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Trade Facilitation and Expanding the Benefits of Trade: Evidence from Firm Level Data

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Introduction

Two conflicting dynamics in today's international trading system suggest that trade facilitation is particularly important to development prospects. On the one hand, tariffs have been significantly cut through a combination of multilateral, regional, and unilateral efforts. It is important to recognize, however, the increasingly important role of other factors in driving a wedge between export and import prices—and the role of trade facilitation policies in reducing that wedge. The second dynamic relates to the institutional nature of the trade reform process. Ensuring a successful conclusion to the Doha Development Agenda is an important aim for all WTO members.

Progress at the multilateral level, however, is increasingly difficult for a number of reasons including the lack of willingness among some members to engage in substantive reform. Nevertheless, recovery from the current crisis requires addressing trade barriers now. Countries eager to move forward on trade reform seek new agendas at the domestic and regional levels. Trade facilitation represents an increasingly important part of trade reform.

Trade facilitation is a multi-faceted area. Unlike cutting tariffs or eliminating quotas, progress on trade facilitation can involve resource costs related to improving trade-related infrastructure, or streamlining customs administrations. Before investing in these measures, it is important for policymakers to understand the behavior of exporters and to have an idea of what affect their companies and where the priorities are in reform for their countries.

Firms make conscious decision about entering export markets before they decide how many goods or services they want to send abroad. Due to higher costs and risks, only a minority of firms in each country actually exports[1]. Those which do export tend to be larger and more productive. One powerful explanation is the existence of cross-border trade costs. Only the most productive firms are able to make profit withstanding the additional costs associated with exporting. Less productive ones cannot do so and only produce for the domestic market[2]. Scale economy and increased competition due to direct contact with global markets tend to further increase the profitability and productivity of exporters.

This has a number of important implications on the role of trade costs and trade facilitation. First, as trade costs fall, low-productivity firms at the edge of becoming exporters will start to find it profitable to export. Trade facilitation can, therefore, promote the entry of small and medium sized enterprises (SMEs) into export markets. It will expand the number of firms in direct contact with the world market and extend the benefits of trade. Second, lower trade costs tend to increase firms' propensity to export and stimulate the growth of exporters. The overall effect will be the reallocation of resources from low-productivity to high-productivity firms and higher productivity of the economy.

Existing empirical studies on trade costs and trade facilitation largely focus on aggregate impacts of reform due to data availability. We take a step toward filling in this gap in literature. Using the World Bank Enterprises Surveys, the study extends the scope of empirical literature to

[1] See Bernard et al. (2007) for a survey of the literature.
[2] See Melitz (2003) for a theoretical model.

firm dimension with a focus on SMEs. For Asia countries, we find that improvement in trade facilitation indicators tend to increase the probability that firms will become exporter as well as their export propensity. In particular, increasing policy predictability and enhancing IT services are the most effective. SMEs appear to be less responsive to improvement in transportation infrastructure than large enterprises. On the other hand, increasing policy predictability affects SMEs more. In order to expand the benefits of trade to SMEs, countries need to make more substantial investment as well as to pay attention to the "soft" part of trade facilitation.

SMEs and Exporter Premier

The World Bank Enterprises Surveys provide very valuable information to investigate firms' exports and trade facilitation despite the data's limitations[3]. First, we can distinguish SMEs as well as exporters using the World Bank Enterprises Surveys. The surveys conducted in ten East and Southeast Asian countries and four South Asian countries from 2002-2006 are used [4](Table 1). It includes 14862 firms operating in fourteen manufacturing sectors[5] (Table 2). Among them, sixty percent are SMEs that are defined as firms with a employment less than 100. Firms are also required to disclose their status as exporters and the share of exports to their total sales. Thirty-six percent of firms were exporters when surveyed (Tables 1 and 2).

Exporters tend to be larger and more productive than non-exporters. There exists a premium of being an exporter. Using the Enterprise Surveys from 2002-2006 of all countries, we confirmed this regularity, consistent with various studies[6][7]. Exporters are much larger in size valuated by sales (Figure 1). The magnitude of the premium is greater for SMEs. For all regions, the sales of exporters are 64 percent larger than those of non-exporters among large firms, and double the sales of non-exporters among SMEs. The exporter premium for SMEs is the largest in Asia countries, about 120 percent. Exporters are not that different when they are large firms in South Asia as sales of exporters are only 22 percent larger than those of non-exporters.
Evaluated by sales per labor, labor productivity is higher in exporting companies than in non-exporting ones[8]. An employee of exporters generates 20 percent more sales than an employee of non-exporters if both companies are large. The difference is more significant if the companies are SMEs, almost 50 percent higher. Comparing across regions, the exporter premier on labor

[3] Some limitations include small number of firms for some countries, and non-panel structure of data.
[4] These countries are Cambodia, China, Indonesia, Lao PDR, Malaysia, Mongolia, Philippines, Korea, the Republic, Thailand, and Vietnam of East and Southeast Asia, and Bangladesh, India, Pakistan and Sri Lanka from South Asia.
[5] These sectors are textiles, leather, garments, food, beverages, metal and machinery, electronics, chemical and pharmaceutics, wood and furniture, non-metallic and plastic materials, paper, auto and transportation equipments, construction, and other manufacturing.
[6] See for instance, Bernard and Jensen (1995), Bernard and Jensen (2007), Mayer and Ottaviano (2007) and the World Bank (2007).
[7] Following previous studies, we obtain export premier by estimating a simple model. The L.H.S. is firm characteristics, including sales and sales per labor. The R.H.S includes a dummy on exporter while controlling for country fixed effects, sector fixed effects and year fixed effects. In order to distinguish between SMEs and large firms, we add a dummy on SME and interact the dummy with the dummy on exporter. The coefficient on the dummy on exporter will imply the exporter premier among larger firms and the coefficient on the interact term will indicate the exporter premier among SMEs.
[8] Due to limited observation on other variables, we cannot compute other measures of productivity for majority of Asian firms.

productivity for SMEs is the highest for countries in Asia, 58 percent for South Asia and 75 percent for East and Southeast Asia.

