the other. For various reasons which we shall discuss later, this literature has produced mixed results for both the trade–growth nexus and the growth–poverty nexus.

Using various measures of trade openness, some of the earliest research showing a strong and positive relationship between trade openness and growth include the cross-country studies by Grossman and Helpman (1991); Dollar (1992); Sachs and Warner (1995); Edwards (1992, 1998); Frankel and Romer (1999); Krueger and Berg (2003); and Dollar and Kraay (2001, 2002). More recent studies which support this positive relationship include Babula and Andersen (2008), Wacziarg and Welch (2008), Herzer (2013), and Tang et al. (2015). However, there is also evidence in the literature that reports a weak or insignificant relationship between trade and growth, once other factors are accounted for (Lee et al., 2004; Rodrik et al., 2004). A literature review by Singh (2010) confirms a lack of consensus on the trade–

growth relationship, further noting that it is difficult to separate the effects of trade policies from those of other macroeconomic policies.

Research on the relationship between growth and poverty has likewise been fraught with controversy. Dollar and Kraay (2002) were one of the first to empirically test the relationship between growth and poverty. Using data for 92 countries spanning 4 decades, the study showed that the average incomes of the poorest quintile rose proportionately with average incomes. More recent studies which elaborate on this work confirm that on average, economic growth has been good for the poor.³

However, cross-country studies which suggest that growth is enough to reduce poverty have been criticised on both theoretical and methodological grounds (Donaldson, 2008; Ravallion, 2007; Eastwood and Lipton, 2001; and Lubker et al., 2002). Amongst other things, the criticisms assert that (i) economic growth is a necessary but insufficient condition for poverty reduction; (ii) there are numerous instances where growth has not been pro-poor; and (iii) both the quantity and quality of economic growth matter for poverty reduction. Empirical studies support these criticisms. For instance, while country studies by Balisacan et al. (2003) for Indonesia and Balisacan and Pernia (2002) for the Philippines confirm that economic growth can help reduce poverty, they also show that the magnitude of the impact varies enormously depending on local conditions. More recently, a study by Warr (2018) on the growth–poverty nexus in ASEAN countries also underscores the importance of the sectoral composition of growth in poverty reduction: an expansion in the agricultural sector contributes more strongly to poverty reduction than growth from industry or services.

Of the studies that identify a positive relationship between growth and poverty reduction, how much does economic growth contribute to poverty reduction? In other words, what is the poverty elasticity of growth? The answer is not straightforward because the relationship between growth and poverty change is non-constant. As noted earlier, much depends on local conditions, including initial levels of inequality and the location of the poverty line relative to mean income. Not only does an increase in inequality raise the level of poverty incidence, given the level of national income, but there is also evidence that a high initial level of inequality

³ A recent cross-country study using long-run data for 118 countries confirms that the biggest driver of poverty reduction amongst the poorest income quintiles was increasing average GDP per capita (Dollar et. al., 2013). In a similar vein, Kraay (2006) applies standard poverty decomposition techniques to determine which of three potential sources of pro-poor growth – a high growth rate of average incomes, a high sensitivity of poverty to growth in average incomes, and a poverty-reducing pattern of growth in relative incomes – explain the variations in poverty reduction for a large sample of developing countries in the 1980s and the 1990s. His findings reveal that most of the variation in changes in poverty is due to growth in average incomes which accounts for 70% of the variance in the short run, and 97% of the variance in the long run.

reduces the amount by which poverty incidence declines for a given rate of growth (Ravallion 2007).⁴

Putting these analytical issues aside, the empirical evidence suggests that, on average, a 1% point increase in growth reduces the rate of poverty incidence by a maximum of 0.25% (Ravallion, 1995; Deininger and Squire, 1996 and 1998; Bruno et al., 1998; Adams, 2003).

Given mixed evidence surrounding the linkages between trade, growth, and poverty, the broad consensus is that while positive linkages may be present, these are by no means automatic: factors other than trade openness matter for economic growth, and economic growth is but one of many potential ways to reduce poverty.

