
1. Introduction

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1.1 INTRODUCTION

Globalization has become a dominant feature of the world economy since at least the 1980s. Global capital and trade flows have grown far faster than global income, as measured by Gross Domestic Product (GDP), so that individual countries are now more integrated in the global economy than at any time since the end of the second World War. International migrant flows have also increased significantly, as have the associated flows of remittances back to the sending countries. Trade has been central to globalization, as fragmentation of production has supported increasing importance of multinational firms and associated flows of foreign direct investment (FDI), while widespread trade liberalization has reduced barriers to trade. Significant trade liberalization has been implemented at the country (unilateral), bilateral (free trade agreements), regional (through numerous integration agreements) and global level, the latter under the auspices of the World Trade Organization (WTO). This process has motivated research on the impact of globalization in general, and trade in particular, on growth, incomes and poverty. The focus of this volume is on trade and trade policy reform from the perspective of developing countries.

The standard economic argument is that increased global trade flows would benefit developing countries through increased demand for their exports using relatively unskilled labour with which they are well endowed. Trade liberalization encourages increased trade with each country specializing in goods in which it has a comparative advantage. One proposition that attracts widespread agreement amongst economists is that high barriers to trade damage the economy by distorting prices, and hence production and investment incentives, and increasing the price of imports to the disadvantage of consumers and producers who require imported inputs and technology. Protection against imports benefits producers of import-competing goods (who can charge higher prices and earn economic rents) but is a disincentive to producers of exports, who face higher prices for inputs. As access of other countries to the market is restricted, protection also harms foreign exporters. When countries reduce protection by liberalizing trade they encourage a more efficient allocation of resources. This is why the WTO promotes multilateral trade liberalization – if all countries liberalize together the potential benefits are greater (benefits from increased market access and from reduced protection).

Most developing countries, including the poorest, have liberalized trade significantly since the 1980s or early 1990s but the evidence that this has contributed to higher growth is quite limited. Although a number of developing countries have expanded their share of global trade (the so-called emerging markets) and experienced high growth, trade reform has not usually been the main factor in export growth. In contrast, many low-income countries (LICs) that have liberalized trade have not experienced subsequent

high growth, primarily because they face a variety of constraints that undermine their potential to grow through trade.

This highlights the fact that trade performance and the relationship between trade and the performance of the economy differ across countries according to their level of development. This is reflected in the volume in separate sections on sub-Saharan Africa (SSA), Latin America and East Asia; not all regions are covered but these three allow a focus on major trade-related issues. Sub-Saharan Africa is a region with a historically poor trade and growth performance, at least prior to the current century, and is representative of LICs more generally (although not all LICs are in SSA the majority are and most SSA countries are LICs or have a production and trade structure that is similar to LICs). Latin America includes many large upper middle-income countries traditionally characterized by macroeconomic instability; most were significant exporters in the first half of the last century, then entered fairly long periods of inward-oriented protectionist policies that have only been removed since the 1990s. East Asia has been the most dynamic region of the world economy in the last 50 years and has many countries that sustained high export and economic growth. By covering trade topics in each of these regions we aim to capture the main trade issues for developing countries.

This introductory chapter provides a broad overview. As with the volume, there is no claim to be comprehensive and we acknowledge that many issues readers may consider important have been omitted. We adopted a selective approach to address a number of issues in some depth, and provide broad overviews of some other topics. Section 1.2 places trade in context for developing countries by outlining the relationship between production and trade structure, trade policy and economic performance. Section 1.3 then outlines the contents of the volume. As a wide variety of topics are covered from different perspectives, we do not attempt a conclusion.

1.2 TRADE STRUCTURE AND PERFORMANCE

It is evident that there are gains from trade, especially for relatively small countries who need large foreign markets to provide demand for their products. However, there is no reason to suppose that the gains from trade are evenly distributed, and some countries may even lose. Much will depend on the structure of trade, which reflects the production structure of the economy (Edwards, 1998). East Asian countries have tended to start by exporting labour-intensive manufactures, exploiting relatively low-cost but skilled labour and moving up the technology ladder. Latin American countries started with resource exports, given endowments in agriculture and minerals, and moved up to manufactured exports through value-added processing. In contrast, SSA countries continue to depend on primary commodities for their exports and are the least likely to gain from trade, as the growth benefit from exporting is crucially dependent on price and income elasticities of demand (both of which are low for primary commodities). In broad terms, structural features have favoured the potential of Latin America and East Asia to benefit from trade more than LICs and/or SSA.

