

# The imperative of competitiveness and the logic of comparative advantage

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## Introduction

This brief concept note deals with debates on ‘competitiveness’ and international trade. A number of research questions guide the themes covered in this paper, namely:

1. What do competitiveness and comparative advantage mean?
2. How and why do they matter for economic development?
3. What are their limits as concepts and in their application to empirical analysis of structural transformations?
4. What other concepts and approaches help us understand success in international trade?

The main aim of the paper is to question some of the conventional wisdom on competitiveness with reference to export success or failure, and to tease out some of the key historical lessons and insights from heterodox political economy of development, which can help us explain the determinants of success in international trade. The main level of analysis is the country and its trade relations, but important aspects of the arguments relate to micro-level firm performance.

The paper is organized as follows. The first section provides an overview of the main theories of international trade and the lineages of the Ricardian concept of comparative advantage, which has long dominated international trade theory. This section will reveal the unrealistic assumptions upon which comparative advantage rests, and will question the empirical usefulness of the concept and the value of related theoretical propositions. The second section will provide a more historically-informed and empirically-grounded approach to understanding ‘competitive advantages’ and ‘becoming competitive’, which may suggest some relevant policy lessons for a country like Ethiopia.

## The problem: much debate on competitiveness and trade still relies on old notions of comparative advantage

International trade theory is still dominated by the concept of *comparative advantage* (CA). It was developed by David Ricardo (1772-1823) in the 19<sup>th</sup> century, at a particular historical moment when it was in the interest of Britain's industrialists to push for selective trade liberalization and it made sense for them to repeal tariffs on imported food in order to keep subsistence wages low, hence preserving their profits and facilitating the continuation of their industrialization process (Chang 2014). Whether in textbooks or in international policy debates, the case for trade liberalization hinges strongly on the persuasiveness of the logic of comparative advantage and its variants in factor endowment models, such as the model of Heckscher-Ohlin and Samuelson (HOS hereafter). This family of international trade theories is generally used to advocate free trade and specialization according to comparative advantage.

### **The “true but non-trivial” logic of comparative advantage<sup>1</sup>**

Before Ricardo, the case for trade and specialization was made by Adam Smith (1723-1790) on the basis of the *vent for surplus commodities thesis*, which assumed that resources (land, labour) are not fully employed prior to trade, partly because the extent of the division of labour is constrained by the size of the domestic market. With trade, new market opportunities arise and this change results in a chance to use ‘idle’ resources. Trading essentially expands the production possibilities frontier and makes fuller use of existing resources. However, Smith had no concept of “relative” cost advantage yet. For him, as for his contemporaries, “absolute” advantage calculated according to productivity (output per unit of labour) determined the payoffs from trade, meaning that less productive countries stood to lose from free trade. If two countries have different absolute advantages (e.g.,

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<sup>1</sup>Once challenged by the mathematician Stanislaw Ulam to "name one proposition in all of the social sciences which is both true and non-trivial", Paul Samuelson famously answered after several years: comparative advantage. "That it is logically true need not be argued before a mathematician; that it is not trivial is attested by the thousands of important and intelligent men who have never been able to grasp the doctrine for themselves or to believe it after it was explained to them."

Portugal is more efficient than the UK at producing both wine and cloth), then there is no interest for them to trade as the less productive country would have nothing to sell.

Ricardo's concept of *comparative cost advantage* and its heir the *comparative factor advantage* (HOS model) are not about using idle resources but about using existing resources more *efficiently* at the aggregate level. These theoretical contributions have been highly influential in trade theory and have underpinned the basic idea that trade is mutually beneficial for *all* partners provided each specializes in what it is the least bad at producing. A corollary of this thesis is that every country has a relative comparative advantage, because there will always be one good in the production of which the country is relatively more efficient compared to all other goods. This advantage is explained on the basis of the differences in price-ratios between two goods produced in two countries, which define the opportunity cost of producing each good relatively to all others as well as the total amount of goods that can be produced, given scarce resources. A country will enjoy a comparative advantage in the production of the good that has the lowest opportunity cost, so that a comparative advantage in one of the goods for each country arises by definition.