B. The direct channels

In addition to the indirect channel which links trade and poverty through growth, Winters (2002) and McCulloch et. al. (2002) propose three additional channels through which trade can affect poverty more directly: i.e. (i) through changes in product prices, (ii) through changes in factor prices, and (iii) through changes in fiscal revenue and government spending on services which affect the poor.

The applicability of these different channels will, of course, depend on the nature of the trade shock being investigated. For instance, while all three channels would be relevant when analysing the poverty impact of trade liberalisation, the first two channels would be of primary importance in the case of an external trade shock that affects terms of trade.

Impact through changes in product prices. Conventional trade theory predicts that increased trade will lower the prices of goods that are consumed and imported by the poor

⁴ The important complication is that the rate of growth is not necessarily exogenous. It may be influenced by the same factors that impinge on the level of inequality and changes in it. Dollar and Kraay (2002) have shown that there is no correlation between changes in inequality and the rate of growth. That is, 'on average', growth is distribution-neutral, implying that economic growth must be poverty-reducing. But around this 'average' story, the experiences of individual countries vary widely. Overall, the economic literature remains ambivalent on the relationship between inequality and growth, although most of the recent literature suggests that high levels of inequality may coexist with retarded growth (see Warr et al., 2015, and literature cited therein).

while increasing the prices of goods produced and exported by the poor. The net welfare effect will ultimately depend on income and substitution effects, which in turn will depend on a couple of things.

First, the poor's production and consumption baskets and the kind of goods that will be subject to price changes will matter. Let us take the case of food as a classic example. The welfare impact of a change in the price of food will depend on whether we are looking at the urban poor or the rural poor. For the urban poor, we can expect the impact to be somewhat more straightforward since they tend to be net consumers of traded goods. For the rural poor, the impact is likely to be more ambiguous since they tend to be both producers and consumers of food (Zezza et al., 2008).⁵

Second, the manner and the extent to which border price changes are passed on to the poor will be important. Several obstacles could prevent prices from being passed on, including a lack of competition along the supply chain, poor infrastructure and connectivity, and the share of the tradable sector in the domestic economy (Nissanke and Thorbecke, 2006; World Bank and World Trade Organization [WTO], 2015; Mitra, 2016).

Recognising the difference between impact and incidence of tariff reductions, most of the benefits could be passed-through to consumers and producers in the form of lower landed duty-paid prices. This can benefit the poor directly, as consumers, and indirectly through lower prices of other goods as a result of lower prices of outputs from producers that benefit from cheaper imported inputs.

Several studies suggest that changes in product prices due to trade liberalisation generally have a positive effect on household income and consumption. A review of the literature by Winters et. al. (2004) and Winters and Martuscelli (2014) reveals that trade openness reduces the price of staple foods, benefiting the poor who spend the majority of their income on necessities like food. Using panel data for Viet Nam, Isik-Dikmelik (2006) finds that trade reforms which increased both rice prices and output benefited poorer households the most, regardless of whether they were net food producers or consumers. Meanwhile, a cross-country study by Fajjgelbaum and Khandelwal (2016) simulating the real income effect of autarky confirms that the price effects of trade has a pro-poor bias. This is because poor consumers spend relatively more on traded goods and, therefore, benefit disproportionately from price drops from trade openness.

These positive findings notwithstanding, there is also evidence to suggest that the effects of trade reforms on prices are actually quite small (Bineau and Montalbano, 2011). Moreover, greater openness can also leave the poor vulnerable to large swings in global prices,

⁵ The urban/rural poor refer to individuals or families in urban/rural areas whose incomes fall below the poverty line.

particularly if they are net consumers of traded goods. For instance, a cross-country study by Ivanic and Martin (2008) suggests that the increase in food prices between 2005 and 2007 likely raised overall poverty in low-income countries in the short run. Similarly, a country case study by Manzano and Prado (2014) reveals that an increase in global rice prices hurt the rural poor in the Philippines who are net consumers of rice. Meanwhile, Warr (2008) illustrates how an increase in food prices can hurt the poor even in countries with large agricultural exports such as Thailand, if the price increases mainly benefit the landowners.

Impact through changes in factor prices. In classical trade theory, the relationship between trade liberalisation and the distribution of factor income is described by the Stolper-Samuelson theorem, which posits that trade liberalisation will change relative factor prices in favour of the more abundant factor. In developing countries where labour is most abundant, this would mean an increase in the demand for labour.