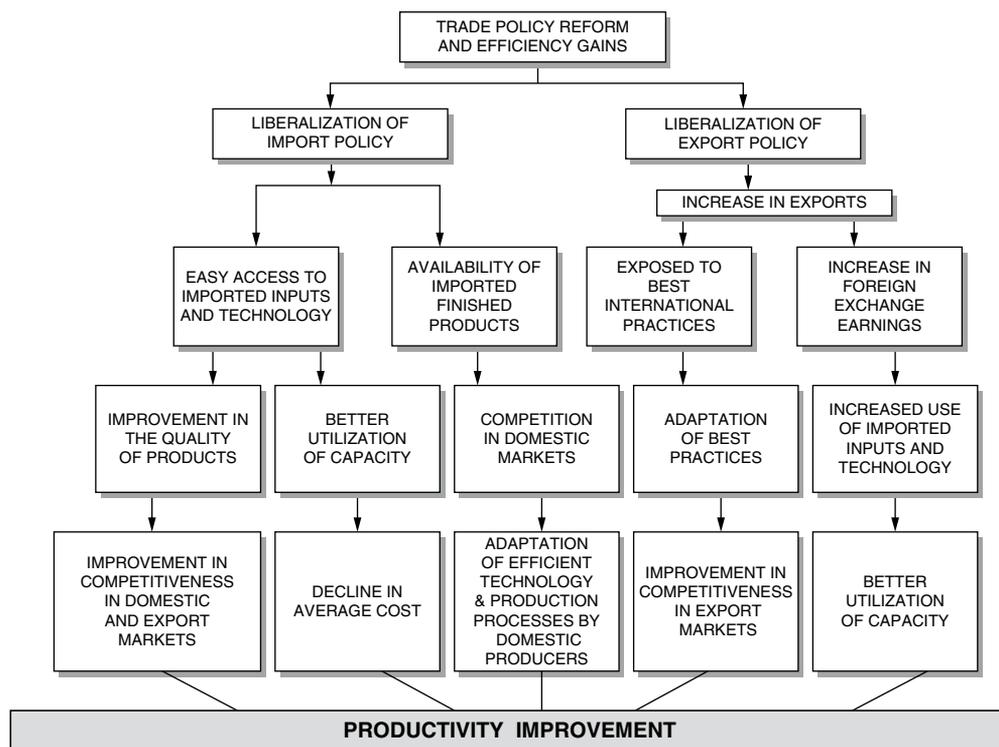
The structure of exports is a particular problem in LICs where relative endowments of land and natural resources result in export dependency on primary commodities, with limited exports of manufactures. This export dependence combined with underlying

structural features retards growth (Lederman and Maloney, 2003). Natural resource abundance itself tends to have a positive effect on growth, providing the resources are managed sensibly, but declining world prices for primary commodities reduce export earnings and growth in countries dependent on those commodities. Dependence on primary commodities subjects exports to the vagaries of a volatile world market, and means that exports tend to be relatively bulky with high volume-to-price ratios, hence relatively high unit transport costs (see Chapter 13). Thus, serious problems arise for those countries dependent on a narrow range of primary commodities, especially if these commodities face declining terms of trade. Under such an environment, trade liberalization will confer limited benefits – the capacity of the export sector to respond is constrained, whereas domestic producers will face increased competition from imports.

Natural resource endowments also influence how comparative advantage relates to exports and growth. Countries with relatively low endowments of natural resources and relatively high labour endowments will industrialize to promote export growth; this is evident in East Asia but is rarely the case in SSA. Countries endowed with natural resources and low skill levels depend on exports of unprocessed primary commodities (the typical SSA case). Extractive industries and unprocessed commodities have weak linkages with the rest of the economy and tend to face deteriorating terms of trade. Furthermore, high transport costs are a greater barrier to trade in primary commodities than manufactures because volume-to-value ratios are generally higher. SSA countries tend to face ‘natural barriers’ that increase the costs of trade – imports are more expensive and exporting more costly. While these barriers confer protection to producers of import-competing goods, they imply effective taxation of exports (Milner et al., 2000). Transport costs are the most obvious such costs. Many SSA countries are landlocked and many of those that are not have large interiors. The primary commodities they produce have to be transported large distances overland to reach ports; road and rail systems tend to be inefficient throughout SSA, and sea shipping costs are relatively high. Although trade barriers to imports have been reduced, high levels of ‘natural protection’ remain. This dampens the response of imports and exports to trade reform.

Trade performance depends on what happens in the rest of the world. The dramatic rise of China since the 1990s has had an impact on developing countries. Often this has been adverse as China is a direct competitor in export markets for manufactures, but it has been more beneficial for resource exporters of mineral fuels (oil), ores and metals. Strong growth in demand for metals and minerals, particularly copper, iron ore and nickel, by China has fuelled a rise in world mineral commodity prices since 2002. Brazil has been a major beneficiary in Latin America. Eight resource-rich countries accounting for 90 per cent of SSA exports to China in the late 2000s have been the SSA beneficiaries: Angola, Congo, DR Congo, Equatorial Guinea, Nigeria, South Africa, Sudan and Zambia (Morrissey and Zgou, 2011). On the other hand, there has also been a significant increase in imports from China to almost all developing countries; to the extent that China is a source of intense competition in sectors that compete with local producers, the ‘rise of China’ has not necessarily been a growth stimulus for all countries.

Trade performance and efficiency can be affected by policy environment; in particular reforms intended to remove barriers to trade (Edwards, 1993). As illustrated in Figure 1.1, liberal and outward-looking trade policy performs better in terms of improved trade performance and efficiency gains, provided quality institutions and infrastructure prevail,



Source: Sharma (1999).