In a simplified world with two countries (A and B) producing two goods (x and y), if country A must give up three units of x to produce one unit of y while country B must only give up two units of x to produce the same unit of y, then exchange will be mutually beneficial if A specializes in x, and B in y. Indeed, under perfectly free trade conditions (i.e., with no transaction costs whatsoever), A will get something between  $1/3$  and  $1/2$  of y for every x sold to B (against only one third of y under autarky), while B will get something between  $2x$  and  $3x$  for every y sold to A (against only  $2x$  under autarky).

In plain terms, the question thus becomes: which commodity is produced relatively least expensively (relative to the price of all other commodities) in country A compared to country B? A country does not have to be the best at anything (i.e., it does not need to have an absolute advantage) to gain from trade. Following the CA logic, countries should always specialize in producing what they are comparatively least bad at and then engage in exchange. By doing so, all countries would benefit, resulting in an equilibrium outcome with global trade balance, full employment and, crucially, a higher consumption possibilities frontier.

Ricardo's model is built entirely on a comparison of relative prices based on the amount of labour necessary to produce each type of commodity. The HOS model extends Ricardian theory by taking into account all three factors of production: capital, labour, and land. The HOS extension of the concept of CA focuses on the relative abundance (endowment) in these factors of production, suggesting that, given a level of technology, countries should specialize in the goods in which they have a CA based on their relative factor endowment. So, if the country is rich in land, it should export land-based products, i.e., food and other agricultural products. If it is rich in labour, then the production of labour-intensive goods should be more competitive. The logic of Ricardo's CA theory and that of its HOS extension are persuasive and consistent, as long as the underlying assumptions hold. But do they? The short answer is no.

### **The mutual benefits expected from free trade depend on unrealistic assumptions**

There are several problems with the theory of comparative advantage and how it has been used to underpin conventional cases for trade liberalization, despite its abstract elegance and apparent common sense. First, as underlined by Patnaik (2009), the logic of CA relies on a *fallacious assumption* that all countries can access and use efficiently the same technologies, and produce the same goods with the same qualities. Such an assumption goes against all historical and empirical evidence. For instance, trade between developed countries and developing countries usually implies the contrary, i.e., industrialised countries not being able to produce most raw materials imported from developing countries and the latter not having the technology and productive capabilities needed to produce the sophisticated manufactured goods typically exported from rich countries (Chang 2014).

Second, there is an *unreasonable assumption about factor mobility*, i.e., factors of production (capital, labour) are assumed perfectly mobile *within* countries but totally immobile *between* them. This requires the assumption that capital and labour can be automatically and easily redeployed between industries so that if cement production is not competitive once a country opens up to foreign trade, then the capital (machinery) and labour (skills and know-how) employed in cement production can still be redeployed in other, more competitive sectors, such as textile and garment production. This ignores the 'lumpy' and often highly specific nature of capital goods and knowledge, and amounts to the assumption of full

employment at all times, which is obviously not borne out by reality. The automatic inter-sectoral factor redeployment does not happen in practice and opening up the economy might result in the death of a sector without the concomitant redeployment of idle factors, leading to growing unemployment and the destruction of productive capacity in the worst-case scenario.<sup>2</sup>

As for the assumption of *international immobility* of capital factors, it is obviously contradicted by the evidence. Foreign Direct Investment (FDI) from OECD countries has never grown so fast as during the last two decades, whereby technologies have been transferred within multinational companies that locate their production sites in low-wage countries and exploit cheap transport costs and tax havens to re-export goods and services at a margin, including towards their own country of establishment. Ricardo could never have imagined such a configuration: a cloth plant in the UK could not be moved to Portugal in 1820 and transports costs were substantial. However, the current reality undermines one of the mainstays of the mutually beneficial logic of comparative advantage.

There is no guarantee that specialisation and free trade will enhance the aggregate well-being of exchanging partners in the presence of international mobility of capital factors of production. Much to the contrary, it may be the case that specialising in sectors in which one has a comparative advantage leads to the destruction of other productive sectors. This trend is known as the Rybczynski Theorem (1955) and the de-industrialisation observed throughout the world, except in China, India and their satellites, bears witness to such logic being at work.