Evidence on the impacts through wages and employment is quite mixed. A study by McCaig (2011) measures the short-term impact of tariff cuts by the United States (US) on provincial poverty in Viet Nam as a result of the 2001 US–Viet Nam Bilateral Trade Agreement, which dramatically reduced US tariffs. The results reveal that provinces that were more heavily exposed to the tariff cuts experienced more rapid poverty reduction. McCaig’s analysis also shows that wages grew more quickly for the least educated workers in the most exposed provinces.

Meanwhile, a recent cross-country study by Dutt, Mitra, and Ranjan (2009) uses data on trade policy, unemployment, and various controls to confirm a negative relationship between trade openness and unemployment. While the analysis finds that trade liberalisation increases unemployment in the short run, this eventually reverses and declines in the long run.

In contrast to studies which show a strong and positive relationship between trade and employment, case studies presented in an earlier volume by Krueger (1983), and analysis by Winters, et. al (2004), Winters and Matruscelli (2014), and UNCTAD (2013) show that the impact of trade on employment is generally limited.

Several studies highlight that the actual impact of trade on employment and wages will depend on several things. UNCTAD (2013) and case studies in Harrison (2006) emphasise that the impact depends greatly on which sectors are affected and the kind of jobs that are created when trade is liberalised. Trade that increases the demand for low-skilled labour will likely have a more positive impact on wages, employment, and poverty reduction, while trade that increases the demand for skilled labour will not only have a limited impact on these outcomes but could also lead to rising wage inequality.⁶

⁶ A review of the literature by Newfarmer and Sztajerowska (2012) finds that rising productivity can help increase wages in both rich and poor countries. However, higher wages typically go to workers that are

Labour market characteristics also matter, as they determine whether adjustment to trade openness will occur primarily through wages or employment (Jansen and Lee, 2007; UNCTAD, 2013). The ease with which workers can switch jobs is particularly important. Davis and Mishra (2006) and Topalova (2006) suggest that in reality, workers face several barriers to labour mobility. Workers from import-competing activities that are displaced by trade liberalisation may not easily find jobs in new sectors, leading to trade-related unemployment (Newfarmer and Sztajerowska, 2012). These job losses could push dislocated workers into poverty unless adequate social safety nets are in place.

The type of trade growth that results from the liberalisation is also likely to play a critical role in the adjustment process and its impact on factor markets, especially labour. In particular, the contribution of growth in intra-industry trade (IIT) to growth in trade is relevant to adjustment issues associated with trade liberalisation. If most of the growth in trade is IIT, then the disruption to labour markets will likely be low because IIT does not require inter-industry factor movements. Whereas trade expansion through traditional Heckscher-Ohlin trade requires factor transfer from import-competing to export-oriented industries, trade expansion through IIT requires specialisation only within industries (Menon and Dixon, 1997).⁷ Furthermore, all factors can gain with IIT (Krugman, 1981), thus alleviating adjustment pressures.

Impact through changes in fiscal revenues. Tariff reductions, as a result of trade openness, is often expected to reduce government revenue, which could in turn lead to reductions in social expenditures that benefit the poor. To the extent that tariff reductions are passed through to the poor in the form of lower prices, trade liberalisation will benefit the poor. The final impact will also depend on the initial share of tariffs in government revenue and whether how other taxes and revenue sources can come in and fill the gap; that is, the differential impact that domestic versus trade taxes may have on the welfare of the poor.

Evidence suggests that as formal barriers to trade decline, the government can use the opportunity to reform and broaden its fiscal base through the introduction of a comprehensive value-added tax to replace declining revenue from import and export duties (Hill and Menon,

more skilled and are employed in less routine or repetitive work. Similarly, in a study analysing the impact of services liberalisation on wages and employment, Amoranto, Brooks, and Chun (2011) find that liberalisation has created more job opportunities for high-skilled workers to the detriment of workers that are less educated.

