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## The Asian 'noodle bowl': Is it serious for business?

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**ADB Working Paper Series**

**The Asian “Noodle Bowl”:  
Is It Serious for Business?**

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Masahiro Kawai and  
Ganeshan Wignaraja

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**Abstract**

A lively debate is taking place over the impact of free trade agreements (FTAs) on East Asia's business between those who view the agreements as a harmful Asian "noodle bowl"—i.e., overlapping regional trade agreements—of trade deals and others who see net beneficial effects in terms of regional liberalization and a building block to multilateral liberalization. A lack of enterprise-level data has made it difficult to resolve the debate. Providing new evidence from surveys of 609 East Asian firms (in Japan, Singapore, Republic of Korea [hereafter Korea], Thailand, and Philippines), this paper seeks to address the critical question of whether the Asian noodle bowl of multiple overlapping FTAs is harmful to business activity, particularly for small- and medium-sized enterprises (SMEs). The surveys suggest that the Asian noodle bowl does not seem to have severely harmed the region's business activity to date. Use of FTA preferences is higher than expected from previous studies (22% of responding firms). Furthermore, only 27% of responding firms said that multiple rules of origin significantly added to business cost. However, as more currently under negotiation FTAs take effect and the complexity of the Asian noodle bowl increases, the business impact is likely to intensify. Implementation of key policies and closer public-private sector cooperation can help mitigate negative effects and facilitate a more SME-inclusive business response to FTAs. Suggestions include: encouraging most favored nation (MFN) liberalization, rationalization of rules of origin, upgrading origin administration, increased awareness of FTA provisions, improving business participation in FTA consultations, and SME support.

**JEL Classification: F1, F15, O24**

## Contents

1.	Introduction.....	3
2.	Asian FTAs and the Noodle Bowl.....	4
2.1	Proliferation of FTAs in East Asia.....	4
2.2	The Asian Noodle Bowl Phenomenon.....	6
2.3	FTA Elements of the Asian Noodle Bowl.....	7
3.	Firm Survey Findings .....	10
3.1	Use of FTA Preferences.....	10
3.2	Benefits and Costs of FTAs.....	15
3.3	Burden of Multiple ROOs for SMEs.....	17
3.4	Institutional Support for Exporting Under FTAs.....	22
4.	Policy Implications.....	25
5.	Conclusion.....	26
	Appendix.....	28
	References.....	31

# 1. INTRODUCTION

The issue tackled in this paper—the business impact of the Asian "noodle bowl" of regional trade deals—is of profound significance to firms and policymakers alike. It is particularly so in the context of the ongoing global financial crisis and the accompanying economic downturn, which has prompted a search for practical ways of reviving rapid trade-led growth in East Asia. Dealing with the Asian noodle bowl phenomenon is thus an integral element of the policy agenda for stimulating future trade-led growth.

Free trade agreements (FTAs) are a new addition to the region's trade policy landscape, which hitherto emphasized the multilateral General Agreement on Tariffs and Trade (GATT)/ World Trade Organization (WTO) approach and the trans-regional Asia Pacific Economic Community (APEC) forum. It has been only since the turn of this century that East Asian economies have actively created an assortment of bilateral and plurilateral FTAs. The Association of Southeast Asian Nations (ASEAN), the region's oldest FTA, is emerging as the integration hub for FTAs in East Asia. The People's Republic of China (PRC), Japan, and Korea have implemented their respective FTAs with ASEAN. India, Australia, and New Zealand are also joining the bandwagon. The Asian Development Bank (ADB) estimates that, by January 2009, as many as 37 FTAs were in effect in East Asia and another 72 FTAs were in the pipeline.

A lively debate over the impact of FTAs on the region's business is taking place between those who view the agreements as harmful and others who see net beneficial effects.<sup>1</sup> Influenced by Bhagwati's (1995) powerful insight on the "spaghetti bowl" of trade deals, the former group asserts that different tariffs and rules of origin (ROOs) in multiple FTAs have resulted in an Asian noodle bowl phenomenon that increases the burden for business. The latter suggests that, in the absence of a Doha trade deal, comprehensive, well-designed FTAs may be a means to achieve regional liberalization and structural reforms, which can constitute a building block to multilateral liberalization. Advancement of the debate, however, has been hampered by a dearth of firm-level evidence on the use of FTA preferences, the benefits and costs of FTAs, and the burden due to multiple ROOs.