Third, for the trade balance to be achieved on a consistent basis, assumptions of *effective terms of trade adjustments* and very high price elasticities of exports and imports are also necessary. But these assumptions are not corroborated by empirical evidence (Shaikh 2005). In fact, there is evidence of a differential effect of trade liberalization on export and import growth. An econometric study on a sample of 22 developing countries by Santos-Paulino and Thirlwall (2004), as well as other similar studies, show that the rise in import growth is

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<sup>2</sup> Advocates of free trade accept that there can be losers from trade, but insist that as long as the net welfare effect from engaging in free trade is positive, the winners from opening up could in theory fully compensate the losers and still be better off than before. This is the so-called Kaldor-Hicks criterion. While this is theoretically possible, in practice such compensation is almost unheard of.

two to three times higher than the increase in export growth, leaving many liberalising countries with serious trade imbalances. Ultimately, persistent balance of payment deficits and foreign exchange constraints could seriously undermine economic growth and result in growing dependence on either development aid or private capital flows, leading in turn to indebtedness and external vulnerability. This is a classic tale from the 1980s and 1990s.

Fourth, the CA theory is based on a *fallacious theory of international competition*. As Shaikh (2005), Weeks (2012) and many other critical authors argue, real international competition is like national competition: it favours the competitively strong on an uneven playing field. Free trade will therefore privilege countries that manage to produce goods and services at the lowest real costs, which are determined by the combination of real wages, technology, managerial capabilities and endowments. As Weeks (2012: 24) puts it: 'In the neoclassically competitive world there is no technical change endogenous to the competitive process'. Yet, technological innovation and adaptation, as will be argued below, are central to competitiveness.

### **The logic of comparative advantage is not backed by empirical evidence**

In addition to the fundamental problems with the assumptions on which the CA theory is built, CA also fails the empirical test of explaining actual trade patterns. As early as in the 1950s, the logic of specialisation according to CA was questionable in the face of the intensity of within-sector trade between European countries in spite of very similar productive structures. While it is perhaps true on aggregate that poorer countries tend to depend on primary commodity exports and richer countries tend to specialize in manufactured products, in reality trade and specialisation patterns are much more complex than predicted by CA theory. There are few 'sharp' comparative advantages, as one country can develop assets across a wide range of sectors and products. In fact, what distinguishes richer from poorer countries is the extent to which developed countries have been able to build comparative advantages in the production of *both* primary commodities (e.g., cereal and mineral exports) and middle- and high-technology manufactured goods. The following stylized facts are noteworthy.

First, import structures in both developed and developing countries are dominated by manufactured products, which have grown much faster than primary products (see Figure 1). Indeed the stylized fact for the past 30 years has been that exports of high-technology manufactured goods have grown much faster than primary products or low-technology manufactured exports (Lall, 2003: 279).

Second, some developing countries, such as China and others in Southeast Asia, which in principle had a CA in labour-intensive products, have managed to develop comparative advantages in high-technology manufactured products, which cannot be 'competitive' only on the basis of low wages.

Third, as a result, the heterogeneity of low- and middle-income developing countries in terms of their export structures is remarkable and cannot be explained simply with reference to differences in relative factor costs (Table 1).

Fourth, even some poor developing countries may end up with competitive sectors that defy their notional CA, as the Republic of Korea did with steel from the 1960s and in creating POSCO, its large steel company, in spite of World Bank opposition to building an integrated steel mill. Mozambique is another interesting example (Figure 2): a very poor agrarian-based economy managed to shift its CA from agricultural products (cashew nuts) to capital-intensive medium-technology mineral processing (aluminium), with the raw material, bauxite, being imported from a high-income country (Australia). To be sure, FDI does tend to play a major role in such instances.