⁷ The definition of 'industry' is critical here. Sceptics such as Finger (1975) argue that most measured intra-industry trade (IIT) is a statistical artefact brought about by trade data having been grouped in heterogeneous categories. In a sense they are right. At an extremely fine level of disaggregation, there will be no measured IIT. However, if the interest is in IIT-related indicators of factor market disruption associated with trade growth, then industry categories should be defined so that the cost of intra-industry factor movements is low relative to inter-industry movements. This means that the categories must be neither too fine nor too broad. With very fine categories, there will be inter-industry factor movements which are barely more costly than intra-industry movements. With categories which are too broad, intra-industry movements may be just as costly as inter-industry movements. For more discussion, see Greenaway and Milner (1983) and Dixon and Menon (1997).

2014). Governments can also offset lost revenue through improvements in the efficiency of tax collection (Winters et al., 2004; Winters and Martuscelli, 2014). Greenaway and Milner (1991) and Bannister and Thugge (2001) also show that tariff liberalisation could increase revenue if they remove significant distortions in the tax system which constrain or prevent trade in the first place. The increase in the volume of trade could more than offset the reduction in tariff revenues as a result of the liberalisation. The reduction in tariffs could also reduce the incentive to smuggle legal goods, resulting in a shift from private to publicly collected trade taxes. If enough of such a shift occurs, this could also more than offset the reduction in revenues from the liberalisation effort (Menon, 1999).

C. What Explains the Lack of Conclusive Evidence?

Many reasons have been cited for the lack of conclusive evidence on the relationship between trade and poverty.

The first has to do with the diverse manner in which scholars define and measure trade and poverty. The existing literature measures different aspects of trade, with some using outcome-based measures such as trade as a share of GDP, and others using policy measures that capture changes in the policy regime, such as tariff reductions (Jansen et al., 2011). The manner in which poverty is defined and measured is even more diverse, given the multidimensional nature of poverty.

The second reason involves differences in methodologies. Analytical results will vary depending on whether the methodology adopted is *ex ante* or *ex post*, empirical or anecdotal, cross-country or single country. The empirical literature alone has four broad methodological categories: (i) cross-country regression, (ii) partial-equilibrium and cost-of-living analysis, (iii) general-equilibrium simulation, and (iv) micro-macro synthesis (Reimer, 2002).

In addition, as Vos (2008) stresses, empirical analyses of trade openness are highly sensitive to basic modelling and parameter assumptions. Research by Menon (2014), for instance, illustrates how assumptions about preference utilisation affects the estimated impact of preferential trade agreements. Assuming a more realistic scenario with incomplete preference utilisation rates significantly diminishes the estimated benefits from preferential liberalisation.

Reimer (2002) also notes that results will vary depending on whether one is looking at the direct and indirect impacts of trade on poverty (the bottom-up vs. top-down approaches). Moreover, as Goldberg and Pavcnik (2004) observe, while the short- and medium-term direct and static effects are more empirically tractable, the dynamic and indirect channel through long-term growth is far more complex and has thus far failed to reach a consensus.

The third reason – and arguably the most critical one – has to do with endogeneity issues. The literature reviewed in this section highlights how many unobserved country and context-specific factors can affect the relationship between trade and poverty. Initial conditions matter, as does the impact of reforms in other policy areas. As Bannister and Thugge (2001) point out, the difficulty of disentangling trade's general equilibrium effects from other factors preclude generalisations about the impact of trade on poverty. Thus, although most development practitioners presume that trade openness can lead to poverty reduction, in theory and in practice, showing the linkages between the two is a complex and often frustrating exercise.

D. The Importance of Context-Specific Factors and Complementary Policies

The literature identifies many context-specific factors, which ultimately determine the impact of trade on poverty, ranging from economic factors such as macroeconomic stability and exchange rate policy, to institutional factors such as the relative market power of different economic agents. For purposes of illustration, Table 2 attempts to identify some of these different context-specific factors and the direct channels of transmission they are likely to affect. Many of these context-specific factors cannot be addressed by trade policy alone and will require policy interventions in other areas.

Insufficient or poorly designed complementary policies partly explain why some developing countries have failed to maximise gains from trade, despite having trade regimes that are just as, if not more, open than their more successful counterparts (Table 3).