This study is the first comprehensive survey of firms in East Asia, exploring several important questions concerning the proliferation of FTAs and the Asian noodle bowl: Are FTA preferences being used? What are the benefits and costs of FTAs? Are multiple ROOs a burden on SMEs? Is there enough support for domestic firms to use preferences under FTAs? This paper attempts to generate debate through these questions by examining firm survey results concerning the business impact of FTAs—such as market access issues, ROOs, and the severity of the noodle bowl for small- and medium-sized enterprises (SMEs). Five firm surveys—in Japan, Singapore, Republic of Korea (hereafter Korea), Thailand, and Philippines—were conducted in 2007–2008. These five countries represent a mix of development levels and FTA experiences and offer a large, diverse dataset (609 manufacturing export firms). ADB, Japan External Trade Organization (JETRO), and several other partners were involved in the firm surveys.

Section 2 of the paper highlights the recent proliferation of FTAs in East Asia, economic perspectives on the Asian noodle bowl phenomenon, and FTA elements of the Asian noodle bowl. Section 3 presents a summary of firm survey findings by focusing on FTA preference use; perceived benefits and costs of FTAs; and potential problems of multiple, overlapping ROOs. It

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<sup>1</sup> Bhagwati (1995) contains an early reference to the "spaghetti bowl" problem in the context of extending the North American Free Trade Agreement into new countries, starting with Chile and extending APEC into an FTA. Bhagwati (2008) provides a conceptual update and discusses the phenomenon in East Asia. For various perspectives on the Asian noodle bowl, see Baldwin (2006), Dent (2006), Manchin and Pelkmans-Balaoing (2007), Tumbarello (2007), Plummer (2007), ADB (2008b), and Petri (2008).

also presents an econometric analysis of the determinants of ROOs perceptions at firm-level. Section 4 offers policy implications for further encouraging trade and investment in the region in multilateral frameworks. Section 5 concludes the paper with suggestions for better tackling the Asian noodle bowl.

## 2. ASIAN FTAS AND THE NOODLE BOWL

By way of background to the analysis of firm survey results, this section briefly undertakes several inter-related tasks: (i) discusses the spread of FTAs in East Asia (including the five East Asian countries surveyed) and explanations; (ii) traces the origins of the Asian noodle bowl phenomenon in the economics literature and subsequent work; and (iii) examines key elements associated with the Asian noodle bowl—particularly ROOs and administration systems—in the five surveyed countries.

### 2.1 Proliferation of FTAs in East Asia

#### 2.1.1 East Asian FTA initiatives

The spread of FTAs in the last decade has been the most important trade policy development in economically important East Asia, from which came just under one-third of world exports in 2007. For much of the post-war period, East Asia supported the multilateral GATT/WTO approach and the trans-regional APEC forum as a means of trade liberalization. The region came late to FTA initiatives in comparison with other regions of the world, but it has seen an unprecedented increase in these agreements since the millennium (Kawai and Urata 2004; Crawford and Fiorentino 2005; Feridhanusetyawan 2005; United Nations Conference on Trade and Development [UNCTAD]-JETRO 2008). In 2000, there was hardly any FTA activity in the region—only three FTAs were in effect in East Asia (including the ASEAN Free Trade Agreement (AFTA), one was under negotiation with another three proposed. However, in just nine years, these figures increased more than tenfold; in January 2009, East Asia emerged at the forefront of Asia's FTA activity, with 37 FTA initiatives in effect and another 72 at various stages of preparation—equivalent to more than half of Asia's total FTA initiatives (ADB Asia Regional Integration Center FTA database).<sup>2</sup>

The region's largest and richest countries are leading players in the spread of FTAs. Japan has implemented bilateral economic partnership agreements (EPAs) with eight countries<sup>3</sup> and a plurilateral FTA with ASEAN. In addition, Japan is negotiating agreements with Korea, Viet Nam, India, Australia, and Switzerland. The PRC implemented an FTA on goods with ASEAN and is now negotiating agreements on services and investment. Korea has implemented an FTA with Chile, an FTA on goods with ASEAN, and has reached an agreement on an FTA with the United States (US). ASEAN is even more aggressive. Having enacted FTAs with the PRC, Korea, and Japan, ASEAN recently concluded FTA negotiations with India, Australia, and New Zealand, and is considering negotiating with the European Union (EU). Some ASEAN members, such as Singapore and Thailand, are actively pursuing a host of bilateral FTAs. And recently, Australia, New Zealand, and India have joined this bandwagon.