Figure 1.1 Link between trade liberalization and productivity growth

as mentioned earlier. There is growing evidence to suggest that countries that have high quality institutions, infrastructure and trade logistics perform better by being part of the global production network as documented in Chapters 19 and 23. A restrictive trade regime, on the other hand, leads to loss in export competitiveness (Sharma, 1999).

A movement from restrictive to liberal trade regime brings several benefits. First, trade reform provides an opportunity for exporting to new markets and thereby enables the country to enjoy the benefits of economies of scale, especially when the size of the domestic market is small. When exports expand, domestic industries that supply intermediate inputs to the exporting sector will benefit from an increased demand for their products. Even if most inputs are imported, export growth will create extra demand for labour and various types of services, for example banks, shipping and telecommunications. In addition to this, diffusion of technological knowledge and increased availability of trained labour and management lead to an improvement in productivity of non-export activities. Furthermore, export expansion relaxes the foreign exchange constraint and ensures regular supplies of intermediate inputs and equipment, leading to an improvement in capacity utilization.

Second, liberalization creates competition and forces domestic firms to adopt best technology. Furthermore, it also encourages innovation, although Schumpeterian arguments suggest that the opposite might also be the case (Bhagwati, 1988). In addition,

exposure to foreign firms improves the management practices and the skills of the labour force.

Third, a liberal trade regime also has an advantage in absorbing new ideas generated in the rest of the world. When a country adopts an outward-oriented policy it benefits from learning by doing. Lewis (1955) argues that countries that are open will have an advantage in absorbing technological innovations developed in advanced nations and concludes ‘New ideas will be accepted more rapidly in those societies where people are accustomed to change. A country which is isolated . . . is by contrast unlikely to absorb new ideas quickly’ (Lewis, 1955: 178).

Fourth, trade policy reform discourages rent-seeking activities. But it is equally possible that if the country pursuing a liberalization programme has a long open border with its neighbours then trade openness may increase smuggling, particularly if the neighbours have an inward-looking strategy (Rodrik, 1992a and Sharma, 1999). In this situation liberalization promotes rent-seeking behaviour but productivity-enhancing activities. It has been argued that in LICs trade liberalization is often less effective due to market failures and barriers to entry and exit. For example, the labour market is distorted either due to the lack of appropriate training programmes or regulations such as minimum wage policy and employment conditions. Similarly, the secondary market in capital equipment is not well developed in these economies. Thus, despite liberalization a loss-making firm may not exit until prices fall below average variable cost, with the exception of a natural exit, if they are cross-subsidized by affiliates in other businesses (Rodrik, 1992b).

Doubts have also been expressed as to whether liberalization will bring about any improvement in efficiency because of the low supply elasticities and the early stage of industrialization in developing countries (Mosley, 1993). Supply elasticities may be low due to excessive market concentration, infrastructure bottlenecks, or a lack of institutions. Thus, whether liberalization really improves efficiency in LICs is ambiguous on theoretical grounds alone and must be examined empirically. ‘Although the arguments for the success of the export promotion strategy based on economies of scale and X-efficiency are plausible, empirical support for them is not available’ (Bhagwati, 1988: 39). It may also be true that ‘there is no clear confirmation of the hypothesis that countries with an external orientation benefit from greater growth in technical efficiency in component sectors of manufacturing’ (Pack, 1988: 353).

Clearly, the effect of trade policy reform on growth and efficiency improvements in LICs is unclear. The link between unilateral trade policy reforms and exports is weak: the direct effect is on imports, whilst export performance is largely determined by world prices and demand. Multilateral (and regional) trade liberalization can be important in increasing access to foreign markets, although LICs may actually lose because of reductions in the trade preferences they were receiving (see Chapters 5 and 6).

Given the structural features outlined above, it is LICs that are least enabled to benefit from trade reform. Since the mid-1980s, most SSA countries liberalized trade and many reduced restrictions on imports significantly; on average, average tariffs fell from about 33 per cent in the mid-1980s to below 15 per cent by the mid-2000s (Morrissey, 2005). Trade liberalization is promoted in the expectation that it encourages increased efficiency in the use of resources. However, export diversification requires additional policies to provide incentives to induce a shift into new export commodities (the common

problem here is in identifying 'new' commodities that may in future be internationally competitive) or to expand the capacity to produce traditional exports (constrained by limited supply response). To the extent that liberalization and diversification are successful they should increase competitiveness and the export/GDP ratio. SSA appears to have been unsuccessful in all respects: diversification has been very limited, so liberalization has not encouraged a significant export supply response and, even where it has, this has been insufficient to impact noticeably on growth.

On the other hand, cheaper imports have increased the competition faced by domestic import-competing producers, although consumers (including producers importing capital goods and intermediate inputs) have benefited. There is evidence that imports increase following liberalization, although the response will be constrained by import capacity (the availability of foreign exchange to finance the trade deficit). Although exports also increase following liberalization, the effect is more muted and less consistent, in part because the reforms may not have a significant effect on export prices and in part because of inherent constraints on export supply response.