Fifth, many large developed countries are very competitive in mineral and agricultural commodities and have built up other competitive advantages partly thanks to the foreign exchange generated by their own natural resources (e.g., Canada, USA, Russia, Australia). Lall (1998) has provided convincing evidence that existing specialisation patterns defy simplistic CA generalisations and reminds us that trade *per se* is not as important as the structure of trade, i.e. 'what you export matters' (Hausmann et al 2007).

Sixth, lock-in effects from investment made in transport infrastructure in the past can undermine CA theory in explaining today's trade pattern. Such investments have been shown to be determining factors in trade patterns in developing countries (Bonfatti and

Poelhekke, 2013). In particular, mine-to-coast transport infrastructure investment (specializing in connecting mines to the coast and not so much to neighbouring countries) during the colonial era has continued to influence trade pattern in favour of overseas trade at the cost of regional trade.

Seventh, empirical evidence also shows that persistent trade deficits (surpluses) are perfectly compatible with persistent exchange rate overvaluation (undervaluation) for both developing and developed countries. The USA and the dollar offer a good example of this combination (Shaikh 2005, Thirlwall 2011). Thus, there are no automatic price adjustments to reach an international market equilibrium.

Part of the problem with standard trade theory is its focus on *static gains* from trade and allocative efficiency, as opposed to dynamic gains and productive efficiency. Long-term development depends on achieving sustained productivity growth, which can come both from productivity gains *within* sectors, and from the transfer of resources from low-productivity to high-productivity sectors. The theory of CA all but ignores this fundamental stylized fact. But it is precisely the process of structural transformation and sustained productivity growth through technology absorption, learning by doing and skill development that lead to the creation of competitive advantages in certain industries.

When timed correctly, exposure to international competition can then contribute to further productivity growth. Whereas approaches based on Ricardian comparative advantage assume that trade and specialisation according to a country's comparative advantage lead to growth and welfare gains, a growing body of empirical evidence and historical analysis of episodes of sustained growth suggest that trade and export growth are as much a cause as a consequence of economic growth (Amsden 2001, Thirlwall 2011).

Another way of looking at 'competitive advantage' is found in the much-cited work by Michael Porter (1985). Porter, who developed his framework from microeconomic analysis at firm level, breaks down 'competitive advantage' into two sources: *lower cost* and *product differentiation*. To put it simply, a company gains competitive advantage by producing more cheaply or by developing new products. For Porter, at the micro level productivity growth is what matters and competitive advantage is created out of key attributes, such as technology,

resources, market position and skills, which result in an organization outperforming its competition. Taken to the level of competition between countries, competitiveness could be seen as the result of the aggregation of such instances across firms and sectors. The next section will elaborate on this claim and explore some of the stylized facts emerging from historical experiences of export success and the different ways in which such 'competitive' advantages have been achieved.

## From trade fantasies to effective realities: Historical and policy lessons on becoming 'competitive'

### **Historical and theoretical teachings**

Historically, how did economies develop competitive advantages and achieve export success? Chang and many other contributors to these debates, including some mainstream economists (cf Rodrik 2001), confirm that there are virtually no examples of countries developing competitive advantages and industrialising *through free trade*. Rodrik (2001) notes that 'opening up the economy is hardly ever a key factor at the outset [of development]' and he has often argued that countries that benefited most from free-market globalization are not those that have embraced it wholeheartedly, but those who have adopted parts of it selectively. Technological differences and an uneven global playing field make it impossible for less developed countries to compete without some form of infant industry protection and subsidized development of productive capabilities (Amsden 2001; Reinert 2008).

As Amsden (2001) has argued, the attainment of *manufacturing experience* even in 'inefficient' conditions, i.e., those not entirely set by free market incentives, has been critical historically for future manufacturing export success. There is not a single case of successful development post-World War II that did not benefit from manufacturing experience accumulated under some form of protective arrangement, generally import substitution. Hence, it is better doing anything and learning, than doing nothing.

This heterodox literature and the neoclassical dissenters (such as Rodrik) agree on the fact that competitive sectors emerge through context-specific institutional innovations that allow public and private entrepreneurs to discover what works and what does not. Such a

condition generally requires interventions that create and efficiently manage the learning and innovation rents necessary to compete in international markets.

