



## Development through synergistic reforms

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### ABSTRACT

For many less developed countries production of high quality output is a precondition for firms to become exporters. Institutional deficiencies that raise costs of high quality production therefore limit the positive impact that trade facilitation can have on income. Consequently, institutional reforms that reduce costs of high quality production and trade reform have synergistic effects. In contrast, institutional reforms that reduce costs of low quality production (e.g., reforms that disproportionately benefit small businesses) interfere with the impact of trade reform. We obtain these results in a heterogeneous firm model that displays standard “industry rationalization” responses to reduced trade costs.

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### 1. Introduction

Liberalization of international trade was the centerpiece of the package of economic reforms undertaken by many less developed countries (LDCs) in the 1980s and 1990s. To date, the results of those reforms have been considered disappointing in terms of generating higher and more rapid growth of incomes in most of the reformers (Easterly, 2001). A consensus has now emerged that a “second generation” of “institutional” reforms is necessary for the earlier reforms to have their expected impact, but as yet there is no consensus on how these institutions interact with trade liberalization or which should have priority for reform. Chang et al. (2005) survey this literature and provide evidence from cross-country regressions that the interactions of trade openness with a number of different measures of infrastructure and institutions are positively associated with economic growth. Freund and Bolaky (2008) find that trade does not increase income in economies that are heavily regulated, as measured using the *Doing Business* database.

This paper seeks to connect this literature to a parallel micro-level literature that examines the impact of exporting at the firm level and has, in its own way, also yielded disappointing results. The starting point for this literature was a well-established positive correlation between export market participation and firm productivity (and other “good” firm attributes, especially size). It was hoped that this correlation

resulted from technology transfer or “learning by exporting.” Beginning with Clerides et al. (1998), however, most panel econometric studies have found that exporting does not increase firm productivity. Instead, firms that are already more productive self-select into exporting, yielding the observed cross-sectional correlation.<sup>1</sup>

Does this mean that, for LDCs, the export market is no different from any other market? No, because success in the developed country export market in particular requires products of higher quality than those demanded in the domestic market. This is the message of studies at the firm level, including Brooks (2006) and Verhoogen (2008), and of studies of bilateral trade, such as Hallak (2006). It follows that we can expect little impact from reducing the anti-export bias of the economy if few firms are capable of producing goods of high (export) quality.<sup>2</sup>

This brings us back to the issue of institutional reform. Dixit (2004, Chapter 3) has shown how, in the area of contract enforcement, informal “institutions” (reputation) become inadequate once the economy grows beyond a certain size or complexity, after which formal-legal methods of contract enforcement are needed. It is not hard

<sup>1</sup> Some recent studies do in fact find evidence for learning by exporting, but none of these studies finds evidence *against* the selection mechanism described below. Fernandes and Isgut (2004, p. 2), who list these studies, point out that “self-selection and learning-by-exporting are not mutually exclusive possibilities, as high-productivity firms that can afford the sunk cost of entry to export markets may, in principle, continue to improve their productivity as a result of their exposure to exporting.”

<sup>2</sup> A review of World Bank trade reform efforts from 1987 to 2004 found “rather modest export supply responses” (World Bank Independent Evaluation Group, 2006, p. 40).

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to see how his insight can be applied to the distinction between high and low quality production. High quality production, especially for export, requires that certain standards be met, e.g., for pesticide residues in processed food or metal composition for medical instruments. High quality producers depend on their suppliers in order to meet these standards. They must be confident that they can reject sub-standard shipments from their suppliers without interminable court battles, or else they may have to integrate backwards – a significant barrier to entry.<sup>3</sup> Other institutional deficiencies can also pose barriers to entry for high quality producers, especially insofar as they tend to be larger than low quality producers. *Bhidé (2004)* notes that poor record-keeping means that land parcels in Bangalore, India often lack clean titles, potentially a much greater obstacle to a high quality producer looking for a large, greenfield site for its plant. *Laeven and Woodruff (2007)* use data from a survey of lawyers in Mexico to show that firms are larger in states where the quality of the legal system is higher.

In contrast, governments and international development organizations have placed a great deal of emphasis on interventions that benefit small- and medium-sized enterprises (SMEs), which tend not to be export-oriented and probably tend to produce relatively low quality output. These include institutional and regulatory reforms that reduce distortions and programs that probably add to them, for example by providing technology and marketing support that amount to disguised subsidies (see, e.g., *Beyene, 2002*). Most prominent among the reforms are those that lead to relaxation of credit constraints for SMEs. These become better able to draw entrepreneurial talent from larger, export-oriented, high quality production firms.<sup>4</sup>

My analysis can be seen as aiding the choice between different reforms that alleviate distortions, in the spirit of *Hausmann et al. (2008)*. They write (p. 324), “Policies that work wonders in some places may have weak, unintended, or negative effects in others. ... this calls for an approach to reform that is much more contingent on the economic environment.... This understanding can then be used to derive policy priorities accordingly, in a way that uses efficiently the scarce political capital of reformers.” My results will show the benefit, when engaged in trade reform, of prioritizing institutional reforms that reduce distortions that harm firms producing export-quality goods over reforms that reduce distortions that harm firms producing low quality goods for the domestic market. Because the tradeoffs involved in the supply of these institutional reforms are indeed more a matter of allocating “political capital” than budgetary resources, they cannot be modeled straightforwardly. I thus follow *Hausmann et al.* and do not model reform supply, instead concentrating on the impacts of reform implementation.