As they are predominantly exporters of primary commodities, one of the most important stylized facts for LICs is the trend decline in commodity prices for the goods they export throughout most of the last century. Volatility in price levels is important as product price instability is a major problem for exporters. World prices for many of the commodities that SSA exports declined sharply between 1990 and 2000: cocoa, cotton, sugar and copper declined by over 25 per cent, coffee by 9 per cent and minerals overall declined by 14 per cent (WTO, 2001: 212), but commodity prices surged during 2001–08 in the longest sustained boom since the early 1900s. Between 2002 and 2007 food and tropical beverages prices increased by 61 per cent, mineral prices increased by 260 per cent and crude oil by 185 per cent, compared to a 35 per cent increase in export unit values of manufactures (UNCTAD, 2008: 23). The 2008 global economic crisis had an effect: in 2009, food and tropical beverages prices fell by 5 per cent, mineral prices fell by 30 per cent, crude oil by 36 per cent, and manufactures by 6 per cent; although most prices had recovered by 2011, they declined again thereafter (UNCTAD, 2013: 9).

Global commodity prices have generally been rising since the early 2000s, in real terms and relative to manufactures. Demand from China and East Asia has been an important factor, especially for commodity prices for minerals, but the price trend also applied to soft commodities (food and tropical crops). While some SSA countries have gained from rising mineral prices, others have gained from rising prices for soft commodities (especially tropical beverages). On the other hand, most SSA countries have been adversely affected by rising food prices (especially those that are net food importers) as this refers to temperate grains rather than the food crops produced most in SSA.

Countries dependent on mining exports did rather badly in the 1990s but have been major beneficiaries of the increased demand for SSA exports by China in the 2000s (see below). Whilst overall it would be wrong to conclude that SSA has not gained from trade liberalization, export supply response has been a major constraint in many countries. This is one reason why trade reforms may not have delivered the growth dividend anticipated. The financial crisis that has had a severe impact on developed countries since 2008 had an adverse effect on SSA as global demand fell, reducing export volumes and values (as commodity prices fell or rose more slowly), although these effects have been mitigated by the continued strength of Chinese demand for minerals.

1.3 STRUCTURE OF THE VOLUME

Although numerous studies have explored the relationship between trade and economic performance (growth, inequality, poverty), the evidence is not robust; it would be wrong to claim that openness to trade *causes* increased growth, but it would be equally misleading to claim that trade has no positive impact on growth (Chapter 2). This absence of robust results is typical of the cross-country regression literature in general – few variables are consistently significant determinants of growth (although exports/trade are positively correlated), while the determinants of inequality or poverty are more elusive (in both respects the effects of trade appear to be country-specific). Furthermore, even if an association with trade is found, the effects of trade policy reform (liberalization) are not clear-cut.

The recent literature is consistent with a broader view that it is not trade per se that is important but the context within which trade occurs. For example, the nature of trade costs helps to explain cross-country differences in trade performance (Chapter 3); addressing such costs requires actions related to trade facilitation, aid-for-trade and trade preferences (Chapters 4–6). More importantly, although theory often is framed in terms of trade between countries, mediated by policy, the reality is that it is firms that engage in trade (Chapter 7).

Although some cross-country (or cross-firm) patterns and associations are evident, the most illuminating research focuses on evidence for particular countries (sometimes with a regional dimension), typically using micro (firm-level) data. Thus, after Part I on general themes, the remainder of the book is organized into three regional sections comprising chapters elaborating on particular themes illustrated by a country or the region. Each chapter provides a broad overview of empirical literature and most are forward looking – given what has been learned, what are the challenges and major issues to be addressed in the future research or policy agenda.

Part I addresses seven themes of broad relevance to the relationship between trade and economic performance in developing countries. Chapter 2, ‘Trade, tariffs, growth and poverty’ by Charles Ackah, Vincent Leyaro and Oliver Morrissey provides a brief but broad overview of the cross-country econometric literature seeking any general patterns in the relationship between trade performance and growth, trade policy and growth and trade and poverty. Trade, especially exports, has the potential to promote growth, but richer countries are better able to benefit from trade than poorer countries. This is because of the structure of exports: low-income countries dependent on primary commodity exports are vulnerable to volatile world prices and external shocks; exporters of manufactures tend to be more resilient. The positive relationship observed between trade volume and growth is largely attributable to exports, and is not necessarily causal. The relationship between trade policy and growth seems to depend on income: in LICs, protection can be associated with growth whereas in richer countries lower protection seems associated with higher growth. Trade liberalization may have only a limited impact on growth in the poorest countries because of the influence of economic structure and the fact that domestic trade policy has a more immediate effect on imports than on exports. Poor institutions and primary commodity export dependence help explain why LICs and SSA have not derived observable benefits from trade, and especially from trade liberalization, whether in terms of effects on growth or poverty

reduction. It is especially difficult to establish any general relationship between trade and poverty across countries.