<sup>2</sup> In mid-January 2009, East Asia had 109 FTAs at various stages (37 FTAs in effect, 7 signed but not in effect, 37 under negotiation, and 28 proposed); the Asia and Pacific region as a whole had about 210 FTAs at various stages (78 FTAs in effect, 27 signed but not in effect, 58 FTAs under negotiation, and 47 FTAs proposed).

<sup>3</sup> Japan's EPA partners are Singapore, Mexico, Malaysia, Chile, Thailand, Brunei Darussalam, Indonesia, and Philippines. For an illuminating comparison of the FTA strategies of leading East Asian economies see Hufbauer and Schott (2009).

Table 1 profiles the five countries surveyed in the paper. The countries represent an interesting mix of development and FTA experiences. Japan, Singapore, and Korea have high per capita incomes and are among the world's richest economies. Thailand and the Philippines are middle-income countries. While all five countries have pursued outward-oriented development strategies over several decades, Japan and Singapore have liberalized the most and have lower average tariffs than the other three countries. Singapore is the most active of the five in terms of concluded FTAs, followed by Thailand, Japan, and Korea. The Philippines has been much less active and, as an ASEAN member, has relied heavily on ASEAN FTAs. Singapore presently has 14 FTAs in effect, while Japan has 9, Thailand has 8, and Korea and the Philippines each have 5 (Table A1). With several agreements either under negotiation or proposed, FTAs are likely to remain an integral part of commercial policy in all five countries.

**Table 1: GNI per Capita, Tariffs and FTAs in the Countries Surveyed, Latest**

Country	GNI per Capita, 2007 <sup>a</sup>	Simple Ave. MFN Tariffs, 2007 <sup>b</sup>	Concluded FTAs, 2009 <sup>c</sup>		FTAs Under Negotiation and Proposed, 2009 <sup>c</sup>
			In Effect	Signed	
Japan	37,670	2.6	9	1	10
Singapore	32,470	0.0	14	3	11
Korea	19,690	6.6	5	1	15
Thailand	3,400	8.2	8	0	15
Philippines	1,620	5.8	5	0	6

Notes:

(a) Per capita GNI in 2007 current US\$ (atlas method).

(b) Applied Average MFN (2007) for non-agricultural products only. MFN average for ASEAN-6= 5.3%; ASEAN-10= 7.4%.

(c) January 2009. GNI = gross national income.

Sources: ADB (2008b); ADB (2008a); World Bank (2008).

## 2.1.2 Factors underlying FTA initiatives

The spread of FTAs in East Asia has been accelerated by slow progress in the WTO Doha Round of trade talks. Three other factors underlie recent East Asian FTA initiatives:

1. Deepening market-driven economic integration;
2. European and North American economic integration; and
3. The 1997–1998 Asian financial crisis.<sup>4</sup>

First and foremost among these is market-driven economic integration through trade, foreign direct investment (FDI), and the formation of East Asian production networks and supply chains. Market-driven economic integration has begun to require further liberalization of trade and FDI, as well as harmonization of policies, rules, and standards governing trade and FDI. East Asia's policymakers are increasingly of the view that FTAs, if given wide scope, can support expanding trade and FDI activities through further elimination of cross-border impediments and facilitation of trade and FDI. Thus, FTAs can be regarded as part of a supporting policy framework for deepening production networks and supply chains formed by global multinational corporations (MNCs) and emerging East Asian firms.

Second, European and North American economic regionalism—including EU expansion into central and eastern Europe and the Baltic countries, a monetary union in the Euro area, and the

<sup>4</sup> More complete explanations can be found in Feridhanusetyawan (2005), Kawai (2005, 2007), and ADB (2008). Kawai and Wignaraja (2008, 2009) explores characteristics and economic effects of East Asian FTAs.



success of the North American Free Trade Agreement (NAFTA) and its developing move toward the Free Trade Area of the Americas (FTAA)—has motivated East Asian FTAs. Governments fear the two giant blocs might dominate rule-setting in the global trading system and marginalize Asia. Increasingly, they have realized the need for stepping up integration to improve international competitiveness through exploitation of scale economies, strengthen their bargaining power, and raise their voice in global trade issues. FTAs can help ensure against the periodic difficulties of multilateral trade liberalization, such as the slow progress in the WTO Doha negotiations and a perceived loss of steam in the APEC process.