My argument for synergy (interference) with trade reform of institutional/regulatory reform that supports high (low) quality production does not apply when a country is an exporter of manufactures in general, both low and high quality. It applies best to countries whose producers of low quality goods compete with imports from countries with still lower unskilled wages such as China and India, but whose consumers are still not rich enough to provide a large market for high quality goods. As is noted in *Lederman et al. (2009, p. xxii)*, “Given the rise of China and India, some countries can no longer count on progressing to a higher growth path by exporting manufactured products that are intensive in unskilled, low-cost labor.” These are countries whose relatively abundant natural resources keep unskilled wages high. It has often been argued that free trade fails these countries because it allows natural resources to pull labor out of manufacturing,

the sector in which employment is alleged to generate positive externalities (see *Meier and Rauch, 2005*, pp. 140–143 for a survey of this and other “Dutch disease” arguments). My reasoning involves no externalities. Instead, trade reform fails to deliver as large a positive impact as expected because of a mismatch between the level of institutional development and comparative advantage in export of high quality manufactures, generated by relatively high unskilled wages and low demand for high quality goods.

In the next two sections of this paper I develop a model that clarifies both the nature of synergy and interference between institutional and trade reforms and the conditions under which they obtain, while at the same time capturing the main features of the firm-level trade literature: self-selection of the most productive and largest firms into export-oriented, high quality production; vertical differentiation of demand into low quality, domestic and high quality, (primarily) foreign; and industry “rationalization” effects from trade reform.<sup>5</sup> In *Section 4* I extend the model to cover foreign direct investment. Conclusions are in *Section 5*.

## 2. The model

Our model of self-selection of LDC firms into high quality production for developed country markets is in the spirit of recent panel econometric studies that show a surge in investment prior to the start of exporting (*Alvarez and López, 2005; Iacovone and Javorcik, 2008*). The authors interpret their findings as evidence that firms planning to export to developed countries first invest in raising the quality of their products.<sup>6</sup> Their findings thus suggest that the main fixed cost of entering export markets is investment in raising quality, rather than the cost of exporting per se. I will simply assume that firms that produce high quality goods gain access to more developed country markets, so that separate decisions are not made regarding whether to become a high quality producer and whether to become an exporter. This modeling choice was also influenced by my interviews with CEOs of food-product exporters in Beirut during the first half of 2005. I learned that exporting was crucial to sustaining producers of high quality goods because of their need to spread out their higher overhead relative to producers of low quality goods. In other words, in LDCs the domestic market for high quality goods is often too small to justify the investment in fixed assets and nonproduction staff necessary for high quality production. For entrepreneurs in this situation, becoming a high quality producer and becoming an exporter are decided jointly.<sup>7</sup>

The standard findings that LDC exporters employ a larger share of nonproduction workers than LDC non-exporters (e.g., *Bas, 2008; Verhoogen, 2008*) are consistent with this modeling strategy. We will make the usual identification of nonproduction workers with skilled (educated) workers. We will further assume that production workers for high quality producers are more skilled than for low quality producers. This is widely believed to be true, yet it is surprisingly difficult to find more than anecdotal supporting evidence. *Verhoogen (2008, p. 497)*, for example, reports that a Mexican exporter of automobiles increased employment of more educated relative to less educated production workers in response to quality upgrading.

We will examine synergy and interference with trade reform of four types of institutional reforms: institutional reforms that reduce variable costs of high quality production, fixed costs of high quality production, variable costs of low quality production, and fixed costs of

<sup>5</sup> For a list of empirical studies finding that trade liberalization raises within-industry productivity in LDCs, see *Goldberg and Pavcnik (2004, p. 21)*.

<sup>6</sup> *Hallak and Sivadasan (2008)* argue that there is a quality threshold for exporters and cite numerous studies to support their position.

<sup>7</sup> *Hallward-Driemeier et al. (2002)* show, for five East Asian countries, that firms that began as exporters differ systematically in the training of their work forces, the vintage of their capital equipment, the use of auditing, and other aspects of their production processes and operations, all of which is consistent with the need for these firms to achieve higher quality.

<sup>3</sup> This argument is consistent with the results of *Levchenko (2007)*, who finds that countries with strong contract enforcement have a comparative advantage in goods requiring many intermediates in production.

<sup>4</sup> *Aghion et al. (2007, p. 735)* find that “the entry of smallest size firms benefits the most from higher financial development, whereas financial development has either no effect or a negative effect on entry by larger firms.”

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