In Chapter 3, Festus Turkson reviews the growing literature on 'Trade costs', considering concepts, measures and empirical evidence. The literature shows that on average, trade costs are high but declining and vary widely across countries and products, but are highest for LICs and/or SSA and lowest for developed countries and East Asia. There are few accurate direct measures of trade costs but a variety of indicators are employed and the gravity framework is used to derive indirect measures. Theoretical refinement of the gravity framework and the use of alternative measures of trade costs with improved estimation techniques have greatly enhanced understanding of trade costs and opened up research opportunities for further studies on the effects of policies to reduce trade costs.

Chapter 4, 'Building the infrastructure for trade: developments in trade facilitation and aid-for-trade' by Esteban Ferro, John Wilson and Peter McConaghy focuses on how aid finance of trade facilitation measures, intended to reduce trade costs, have impacted on trade flows. The evidence suggests that trade facilitation measures reduce trade costs and increase trade. As developing countries and especially LICs have inefficient border procedures and costly customs clearance that increase the costs of trade, trade facilitation financed by aid can increase exports of developing countries. The donors providing the aid may also benefit, increasing their incentive to finance trade facilitation. Nunnenkamp et al. (2014) argue that the literature on aid-for-trade has often neglected the potential benefits to exporters in the donor countries (on the basis that aid can be used to support donor exports to recipients). They find that aid-for-trade increases recipient imports from donors, although the magnitude of this donor benefit is less than the impact on recipient exports to donors.

Chapter 5, 'Trade preferences: schemes and effects' by Xavier Cirera and Edgar Cooke, assesses the effectiveness and desirability of trade preferences as a policy instrument used by OECD countries to increase exports of developing countries. Restrictive policies in developed countries, especially for agriculture, limit the opportunities for developing countries to expand exports of the products in which they have a comparative advantage. One way of addressing this is to offer preferential access to developing countries, especially LICs, through trade preferences. The literature suggests that the impact of these schemes has been positive but limited by restrictive coverage, high costs of compliance, and strict Rules of Origin. Although enhancing preferences for LICs remains an issue of concern in trade negotiations (see Milner et al., 2010), the potential to do so is severely constrained by existing low preferential margins and utilization rates and continuous preference erosion through ongoing global, regional and bilateral trade liberalization agreements.

Maria Persson extends this analysis in Chapter 6 to address 'Trade preferences from a policy perspective', with a focus on non-reciprocal preferences by the US and EU. The aim is to suggest options for improving preferences, focusing on: universal product coverage to ensure that products where there is comparative advantage are not systematically excluded from preferences; restricting the wide variety of preferential schemes with different eligibility rules; consolidating transparency and predictability; and relaxing rules of origin and terms for graduation.

Chapter 7, 'Trade and firm performance' by Ricardo López, examines the channels by which international trade improves firms' performance. A large and growing body

of empirical research documents that firms that participate in international markets as exporters, importers of intermediate inputs or buyers of foreign technology are more productive, larger in size, have more capital and skill intensity and pay higher wages compared to firms that focus only on domestic markets. Most research focuses on understanding if exporting makes firms better (learning-by-exporting) or if good firms become exporters (self-selection). López explains that most studies find evidence of self-selection, but that there is also evidence of learning-by-exporting effects in less-developed countries. While self-selection is the most common explanation for the superior performance of exporters, this may be the result of a conscious decision to become more productive in order to export. There is also evidence of positive productivity spillovers from exporting through backward linkages: higher exports in a sector increase productivity of firms that supply intermediate inputs to those exporters. The reviewed literature shows that firms also benefit from importing intermediate inputs and foreign technologies through licences. In this context, policies that facilitate access to foreign markets may increase productivity through learning-by-exporting effects or by inducing firms to upgrade their technologies in order to export.

In Chapter 8, Annie Voy reviews the relationship between international trade and child labour in 'Trade and child labor'. While child labour is a big concern for many developing countries, the increased involvement of these countries in international trade has helped reduce child employment through its positive effects on economic growth. Critics of globalization argue that international trade increases the use of children in the production of manufactured good for developed nations, by increasing the demand for unskilled labour-intensive products, but to the extent that trade leads to economic growth and a shift to more skill-intensive production (as explained in Chapter 7, exporters are more skilled labour-intensive than firms that do not export), the demand for lower skilled child labour is likely to decline. Voy argues that little is known about the effect of international trade on child labour, especially at the industry and regional level.

Part II presents five chapters on major dimensions of trade and economic performance in sub-Saharan Africa (SSA) addressing four major issues: are there particular features of SSA (natural resource abundance and high trade costs) that explain the weak regional trade performance? Is there a role for integration in the continent? Given the underdeveloped manufacturing sector, is there a role for agglomeration; and how does trade impact on labour markets? For most SSA countries, export demand and prices, hence export earnings, are determined by conditions in the world market; in particular, prices and demand are determined in the world market.