Alice Amsden (2001) summarizes in a few words the main teachings from economic history:

“Given imperfect knowledge, productivity and quality tend to vary sharply across firms in the same industry—*a fortiori* across firms in the same industry in different countries. The price of land, labor, and capital no longer uniquely determines competitiveness. The market mechanism loses status as its sole arbiter, deferring instead to institutions that nurture productivity. Because a poor country’s lower wages may prove inadequate against a rich country’s higher productivity, the model of “comparative advantage” no longer behaves predictably: latecomers cannot necessarily industrialize simply by specializing in a low-technology industry. Even in such an industry, demand may favor skilled incumbents (economic historians continue to debate, therefore, how Japan, for example, triumphed before World War II over the lower-wage textile industries of China and India).

Under such unfavorable conditions and uncertainty as to how to proceed, latecomer governments face a choice. They may either do nothing at all, relying instead on a market-driven realignment of their exchange rate, which is tantamount to a cut in their real wages, or they may intervene and try to raise productivity by means that are not necessarily entirely clear.”

The experiences of sub-Saharan Africa in the past 30 years, and to a lesser extent that of Latin America, which has been followed since 2008 by Europe, bear testimony to the points raised by Amsden. In spite of all the liberalisation, privatisation, and deregulation reforms that sub-Saharan countries (and Latin American countries to a lesser extent) have undergone since the 1980s, most of the structural change that the continent has experienced has been growth-retarding: labour has shifted from high to low productivity sectors, mostly to the informal tertiary sector, reducing Africa’s growth by an average 1.3 percentage points a year over the period 1990-2005 (McMillan et al. 2014).

In most countries, the so-called period of ‘structural adjustment’ has been a period of structural regress, not progress. Policy recommendations based on Heckscher Ohlin’s model have proved, practically, catastrophic. The model in itself may not be the problem: resources have indeed moved towards the activities in which sub-Saharan African countries have had

a comparative advantage. The problem is that these were the activities that made these countries poor in the first place! For a poor country, specialising in low-productivity, diminishing-returns activities is a recipe for staying poor. What heterodox theories claim, instead, is that if a country is poor, it is because it is specialised in low-productivity activities. The logical policy recommendations from this diagnostic are clear: i) be cautious not to rely on low wages only to compete internationally since such a strategy can prove to be a recipe for the persistence of poverty; and ii) put productivity enhancement, not comparative advantage conformity, at the top of the priority list.

### **A case for gradual and careful opening following productivity gains**

Well-known works such as Balassa (1978), Rivera-Batiz and Romer (1989), Krueger (1997) and Sachs and Warner (1995) are still often cited to support trade liberalization, and more recently an extension of Sachs and Warner has also provided some (more ambiguous) evidence of a positive link between trade and economic growth (Wacziarg et al. 2008). Yet even these studies acknowledge that average effects mask large differences across countries, suggesting that a cross-country regression analysis can be very misleading for developing specific policy guideline for a particular country.

More evidence about how productivity growth leads to more exposure to trade and therefore greater openness rather than the other way around comes from the microeconomic literature focusing on firm-level competitiveness (Singh 2010). Wagner (2007) corroborates this evidence with an extensive review of econometric firm-level studies: 'exporters are found to be more productive than non-exporters, and the more productive firms self-select into export markets, while exporting does not necessarily improve productivity'. This finding can also be interpreted in terms of how more exposure to trade makes the most productive firms stronger and fitter to survive (Melitz 2003). Generally, the key conclusion from this body of microeconomic knowledge is that greater openness and export growth can reflect greater underlying competitiveness at firm level and greater capacity to compete in export markets on the basis of competitive advantages acquired *before* exposure to trade.

In relation to this debate, a recent econometric study on Ethiopia's manufacturing sector provides empirical support to two seemingly opposite hypotheses: selection into exporting

versus learning by exporting (Siba and Gebreeyesus 2014). Both mechanisms seem to work, suggesting that there is no one single way of becoming competitive. Of course, once a critical mass of productive and competitive firms has been created and trade grows, a virtuous circle of export-led growth emerges as a cumulative process, whereby initial export growth results in output and productivity growth, making goods even more competitive and consolidating the initially acquired growth/competitive advantage (Thirlwall 2011: 520).