The East Asian experience underscores how implementing the right mix of complementary policies can generate gains that are much larger than those derived from trade openness alone. Sharma (2003) notes that what sets East Asia apart from other regions is that East Asia's reforms were far more comprehensive, encompassing investments in infrastructure, reforms to remove distortions and increase efficiency in goods and factor markets, and efforts to strengthen institutions and promote good governance.

Moreover, Niskanen and Thorbecke (2010) point out that improvements in human capital through investments in health and education, along with improvements in the technology and knowledge base, helped countries in the region transform their production and trade structures. By contrast, in regions such as South Asia, reforms have been mainly focused on liberalising trade and investment, without removing distortions in other areas, particularly factor markets (Sharma, 2003). In India, for instance, it is sometimes more costly or cumbersome to move goods across borders amongst neighbouring states than it is to another country.

Table 2: Context-Specific Factors that May Affect Trade-Poverty

Channels: An Illustration

Context-Specific Factor		Price Channel	Wages and Employment Channel	Fiscal Revenue Channel
Economic	Structure of domestic economy	X	X	X
	Infrastructure/Connectivity	X	X	
	Business regulatory environment	X	X	
	Macroeconomic stability	X	X	X
	Financial development		X	
Social	Investment in human capital		X	
	Social safety nets	X	X	
	Household assets and income sources	X		
Institutional	Competitive structure of goods and factors markets	X	X	
	Regulatory and administrative structure	X	X	X
	Government capacity	X	X	X
	Relative market power of economic agents	X	X	

Source: Authors' interpretation.

Table 3: The Link Between Trade Openness and Improved Outcomes

Is Not Automatic

Region	Trade Openness (Trade as a % of GDP)	GDP per Capita (constant 2010 US\$)
Asia vs. sub-Saharan Africa		
East Asia and Pacific	58.0	9,228.10
East Asia and Pacific (excluding high income)	50.3	5,496.40
sub-Saharan Africa	55.2	1,656.20
Middle and High Income vs. Low Income and LDCs		
High income	61.5	41,580.40

Middle income	49.5	4,692.50
Low income	60.2	582.5
LDCs	54.8	870.2

LDC = least developed country.

Source: World Bank World Development Indicators, data downloaded 29 September 2017.

IV. Addressing Context-Specific Factors: The Role of Aid-for-Trade

A. Aid-for-trade: history and objectives

Addressing the different context-specific factors outlined in the previous section poses a major challenge for many developing countries that still lack the resources and institutional capacities to undertake broad-based policy reforms. One global initiative that can help overcome this challenge is Aid-for-Trade (AfT).

Launched in 2005 at the WTO's Ministerial Conference in Hong Kong, China, the AfT initiative has two broad objectives: (i) identify, prioritise, and address trade-related capacity constraints that prevent developing countries from seizing trade opportunities; and (ii) make the benefits of trade more equitable by providing 'additional, predictable, sustainable and effective financing' (WTO, 2006). AfT forms part of the overall Official Development Assistance (ODA) that is provided to developing countries.

AfT does not cover the whole gamut of complementary policies needed to maximise trade's impact on growth and poverty. Instead, it prioritises support for interventions that strengthen supply-side capacity and trade-related infrastructure. More specifically, support is grouped into four main categories:

- 1) Technical assistance for trade policy and regulation (supporting development of national trade policies, participation in trade negotiations, and implementation of trade agreements);
- 2) Building productive capacity (helping enterprises to trade and creating a favourable business environment);
- 3) Trade-related infrastructure (supporting transport and storage, communications and energy infrastructure); and
- 4) Trade-related structural adjustment (WTO AfT Fact Sheet, 2017) .

B. Aid-for-trade monitoring

AfT activities and flows are monitored at different levels. Donors and recipient countries monitor AfT activities through self-assessment questionnaires prepared by the Organisation for Economic Co-operation and Development (OECD) and the WTO, while the OECD is responsible for monitoring AfT flows at the global level. Data on AfT commitments and disbursements are derived from the OECD's Creditor Reporting System (CRS) database.

The AfT data from the CRS database has a couple of limitations. First, the database does not provide data that strictly matches the four main categories of AfT. To calculate AfT flows, certain purpose codes or economic sectors have been designated to serve as proxies for these categories.