Third, the 1997–1998 Asian financial crisis made it clear that East Asia needed to work together in the areas of trade and investment in order to sustain growth and stability by addressing common challenges. This need has not yet been fully met by either regional initiatives to strengthen the international economic system or by national efforts to strengthen fundamentals, both of which take time to bear fruit. Once FTA initiatives began in the region, economies started to collaborate on trade and FDI out of fear of exclusion.

## 2.2 The Asian Noodle Bowl Phenomenon

The growing literature on the spaghetti bowl and the Asian noodle bowl—which together cover economic, political, and legal perspectives—are too vast to be done justice here. Several useful surveys of early economics literature are available. Bhagwati, Greenaway, and Panagariya (1998) and Panagariya (2000) surveyed the theoretical economics literature on FTAs and the spaghetti bowl, which pre-dates the rise of Asian FTAs and the noodle bowl. Baldwin (2006) reviewed some developments connected with Asian FTAs.

### 2.2.1 Origins of the Noodle Bowl

The spread of FTAs in East Asia and elsewhere has sparked “systemic” concerns about crisscrossing FTAs—which Jagdish Bhagwati famously called a “spaghetti bowl” of trade deals (Bhagwati 1995, 2008). He argued that discriminatory trade liberalization occurs under multiple, overlapping FTAs and that the systemic aspect is due to the same commodity being subject to different tariffs, tariff reduction trajectories, and ROOs for obtaining preferences. With a growing number of FTAs, the international trading system is likely to become chaotic. Bhagwati also suggested that coping with multiple tariffs and ROOs in FTAs can raise transaction costs for enterprises, particularly SMEs.

More recently, ADB president Haruhiko Kuroda referred to this phenomenon as the Asian noodle bowl effect of FTAs and warned that it could present future challenges for broader regional and global integration (Kuroda 2006a, 2006b).<sup>5</sup> The phrase has caught on in the last couple of years and stimulated a growing industry of analytical work on East Asian FTAs along four major lines.

First, the Asian noodle bowl of FTAs has been sketched as a map of chaotic lines representing an intertwined mass of preferential trading arrangements (for graphical examples, see Dent 2006; Petri 2008), which conveys a powerful visual impression of complex preferential trade relationships. Quite strangely, these summary diagrams are sometimes put forward as evidence of an actual (rather than a potential) problem for business.

Second, the technically difficult task of trying to compare ROOs across FTAs according to “best practices” has been attempted with some success (for examples of comparisons, see

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<sup>5</sup> As Bhagwati (2008: 63) observed, “the phrase (Asian noodle bowl) was introduced by President Haruhiko Kuroda of the Asian Development Bank in July 2006 in a speech delivered to the Jeju Summer Forum in South Korea.”

Estevadeordal and Suominen 2006; Plummer 2007; World Bank 2007). This on-going and data-intensive exercise is working towards developing a world map of ROOs, graded by different levels of restrictiveness.

Third, gravity and computable general equilibrium (CGE) model-based studies have analyzed the economic effects of alternative FTA scenarios and underscored region-wide FTAs as a means to increase economic welfare (e.g., Gilbert, Scollay, and Bora 2004; Lee and Park 2005; Francois and Wignaraja 2008; and Hufbauer and Schott 2009). While such studies are useful in highlighting the economic effects of various FTA options and unintended consequences, they are yet to fully incorporate multiple ROOs.

Fourth, various solutions to the noodle bowl have been proposed. Following formal theoretical modeling of Bhagwati's insight, the early theoretical economics literature concluded with the suggestion that MFN liberalization is a panacea to eliminate the spaghetti bowl problem.<sup>6</sup> A more comprehensive approach is offered by Baldwin and his collaborators who proposed a "WTO Action Plan on Regionalism," including deepening the transparency mechanism for FTAs, WTO advisory services on FTAs, and several measures for taming the ROOs tangle (Baldwin 2006; Baldwin and Thornton 2008; Baldwin and Low 2009). The more comprehensive approach is due to Baldwin's (2006) political economy framework for trade liberalization, which is based on three mechanisms—a juggernaut effect for multilateral trade liberalization, a domino effect for regional trade liberalization, and a race-to-the-bottom unilateral trade liberalization.