Nolan et al. (2008) also provides evidence that competitiveness is about creating *globally competitive companies* that concentrate manufacturing and technological power, often through state-owned 'national champions', with the case of China being an emerging example. This finding means, however, that the richest and most technologically advanced economies (e.g., USA, Germany, Japan) continue to be the most competitive in terms of global business and technological power while China still has a long way to go.

To be sure, becoming competitive under conditions of contemporary capitalism is also about being part of ('integrating into') global business systems (or global production networks, GPNs), such as Apple or Microsoft (Nolan et al. 2008). In other words, while cutting-edge technological innovators will not be created overnight, it is still possible to start succeeding by participating in the most successful GPNs. Page (2012) makes a similar point about the 'trade in tasks' as an opportunity for African late industrialisers, since trade in intermediate manufacturing inputs has expanded rapidly since the 1980s.

Page (2012: 103) notes: 'for late industrialisers trade in tasks has great potential. It is easier to master a single stage of the production process than to develop all of the capabilities needed for vertically integrated production. Task-based production has been a major driver of the rapid industrialisation in the new generation of Asian export manufacturers', (See the accompanying concept note on global value chains as well). But finding a niche in particular parts of the production process may not respond to any 'natural' CA, but rather to particular (firm-specific) competitive assets developed through combinations of actions by firms and the state.

What is the role of the state in building competitive advantages? Much of the 'developmentalist' school, to use Chang's term (2014)--from Hirschman and Myrdal to

Amsden, Reinert or Chang himself--has advocated deliberate market, and notably trade and credit distortions (namely, 'getting prices wrong') as part of the package necessary to kick-start and sustain industrialization and create competitive niches (Chang 2002). These recommendations are part of an industrial policy complex, which seeks to develop productive capabilities and facilitate technological catching up in order to compete in the most demanding sectors.

A crucial finding from this tradition is that competitive advantages are *created*, and often with extensive state intervention. However, as argued in various concept notes of this project, failure is not uncommon, i.e., state intervention per se does not guarantee the sustainable development of the right productive capabilities.

Does all this mean that CA is no longer relevant for industrial policy? Former World Bank chief economist Justin Lin (2012) has coined the term 'latent comparative advantage' to rescue the concept of CA from the ashes, accommodate the basic fact that CA is not fixed and can 'evolve', and make the concept compatible with some of the insights of the 'developmentalist school' or 'structural economics'. Indeed Lin's main point is that successful developing countries have managed, often through well-targeted state interventions, to strengthen industries that have done well in countries with comparable endowment structures, i.e., those conforming to their natural or 'latent' CA (i.e., evolving in line with changes in the endowment structure of a country).

Chang, and arguably many others in the 'Developmentalist School', disagree with this position and support the idea that competitiveness can be built through bold *defiance* of existing CA, whether 'natural' or 'latent'. But this stance does not imply that countries should ignore CA but use it as a 'landmark while sailing in high seas'. The debate between Lin and Chang (Lin and Chang 2009) lies at the heart of the usefulness or not of the concept of CA for industrial policy. This debate is central to our current project. In Chang's own words, the main difference between these two positions "lies primarily in the extent to which we think the defiance of comparative advantage is advisable. While Lin believes that the skipping of the rungs in climbing the ladder should be very small (*'comparative advantage-conforming'* in his words), I believe that it can be, and sometimes has to be, large (*'comparative-advantage-defying'* in his words)."

There are certainly plenty of examples of competitive industries and firms in developing countries and today's developed countries that illustrate the importance of the defiance of natural and latent CA: Nokia in Finland, Toyota in Japan, POSCO (steel) and Samsung in Korea, Embraer (aerospace) in Brazil, Huawei (private telecoms) and various SOEs in capital- and technology-intensive sectors in China, the software industry in India and, of course, Ethiopian Airlines. In all of these cases the role of the state was essential, whether as 'owner', as customer, or as determined promoter.