Until the trade liberalization reforms starting in the 1980s, SSA countries tended to have a very restricted, protectionist trade policy stance: high tariffs and other barriers to imports, and overvalued exchange rates. Import liberalization is beneficial as import barriers (especially tariffs) and quantitative restrictions (these have been eliminated to a large extent) create an anti-export bias: raising the price of importable goods (protecting import-competing producers, who also benefit from natural protection due to high SSA transport costs) relative to exportable goods. Import liberalization should encourage a shift of resources, leading to an increase in imports (potentially immediately, given capacity to finance imports) and exports (slower, and contingent on ability for export supply response), with domestic production of import-competing products declining (unless there are efficiency gains).

Chapter 9, 'Enterprise agglomeration and firm performance in sub-Saharan Africa' by Eyerusalem Siba and Måns Söderbom reviews literature on how firm performance is affected by learning through their location choice and the trade-off between competition and externalities effects of clustering in the context of SSA. Agglomeration may support improved firm performance, although in Africa the observed agglomeration economies appear to be weaker than commonly assumed. While there are benefits from clustering, increased agglomeration also increases competition between local firms and reduces prices and potential profits. This undermines the incentives of firms to agglomerate and in Africa this cost may often offset the potential benefits and discourage agglomeration.

The importance of unrecorded intra-regional trade is covered by Stephen Golub in Chapter 10, 'Informal cross-border trade and smuggling in Africa', with a focus on West Africa. Although recorded official intra-African trade amounts to some 10 per cent of total African trade, informal cross-border trade is thriving almost everywhere in Africa. A careful distinction is drawn between smuggling and legitimate, but unrecorded, trade between communities across borders (mostly low-volume trade in food and livestock). The analysis shows that informal trade is an important source of income and employment for those involved but rests on a fragile foundation and is unlikely to promote development because it relies on informality and on the policy distortions that provide incentives to avoid official channels.

In Chapter 11, 'Integration and regional trade in sub-Saharan Africa', Festus Turkson addresses whether Regional Trade Agreements (RTAs) and European Union (EU) trade preferences have been trade enhancing for SSA countries, by measuring the *ex post* trade effects of trade agreements in a gravity framework. The results suggest that trade agreements with the EU increase SSA–EU exports by about a fifth whereas RTAs within SSA tend to have a smaller impact on intra-regional exports (although RTAs in Southern Africa and West Africa appear the most successful). There is potential for deeper regional integration to promote increased intra-regional trade in SSA.

In Chapter 12, 'Commodity prices and export performance in sub-Saharan African countries', Andrew Mold and Analisa Prizzon account for the dependence of most SSA countries on exports of primary commodities. A particular feature of this dependence is that world prices are determined by global factors beyond the influence of exporters, who are vulnerable to volatile and often declining world prices. The analysis suggests that higher prices do not induce increased supply at the margin in SSA – the volume of exports tends to decline during periods of high commodity prices, at least prior to the 2000s. Until China emerged to increase prices and demand for certain commodities exported by some SSA countries (see discussion above), SSA countries seemed to target a value of export earnings. Thus, when prices were high, volumes fell, but when prices were low, volumes increased to maintain a similar level of income (this may still be the case for exports of agricultural commodities). As SSA faces export prices determined on the world market, this goes some way to explain why export-led growth has not occurred and is unlikely unless SSA can diversify into service and manufactured exports on a large scale.

Chapter 13, 'Trade structure and trade costs: what makes sub-Saharan Africa different?' by Vincent Leyaro, investigates if the weak effect of exports on economic growth in SSA can be explained by features of the commodities exported by SSA countries. The poor growth performance of SSA relative to other regions can be explained by the

combination of natural resource endowments (captured by arable land to represent reliance on primary commodities) and high transport costs (the cost, insurance and freight margin on exports) as including these variables removes the significance of the SSA dummy in cross-country growth regressions. Although the measures used are limited they capture the tendency for SSA countries to be dependent on exports of unprocessed, bulky primary commodities with relatively high transport costs to unit value ratios. This complements Chapter 12 and together they explain why dependence on primary commodity exports has not supported growth in SSA.

Part III turns its attention to Latin America, with five chapters. Two features distinguish the region in the context of global trade: a relatively long-established manufacturing sector in conjunction with a rich resource base and widespread liberalization of trade policies since the 1980s. The chapters in this section will be based on manufacturing firm-level data, addressing issues relating to imported technology, exchange rates, trade facilitation measures as they affect firms and the impact of firm exporting on labour.

Chapter 14, 'The rise of Brazil in global trade' by Raffi Garcia and Ricardo López, examines the emergence of Brazil as one of the main participants in international commerce and discusses the effects of increased trade on the Brazilian economy. Like most Latin American countries during the 1930s until the 1980s, Brazil followed an import substitution development strategy. Although Brazil achieved significant economic growth during the period, the country became heavily indebted. Starting in the 1980s Brazil gradually started to liberalize its economy and reduced barriers to trade and FDI, which included the signing of the MERCOSUR, a customs union that also includes Argentina, Paraguay and Uruguay. More recently, Brazil has become an active participant in the international arena by taking a leading role among developing nations. In 2003, Brazil led the creation of the G-20 group in order to negotiate collectively with developed countries in the context of the WTO's Doha Round. While Brazil's involvement in international trade has brought clear benefits to the economy (increased productivity and FDI, lowered poverty and inequality), there are questions about whether Brazil can remain competitive in the global economy. Reducing bureaucracy and increasing investments in infrastructure are important goals that Brazil's government should aim at achieving.