While these are all valuable exercises, there is little empirical evidence on the extent of the Asian noodle bowl effect on enterprises in East Asia. The two existing studies based on relatively large enterprise samples are limited to one country—Japan (JETRO 2007; Takahashi and Urata 2008). Both studies focus on the issue of multiple ROOs; however, contrary to expectations, the evidence also seemed mixed. JETRO (2007) showed that around 30% of 97 Japanese firms using (or planning to use) FTA preferences thought that multiple ROOs in East Asian FTAs complicated procedures to prove country of origin and led to increased business costs. In contrast, data provided in the Takahashi and Urata (2008) study suggest that only 5% of 229 responding Japanese firms thought multiple ROOs were a problem. There is a lack of cross-country firm-level evidence on FTA impacts and the Asian noodle bowl to corroborate these early inconclusive findings.

## 2.3 FTA Elements of the Asian Noodle Bowl

The proliferation of FTAs in East Asia has meant that the region's trading arrangement has acquired the noodle bowl feature discussed above.

First, different FTAs contain varying modalities and timeframes for tariff concessions.<sup>7</sup> More specifically, many FTAs adopt a negative list approach while some adopt a positive list approach with exclusions. In the case of AFTA and ASEAN+1 FTAs—such as the ASEAN-PRC FTA, ASEAN-Korea FTA, and ASEAN-Japan Comprehensive Economic Partnership Agreement (CEPA)—tariff elimination is to be achieved by 2010 for developed countries and advanced ASEAN members, while longer periods are allowed for less advanced members.

<sup>6</sup> As the survey of this literature by Panagariya (2000: 328) concluded: "There is now general agreement among free trade economists that the best solution to this problem is to speed up MFN liberalization. Once external tariffs drop to zero, tariff preferences and the spaghetti bowl created by them will automatically disappear."

<sup>7</sup> UNCTAD-JETRO (2008) examined tariff elimination and reductions in 15 bilateral and plurilateral South-South Asian FTAs and concluded that, with a few exceptions (e.g., the Korea-Chile FTA and the India-Sri Lanka FTA), such FTAs are not homogeneous in terms of both tariff lines coverage and preferential margins.

Second, tariff preferences vary across products and FTAs. Electronics face negligible MFN tariffs, while higher margins of preference are observed for other non-electronic sectors. For example, under the Japan-Thailand EPA, preference margins for clothing (25%) and transport equipment (4%) are high, providing incentives for firms to utilize FTA preferences in these products.

Third, ROOs and administrative systems differ across FTAs and products (Tables 2 and 3). The simplest ROO can be found in AFTA which specifies a single regional value content (VC) across all tariffs (i.e., 40% of the value added of a good has to originate from within ASEAN). But AFTA is also moving towards more liberal alternatives, including the change in tariff classification (CTC) rule. The ASEAN-PRC FTA uses the simple VC rule, while the US-Singapore FTA has restrictive ROOs on textiles. The Japan-Singapore EPA allows alternative ROOs. Origin administration differs significantly across East Asian countries, with some countries relying on efficient electronic systems administered by private sector bodies and others on cumbersome paper-based systems administered by public institutions (Table 3).

**Table 2: Varying Rules of Origin in FTAs: Selected Products**

PRODUCT (HS CODE)	AFTA	ASEAN-PRC FTA	ASEAN-Korea FTA	ASEAN-Japan FTA	Japan-Thailand EPA	US-Singapore FTA
Electronic integrated circuits (85.42)	CTC or 40% RVC	40% RVC	CTC or 40% RVC	CTC or 40% RVC	CTC or 40% VC	CTC
Parts and accessories for motor vehicles (87.08)	40% RVC	40% RVC	45% RVC	40% RVC	CTC or 40% VC	6 digit CTC or CTC plus 30% RVC (build-up)
Woven fabrics of cotton (52.09)	CTC; or 40% RVC; or process criterion for textile products	40% RVC; or process criterion for textile and textile products	CTC or 40% RVC	CTH or CTC plus material is dyed or printed in either party's area; or non-originating material is woven entirely in any party's area.	CTH or CTC plus fabric/yarn is dyed or printed in either party's area	CTH
Men's or Boy's suits, blazers, etc. (62.03)	40% RVC; or CTC plus good is both cut (or knit to shape) and sewn in any party's area; or process criterion for textile products	40% RVC; or process criterion for textile and textile products	40% RVC; or CTC plus good is both cut and sewn in any party's area.	CTC plus non-originating material is woven entirely in any party's area.	CTC plus non-originating material is knitted or crocheted in either party's area or any ASEAN member's area	CTC plus good is both cut (or knit to shape) and sewn or otherwise assembled in the territory of one or both of the parties.