Second, the CRS database only covers 90% of ODA flows (OECD/WTO, 2017). The database covers ODA from member countries of the OECD Development Advisory Committee (DAC), some non-DAC countries, and multilateral institutions. At present, South–South ODA flows are not adequately captured by the database. ODA from the PRC, for instance, is not reported in the CRS (although estimates of PRC's ODA have been reported separately by the OECD, and some information is available on PRC's AfT flows for the years 2006 to 2011). This is an important omission, given the amount of PRC's ODA that goes to infrastructure (such as the Belt and Road Initiative) which could qualify as AfT.

C. Trends in aid-for-trade flows

The latest figures from the OECD show that nearly US\$300 billion in AfT has been disbursed since the initiative was launched in 2006 (OECD/WTO, 2017). There has been a steady increase in AfT flows during this period, with total AfT disbursements increasing by about 33% from an annual average of about US\$20.97 billion in 2006–2008 to US\$39.8 billion in 2015. The share of AfT in total ODA disbursements likewise increased from 15.4% to 22.5%. Broken down by category of support, Economic Infrastructure and Building Productive Capacity had received the bulk of disbursements. In 2015, these two categories accounted for 58% and 46% of the total, respectively (Table 4).

Asia has been the main recipient of assistance, accounting for nearly a fourth of total AfT disbursements since 2006. Support for Economic Infrastructure has accounted for the bulk of assistance to Asia since 1996; in 2015, it made up nearly two-thirds of total disbursements (Table 5).

Developing countries in East Asia received around 13% of total AfT disbursements in 2006–2015 and accounted for nearly 45% of assistance to Asia during the same period. Out of 146

recipient countries, six East Asian countries ranked amongst the top 50: Viet Nam, Indonesia, the PRC, the Philippines, Thailand, and Cambodia (Table 6).

Table 4: Trends in Aid-for-Trade Disbursements, 2002–2015
(US\$ million, 2015 constant)

	2006– 2008 Average	2009– 2011 Average	2012–2014 Average	2015
TOTAL AID-FOR-TRADE	20,963.9	29,339.4	35,857.5	39,815.5
Share in total Aid-for-Trade				
Trade policy and Regulations	3.2%	3.3%	3.1%	2.5%
Economic infrastructure	49.6%	50.6%	54.6%	51.9%
Building productive capacity	47.2%	46.0%	42.3%	45.6%
Trade-related adjustment	0.0%	0.1%	0.0%	0.0%
Share in total ODA	15.4%	19.8%	22.1%	22.5%

ODA = Official Development Assistance.

Source: OECD/WTO (2017).

Table 5: Aid-for-Trade Disbursements by Region, 2002–2015
(US\$ million, 2015 constant)

	2006–2008 Average	2009–2011 Average	2012–2014 Average	2015
Africa				
Trade policy and regulations	199.0	321.5	385.0	375.5
Economic infrastructure	3,447.7	5,207.3	7,241.6	7 743.9
Building productive capacity	3,276.7	4,954.9	5,717.8	5 950.7
Trade-related adjustment	7.2	25.3	1.2	0.3
Subtotal	6,930.5	10,509.0	13,345.6	14 070.4
America				
Trade policy and regulations	81.1	91.6	92.4	87.9
Economic infrastructure	406.2	1,109.4	1,673.4	1 546.8
Building Productive capacity	990.9	1,378.0	1,209.5	1 175.5
Trade-related adjustment	..	5.5	8.9	11.0
Subtotal	1,478.2	2,584.5	2,984.2	2,821.1
Asia				
Trade policy and regulations	168.9	258.1	275.7	239.8
Economic infrastructure	5,599.9	6,273.0	8,208.5	9,579.0
Building productive capacity	3,925.7	4,264.8	4,008.4	5,092.2
Trade-related adjustment	0.4	2.9	2.0	0.1
Subtotal	9,694.9	10,798.9	12,494.6	14,911.1
Europe				
Trade policy and regulations	24.7	48.4	49.6	38.5
Economic infrastructure	636.9	1,424.2	1,841.3	1,229.2
Building productive capacity	485.6	1,063.2	2,171.7	2,557.7
Trade-related adjustment	..	1.1	2.0	1.7