Chapter 15, 'Export diversification dynamics in Latin America' by Manuel Agosin and David Chancí, documents how, in contrast to SSA (Chapters 12 and 13), Latin America has benefited from diversifying its export structure. The chapter presents a detailed description of the exporting behaviour for 17 countries in Latin America between 1990 and 2011, focusing on export diversification in terms of commodities and markets. The authors study export diversification by distinguishing between existing, new and disappearing exports, and find that exports in Latin America have diversified across countries, with Mexico, Brazil and Argentina being the most diverse. Market diversification has helped Latin American countries reduce their exposure to economic volatility of particular destination countries.

Chapter 16, 'Exchange rate volatility and exports: the case of Colombia' by Ivan Kandilov and Asli Leblebicioğlu, investigates the impact of exchange rate volatility on export activity of manufacturing plants from Colombia. While many policy makers around the world are convinced that a higher volatility of the exchange rate has a negative effect on trade, existing empirical analyses have found any possible relationship (positive, negative or insignificant). One possible reason for this ambiguity is that

researchers typically use data at the aggregate level (country or industry). Kandilov and Leblebicioğlu, on the other hand, use disaggregated census data with detailed information on export activity for each manufacturing plant (with ten or more employees) in Colombia. Using panel data estimation techniques that control for unobserved heterogeneity at the plant level, the authors find a small but significant effect of exchange rate volatility on both the probability of exporting and export intensity (the share of sales that is exported). They also find that the negative effect is particularly larger for small and medium sized plants, which may be more likely to enter export markets when given a small export incentive. If exporting increases productivity through, for example, learning-by-exporting, then a high volatility of the exchange rate may negatively impact productivity growth. Given the limited amount of studies on the effects of exchange rate volatility on trade using micro data, Kandilov and Leblebicioğlu suggest that researchers could try to produce comparative studies of the impact of exchange rate volatility on exports across countries with different levels of financial development.

Chapter 17, 'Imported technology and firm exporting: the case of Chile' by Ana Fernandes and Ricardo López, examines the effect of imported technologies on export activity of Chilean manufacturing plants. The authors use input–output matrix coefficients to calculate the amount of imported machinery and equipment used by each manufacturing sector, which is used to proxy imported technology. They also use information at the plant level on foreign ownership, imports of intermediate inputs, and spending on foreign technology licences and technical assistance to proxy for imports of technology at the plant level. The econometric analysis focuses on two dimensions of export activity: export propensity (the probability of exporting) and export intensity (the share of sales that is exported). Their results show that all the four variables of imported technology have a positive and significant effect on export propensity, while only foreign ownership has an effect on export intensity. One important implication of these results is that reducing restrictions on imports of machinery and equipment and on intermediate inputs can boost exports of developing countries and also the number of domestic firms that participate in international markets. In order to better understand the exact mechanisms by which imported technologies affect export performance, Fernandes and López suggest producing more detailed and comprehensive innovation surveys or firm-level surveys that collect information on imports of machinery and equipment at the firm level, and datasets with information on the exact intermediate products and imported machinery purchased by firms.

Chapter 18, 'Foreign direct investment in Mexico' by Andreas Waldkirch, describes the evolution and determinants of FDI in Mexico, and its effects on productivity, wages and employment. Mexico is one of the top recipients of FDI in Latin America and its proximity to the US makes Mexico an attractive destination of many US multinational enterprises. After describing the main determinants of FDI in Mexico, including the size of the market and the proximity of the country to the US, Waldkirch explains that NAFTA has produced an important increase in FDI in Mexico, although it is not possible to pinpoint which specific aspects of NAFTA are responsible. Not surprisingly, FDI inflows and exports are highly correlated in the case of Mexico, with the empirical evidence suggesting a high degree of complementarity between the two. The author explains that FDI has helped increase productivity growth, with the largest effect coming from US FDI. Wages and employment have also increased thanks to FDI although the

effect sometimes varies by industry and region. One concern is that Mexico seems to be losing some of its location advantage, as suggested by a slowdown of FDI inflows to the country in recent years. The author suggests that deteriorating institutions and security may have affected MNEs' investment decisions in Mexico, and explains that even though FDI may have increased productivity, little is known about the channels by which this occurred. Moreover, most studies focus on FDI into the manufacturing sector, and not much work has been done in services, such as banking. Waldkirch suggests that policy makers should try to keep policies that don't discriminate against foreign investors, and that they should consider the potential positive effects of regional trade agreements, such as NAFTA, on FDI inflows.