Trade Facilitation Measures and SMEs' Perception

We also construct country-sector-year specific indicators on trade facilitation, taking advantage of the questionnaires. The surveys ask individual firms to assess the business operating environment. We first select a set of assessments capturing a broader range of trade facilitation measures. As a second step, we take the average of these assessments over country, sector, and year. This has two advantages: first, it helps to alleviate the potential endogeneity problem associated with firm level perception; second, it will extend the coverage to firms which operate in the same country and the same sector at the same year but fail to answer the question. This is especially helpful to include more non-exporters.

In its narrow sense, trade facilitation refers to improving the logistics of moving goods through ports and increasing custom efficiency for cross-border trade. Time is essential to business. Additional delay in shipping could reduce trade by 1 percent[9]. In the Enterprise Surveys, firms are asked to evaluate to what extent that customs and trade regulations are obstacles to business. The scale ranges from 0, no obstacle, to 4, severe obstacle. Exporters or importers also report the average days to clear their goods from the port of exit or the port of entry. We use all three answers as measures on customs efficiency.

A broad view of trade facilitation has emerged in the international development community. At its most general, it includes all measures to improve the environment in which trade takes place and reduce the costs of importing and exporting. Transparency of policy and regulations, good governance, convergence of standards, upgrading of IT services and improvement in other infrastructures have all shown to matter.

Transparency of policy has two dimensions, predictability and simplification. First, transparency through greater certainty can lower trade costs for business. A country with low level of corruption, good governance and effective legal system can offer more certainty in the interpretation and implementation of its trade policy. Transparency through fewer "layers" of trade regulation and better institutions will cut information and compliance costs for business. Helble, Shepherd, and Wilson (2007) construct export and import transparency indices capturing the idea. Based on these indices, improving importer transparency of APEC economies to the regional average can lead to 7.5% ($148bn) increase in intra-regional trade as well as expand global welfare by $406bn[10]. In the Enterprise Surveys, firms also provide their view on corruption, and economic and regulatory policy uncertainty as an obstacle to business (0-4 scale). They also express their confidence in legal system regarding enforcing contractual and property rights. The scale is from 1, fully disagree with effective protection, to 6, fully agree. We use answers to these three questions to capture the essence of transparency of policy and good governance.

Transportation infrastructure and IT services have gained increasing importance in trade facilitation. Poor roads and congested ports limit trade. Improved roads in Eastern Europe and

[9] See Djankov, Freund, and Pham (2006).
[10] See Helble, Shepherd, and Wilson (2007), and Abe and Wilson (2008).

Central Asia could expand trade by 50%[11]. 10% increase in the capacity of East Asia ports lowers costs by 9%[12]. High quality IT services and competitive IT sectors generate spillovers to all aspects of economic activities, including trade. Considering together with port efficiency, customs environment, and regulatory environment, IT infrastructure improves trade. For Southeast Asia, trade flows are sensitive to IT technology and transport infrastructure. Improving competitiveness in internet services would boost trade by 5.7% ($1.7bn)[13]. We use firms' assessment on transportation infrastructure and telecommunication as obstacles to business as the first set of measures on infrastructure. The Surveys also ask firms to provide evaluation on the affordability (0, not affordable – 1, affordable) and quality of IT services (1, very poor-4, very good). We take the average of the answer to each question over country, sector and year and then multiply the two numbers together to get our measure on IT services. As it incorporates richer information than the answers to business obstacles, we use it as our benchmark measure in impact analysis.

Before proceeding to impact analysis, we first have a look at SMEs' perception on the various aspects of trade facilitations. We use answers to business obstacles to make the comparison (Figure 3). Clearly, the inefficiency in customs and trade regulations, the lack of transparency, and the inadequate infrastructure have been constraints to business operation in all Asian countries. Even looking at the best case, there are still 34 percent of SMEs and 45 percent large firms saying that IT services were obstacles. Interestingly, the proportion of SMEs complaining about all measures was smaller than that of large companies. SMEs are more dynamic and often the source of innovations. In short, they tend to look inward to adapt to the markets when facing obstacles. That might be a reason why we observe less complains from them. Another reason might be that countries have been successful in facilitating the development of SMEs.

Turning to assessment on each policy measure, the proportion of companies regarding transparency of policy as constraints was the largest. For East and Southeast Asian companies, economic policy and regulatory policy uncertainty was the number one obstacle as 63 percent of SMEs and 73 percent of large companies said it constrain their business operation. For South Asian companies, corruption ranked the worst which was followed by policy uncertainty. There were also large portion of companies complaining about inefficient customs and trade regulations. The case of South Asia was more severe, half of SMEs and 70 percent of large enterprises rated it as an obstacle. Infrastructures, especially IT services, have seen rapid development in most Asian countries and some have opened IT sector to foreign competition.