Subtotal	1,147.2	2,536.9	4,064.5	3,827.1
Oceania				
Trade policy and regulations	2.2	9.4	18.3	20.0
Economic infrastructure	128.5	189.2	269.2	344.1
Building productive capacity	108.8	106.5	120.0	171.1
Trade-related adjustment	..	0.3	0.0	..
Subtotal	239.6	305.4	407.5	535.2
Non-region specific				
Trade policy and regulations	198.5	237.6	281.0	218.9
Economic infrastructure	169.0	629.9	326.6	203.2
Building productive capacity	1,106.0	1,737.3	1,953.6	3,228.4
Trade-related adjustment	..	0.0	0.0	0.0
Subtotal	1,473.5	2,604.8	2,561.2	3,650.5
TOTAL AID FOR TRADE	20,963.9	29,339.4	35,857.5	39,815.5

Note: Totals may not sum due to rounding.

Source: OECD/WTO (2017).

Table 6: Aid-for-Trade Disbursements to East Asia, 2002–2015
(\$ million, 2015 constant)

	2006–2008 Average	2009–11 Average	2012–2014 Average	2015	TOTAL	% of Total
TOTAL AfT	20,963.9	29,339.4	35,857.5	39,815.5	298,298.0	
Asia	9,694.9	10,798.9	12,494.6	14,911.1	113,876.0	37
East Asia	3,165.4	3,463.4	4,320.1	4,688.2	37,534.9	13
Viet Nam	953.1	1,431.6	2,351.9	2,221.0	16,430.7	5.5
Indonesia	688.2	716.6	522.8	878.0	6 660.6	2.2
PRC	705.9	492.0	347.5	372.3	5 008.4	1.7
Philippines	429.2	345.2	208.9	345.1	3 294.6	1.1
Thailand	152.7	140.7	335.1	135.4	2 021.1	0.7
Cambodia	114.3	173.5	255.1	214.7	1 843.3	0.6

Lao PDR	107.2	118.2	128.5	202.3	1 264.1	0.4
Myanmar	14.9	45.7	170.3	319.4	1 012.2	0.3

AfT = Aid-for-Trade, PRC = People's Republic of China.

Source: OECD/WTO (2017).

C. Impact of aid-for-trade

Several empirical studies examine the development impact of AfT. The selection of studies summarised in Table 7 yield several important observations: (i) positive outcomes are more likely to be reported in the case of aggregate AfT spending; (ii) the results become more mixed at more disaggregated levels depending on the type of support provided and the kind of sector receiving assistance; and (iii) thus far, research has focused on the impact of AfT on trade costs and export performance, with very little done to determine the impact of AfT on poverty.

While case studies reported in OECD/WTO (2015) provide some evidence of AfT's positive impact on poverty reduction, the vast majority of these case studies report that AfT has had a much larger impact on trade performance than welfare outcomes (Figure 8).

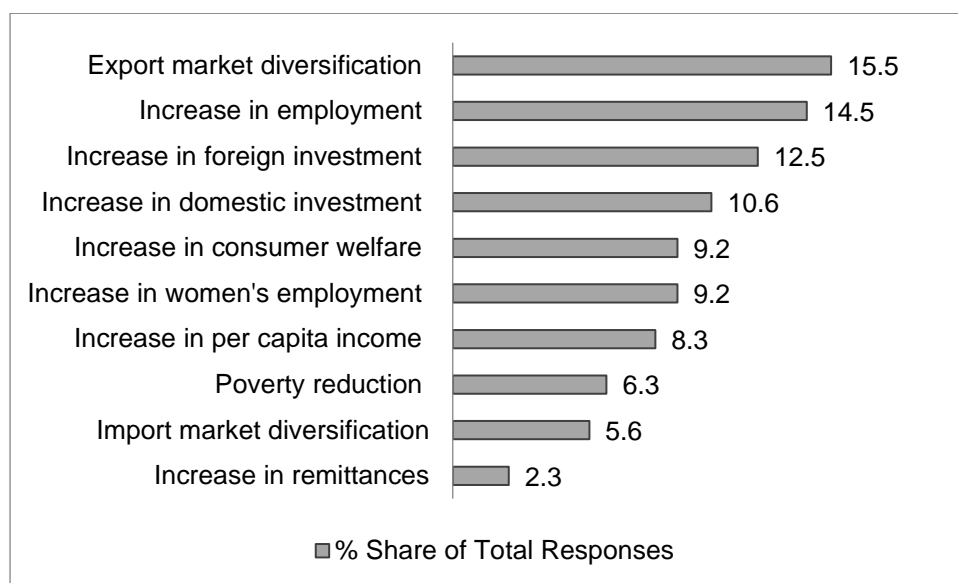
Ultimately, the existing literature on the impact of the AfT falls prey to the same problems which hound the broader literature on the trade–growth–poverty nexus. Until scholars and policymakers can address issues involving data availability and quality, methodological approaches, endogeneity, and cross-country heterogeneity, it will be difficult to say with certainty if the AfT has achieved its twin objectives of improving trade performance and making the gains of trade more equitable.