## Conclusion

The policy conclusion from this note is clear. Advising governments to let the structure of their economy concentrate according to the logic of CA means putting a country at risk. The risk is that if countries have a CA in activities characterized by low and stagnant productivity, they may well get trapped into those very activities that make their people poor. Governments have been advised to do so, and a great many countries are now stuck in the low value-added segments of international global value chains controlled by multinational corporations, from which they have little chance to climb up the ladder.

Indeed, large corporations have developed proprietary skills and assets as well as managerial and technological abilities that create huge barriers to entry. Small, poor and unexperienced challengers find themselves at a crippling disadvantage. 'Free markets' are oligopolistic and prices are largely determined by the market power of a limited number of MNCs directly or indirectly backed by their own governments. In this situation, the logic of CA can also de facto serve as a theoretical justification for the continued exploitation of low-wage labour and low-rent natural resources by North Atlantic and East Asian based MNCs, which continue to deplete poor countries' human and natural capital.

Productivity gains bolstered by continuous managerial and technological learning are the key to long run performance in history, whether or not such gains conform to the logic of CA. To rely primarily on market forces to build competitive enterprises and sectors is to buy into a naïve and dangerous fallacy. To grow strong, firms must be disciplined, and at some stage that discipline can come from market forces through international competition. But to expose growing companies to market competition too early will more likely than not result

in their being wiped out. As investment goods tend to be highly specific to particular sectors, this result would mean a massive loss of capital, along with all the social ills resulting from displacing workers.

Governments must act carefully and strategically, weighing up risks and rewards, in order to nurture productive industries that can grow to withstand--and, in fact, thrive in--international competition. CA remains a benchmark (among many others) since it gives an indication of the distance between 'CA-conforming' and 'CA-defying' activities. Overcoming this distance is likely to entail an additional amount of subsidy to support a domestic firm to be able to compete internationally. This distance also certainly entails political and economic risks. However, such risks would not disappear by the magic of conforming to CA. They might simply be reduced in size while creating another risk, probably even more damaging in the long term: persistent poverty due to the absence of growth-promoting structural change.

Hence 'getting the institutions right' in order to build skills in higher-productivity, increasing-returns activities becomes the top priority. The corollary is that the key prices (wages, interest rates and the exchange rate) should support and not undermine this developmental objective. The alternative of 'getting the prices right' *first* might be, actually, much more hazardous in the long run. No poor country has ever had a 'natural' (or even 'latent') comparative advantage in the production of sophisticated and technologically demanding goods. They must go out and create these advantages themselves.