Part IV presents five studies of East Asia. The increasing importance of China in world trade deserves a chapter in its own right to analyse the emerging trade patterns brought about by its increased involvement in the global value chain through production sharing. The effect of Chinese growth is relevant to other chapters in the section as China provides good (firm-level) evidence of the link between Foreign Direct Investment (FDI) and trade, and on how trade growth relates to inequality and spillover effects to other countries in the region. The Asian crisis of 1997 provides valuable case study material on how trade reacts following a crisis, with lessons for the current credit crunch. The emerging new trade pattern in East Asia brought about by its increased involvement in the world trading system is due to improved trade logistics including quality institutions and infrastructure.

Prema Chandra Athukorala and Jayant Menon in Chapter 19 present an analysis of 'Global production sharing, trade patterns, and determinants of trade flows: lessons from East Asia'. It is increasingly evident that East Asian countries are playing an important role in the global value chain through global production sharing – the break-up of a production process into vertically separated stages carried out in two or more countries. The rapid expansion of global production sharing in East Asia and elsewhere poses a challenge to the standard approach to trade flow modelling, which does not distinguish between components and final goods within a given product classification. Athukorala and Menon argue that any analysis of trade patterns or its determinants that ignores this phenomenon, and the trade in parts and components that it generates, is likely to result in erroneous conclusions.

Chapter 20, 'Exports and FDI in China' by Jing Zhang and Xufei Zhang, examines the complementary nature of FDI and exports in China (as shown for Mexico in Chapter 18). They argue that China's exports and FDI have been growing at an impressive rate in the last three decades, posing both opportunities and challenges for growth and development in China. Despite the exceptional performance of its exports brought about by foreign investment, a high fraction of processing trade and exports have been generated by foreign firms, implying a smaller role of Chinese domestic firms and less gain from trade than one may expect (as shown by Sharma and Wei in Chapter 23). Despite decades of liberalization reforms, most domestic firms have not developed international competitiveness. The mixed evidence on spillovers from FDI also poses the question of its role for domestic firms. The authors argue that environmental problems appear to have come from rapid growth in trade and FDI. Even production in high-tech industries appears to be highly pollution-intensive. China faces big challenges to facilitate exports and FDI, and addressing these requires fundamental reforms, including

financial and institutional reforms, skill upgrading, increasing labour mobility and tightening of environmental regulations.

In Chapter 21, 'Trade, growth and external shocks in Indonesia', Tulus Tambunan explores the impact of trade-induced external shocks on economic performance. The author argues that, like many other emerging economies, the Indonesian economy is much more vulnerable to external shocks for a number of reasons. First, increased openness has made its economy highly sensitive to global crisis. Second, though at a decreasing rate, Indonesia is still dependent on exports of many primary commodities, namely mining and agriculture, making its economy highly sensitive to any world-price/demand instability for these commodities. Third, the country's reliance on imports of a number of food items is on the rise, which means any increases or instabilities in the world market prices or world production of these items will impact on domestic consumption and food security in Indonesia. Finally, its heavy reliance on remittances from abroad makes the Indonesian economy highly vulnerable, severely impacting on domestic savings and spending at the time of global economic and financial crisis. Tambunan asserts that trade response of external shocks typically depends on how the crisis affects exporting and importing firms. For instance, the 1997/98 Asian Financial Crisis, although it resulted in limited access to banking sector finance, it did not affect exports negatively. The 2008/09 Global Financial Crises, on the other hand, was a world demand crisis, which led to a significant fall in world demand and hence Indonesian exports suffered. The impact of the eurozone crisis of 2010 on Indonesian exports has been very small given the low level of trade links between eurozone countries and Indonesia.

Chapter 22, 'Trade, environment and the labour market in Malaysia' by Gamini Herath and Gareth Leeves, looks at interrelationships and the importance of standards in trade. The authors argue that there is a growing feeling that liberalization reforms have led to rising inequality in the labour market and have contributed to environmental deterioration in Malaysia. Recognizing the growing inequality in the country, the 10th National Development Plan emphasizes an educational system that will 'upgrade the skills and capabilities of the existing workforce'. Herath and Leeves note that expansion of oil palm in the country has become a source of concern due to adverse environmental consequences such as loss of tropical forest cover and biodiversity, chemical pollution due to fertilizer and pesticides use, land degradation and waste generation in processing. Unfortunately, the palm oil sector will continue to be an important driver of environmental change in Malaysia, especially where environmental policies and enforcement are weak.

In Chapter 23, 'Vertical specialization in Chinese foreign trade', Kishor Sharma and Wang Wei examine the effect of trade on production structures within firms. Globalization of the world economy, together with falling costs of transport and communications, has led to an increased influx of foreign investment in China to take advantage of the international division of labour, resulting in an increase in vertical specialization. These foreign invested enterprises are largely engaged in processing trade using imported parts and components which are put together using Chinese labour and then exported as final products, a phenomenon widely known as vertical specialization or global production sharing. Over one quarter of Chinese exports appears to be due to back-and-forth transactions in a vertically fragmented cross-border production process, suggesting that foreign input content in its exports is high and rising. When this is taken

into account China's 'actual trade balance' and the domestic value added by its exports is much lower than what the 'raw trade balance' would indicate. In the next stage of industrial upgrading China needs to embark on skill upgrading programmes.

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