Table 7: Findings of Selected Studies on the Impact of Aid-for-Trade

Authors	Findings
Martínez-Zarzoso et al. (2016)	AfT flows to Trade-Related Infrastructure and Building Productive Capacity are associated with positive impacts on exports, while technical assistance for Trade Policy and Regulation is not associated with higher exports.
Cirera and Winters (2014)	Aggregate AfT flows to sub-Saharan Africa do not appear to explain changes in trade costs and patterns of exports. There is also no discernible impact on the structure of the labour force.
Berritella and Zhang (2012)	AfT flows have a positive impact on trade flows and per capita income, although the impacts of different categories of support vary depending on the geographical region.
OECD/WTO (2013)	A dollar invested in AfT is associated with an increase of nearly US\$8 in additional exports from all developing countries, and US\$9 for all low and lower-middle income countries.
Cali and te Velde (2009)	AfT has a positive and significant impact on exports but this effect is entirely driven by aid to economic infrastructure. Aid to productive capacity has no discernible effect on exports, and any positive effects at the sectoral level seem to be driven by an allocation that is skewed towards well-performing sectors.
Helble et al. (2009)	A 1% (US\$11.7 million) increase in AfT policy and regulatory reform could generate an increase in global trade of about US\$818 million.

Source: Authors' compilation based on literature review

Figure 8: Aid-for-Trade Impacts from the Public and Private Sector Case Studies



Note: Total of 111 case studies. Multiple responses allowed.

Source: OECD/WTO (2015).

IV. Conclusion

The story of East Asia has been one of impressive economic growth and declining poverty. These economic and developmental outcomes have been associated with increased trade as a result of outward-oriented policies. A general presumption is that trade has played a critical role in delivering both economic growth and poverty reduction in the region. But is there a sound theoretical and empirical basis for this presumed relationship? The linkages between trade and growth are fairly well understood, and the weight of evidence suggests that, given the right conditions, trade can lead to increased growth. The linkages between trade and poverty, on the other hand, are far more complex.

There are indirect and direct ways in which trade can affect poverty. The literature tends to focus on the indirect route, operating through growth and its impact on poverty. This relationship depends on several context-specific factors, including the initial level of inequality and the quality of the growth – as in its sectoral composition – amongst other things.

There are three direct channels through which trade can affect poverty: (i) impact on incomes and consumption through product prices, (ii) impact on wages and employment through factor prices, and (iii) impact on public goods and services through fiscal revenues. There is evidence

to support the existence of all three channels, although the operation of (ii) is more complex and may only be evident in the long run.

Endogeneity and other complications may inhibit identification of clear empirical links. The difficulty of disentangling trade's general equilibrium effects from other factors precludes generalisations about the impact of trade on poverty; that is, the links may exist but are difficult to derive empirically. Complementary policies may also be required, such as investments in infrastructure, reforms in factor markets, efforts to strengthen institutions, improving governance, improving human capital, and investments in research and development.

Addressing the different context-specific factors outlined above poses a major challenge for many developing countries that still lack the resources and institutional capacities to undertake broad-based policy reforms. One global initiative that can help overcome this challenge is Aid-for-Trade (AfT). There is evidence that AfT has had success in addressing some of these issues, but a lot more will be needed going forward.

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