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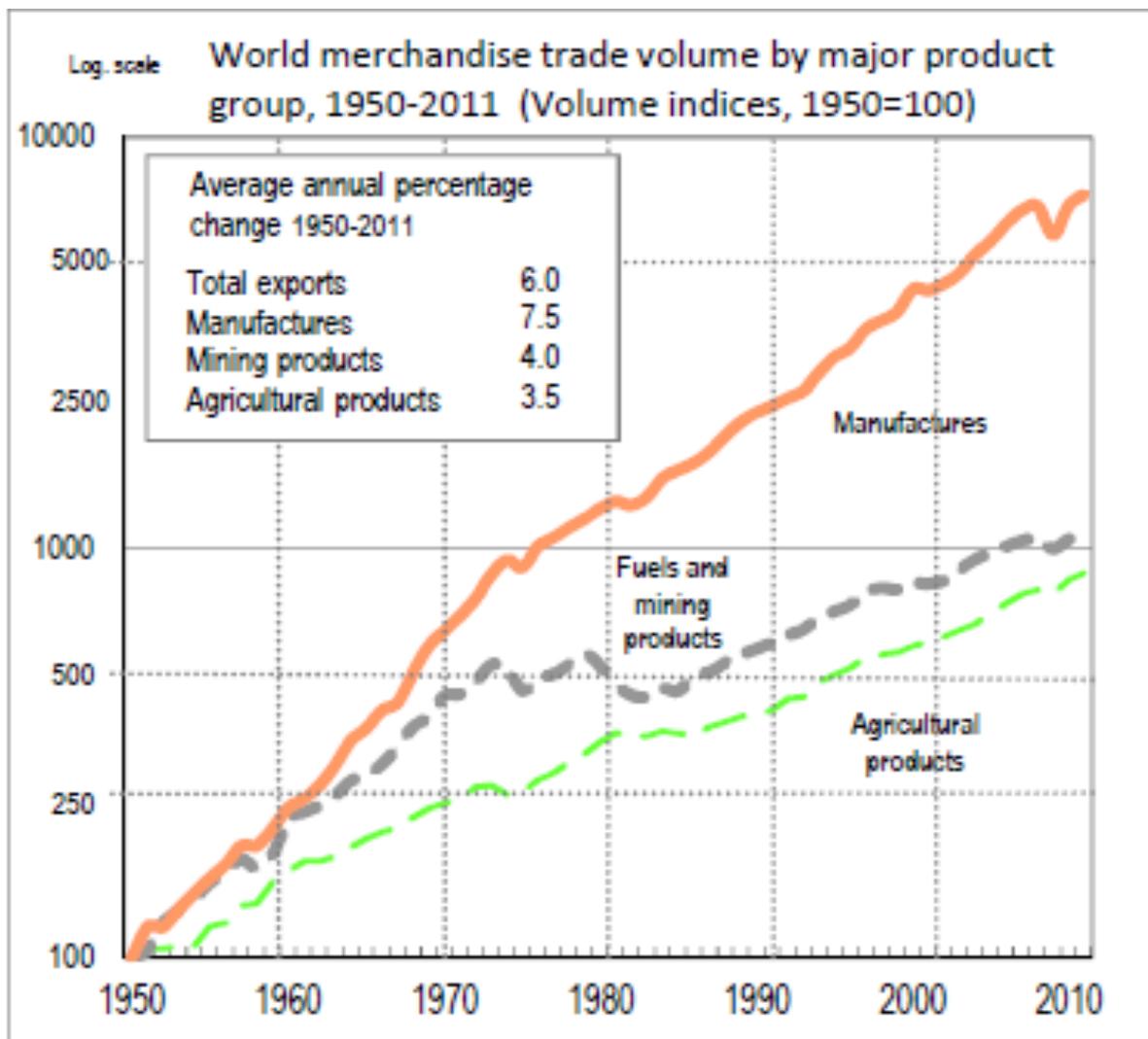
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# Appendix

Figure 1. Trends in Trade Composition 1950-2010



**Table 1 Heterogeneous export structures among developing economies**

	<i>High-technology exports</i> (% of manufactured exports)		<i>Manufactures exports</i> (% of exports)		<i>Manufactures imports</i> (% of imports)	
	1990	2007	1990	2007	1990	2007
<b>China</b>	..	<b>29.7</b>	71.6	<b>93.2</b>	79.8	68.2
<b>Ethiopia<sup>3</sup></b>	..	2.5	..	13.8	..	76.4
<b>Malaysia</b>	38.2	<b>51.7</b>	<b>53.8</b>	<b>70.9</b>	82.2	75.2
<b>Mali</b>	..	7.3	1.6	<b>3.2</b>	52.7	61.8
<b>Mauritius</b>	0.5	8.1	65.8	67.1	76.0	57.6
<b>Mexico</b>	8.3	17.1	43.5	71.7	64.2	76.3
<b>Pakistan</b>	0.1	<b>1.4</b>	78.7	79.4	54.1	54.8
<b>Senegal</b>	..	4.0	22.5	36.1	51.3	45.5
<b>South Africa</b>	..	5.7	..	50.7	..	64.7
<b>Tanzania</b>	..	<b>1.5</b>	..	<b>16.6</b>	..	55.4
<b>Thailand</b>	20.7	26.6	63.1	75.8	75.0	68.9

<sup>3</sup> Source: World Development Indicators (WDI)

Figure 2 Mozambique's evolving export structure