Notes: HS = Harmonized System; CTC= Change in Tariff Classifications; CTH = Change of Tariff Heading; VC= Value Content; RVC = Regional Value Content

Sources: Kawai and Wignaraja (2008) and official texts of FTAs (data as of January 2009).

**Table 3: Complex Origin Administration**

Country	System	Issuing Authority	Steps/Time Required			Actual Cost
			Factory Registration/ Inspection	Cost Statements Submission & Verification	Certificate of Origin Approval	
<b>Japan</b>	Paper-based	Chamber of Commerce and Industry	5–7 days	0–3 days	0–3 days	JPY12,000+30 for Japan-Malaysia and Japan-Thailand; JPY2,100+30 for Japan-Mexico EPA
<b>Singapore</b>	Electronic Data Interchange (EDI)/ Trade Net System	Customs	At least 7 days (for exporter's registration only)	At least 7 days prior to CO application	5–10 minutes	S\$6.40 online or S\$10 manual processing; S\$3.30 export permit
<b>Korea</b>	Electronic	Self-declaration system and Chamber of Commerce	...	...	...	US\$4 processing fee for CO form
<b>Thailand</b>	Paper-based	Dept of Foreign Trade, Ministry of Commerce	N/A	0–3 days	1 day	B30 inspection fee, 200B exporter ID, B30 for Form D or FTA forms
<b>Philippines</b>	Paper-based	Customs; One-Stop Export Documentation Center (OSED)	N/A	3 days (through forwarders); Post-audit/ inspection	1–2 hours	P185 processing fee and doc stamps; P115 CO form through OSED, P1,150 through freight forwarders

Sources: Authors' compilation based on FTAs' legal texts; Japan Customs, Japan Chamber of Commerce and Industry, International Enterprise (IE) Singapore, Singapore Customs, Singapore TradeNet, Korea Chamber of Commerce, Thailand Department of Foreign Trade Ministry of Commerce, Philippines Department of Trade and Industry, and Philippine Bureau of Customs.

### 2.3.1 A realistic way forward?

There are both benefits and costs associated with the formation of FTAs. Given that almost all East Asian economies are pursuing FTAs, a realistic approach would be to encourage them to design and implement FTAs in a way that would maximize benefits and minimize potential costs. This requires that FTAs induce domestic structural reforms and be made consistent with WTO rules.

One of the most serious costs of FTAs is that they discriminate against non-members, particularly small, poor, developing economies that cannot join FTAs as they do not have much to offer and hence cannot attract the interest of others. The costs of FTA negotiations could also be large for small, poor economies with limited negotiation capacity—such as Cambodia, Lao People's Democratic Republic (Lao PDR), Myanmar, and Viet Nam—particularly when gains from FTAs are perceived to be unevenly distributed across various participating countries. For this reason, some argue that, in the absence of a WTO Doha deal, FTAs may be a second-best tool of regional liberalization. An important question is whether FTAs can—or can be made to—strengthen the multilateral process or not.

The spread of many different, overlapping FTAs in the region has also triggered concerns about potentially harmful, noodle bowl effects. The issue is whether the Asian noodle bowl can raise trade-related business costs for using FTAs due to complexity and, hence, reduce incentives for utilizing the intended FTA preferences, especially for SMEs which may face higher administrative and business costs as their capacity to deal with them is limited. It is hoped that new, firm-level evidence on FTA impacts can provide some insight into the debate.

### 3. FIRM SURVEY FINDINGS

Drawing on the findings of surveys of 609 exporting firms in five East Asian countries in 2007–2008, this section briefly addresses four key questions on the Asian noodle bowl effect: Are FTA preferences being used? What are the benefits and costs of FTAs? Are multiple ROOs a burden on SMEs? And, is there enough support for domestic firms to utilize trade preferences under FTAs? The individual country papers contain the more detailed information and analysis that trade and industry specialists would find interesting.<sup>8</sup>

The firm surveys mainly used a random sampling technique to select the firms.<sup>9</sup> The sample was located in the following East Asian countries: Japan (38 firms); Singapore (75 firms); Korea (120 firms); Thailand (221 firms); and Philippines (155 firms).<sup>10</sup> Table A2 shows the breakdown of the sample by sector, firm size, and ownership. Over one-third of the sample (38%) belongs to the electronics sector, around a quarter (25%) to the automotive sector, and less than one-fifth (17%) to the textile and garment sector. The remaining 20% are in chemicals and pharmaceuticals; metals and machinery; and food processing. SMEs (with 100 or fewer employees) make up a relatively high proportion of the sample (39%), while large firms (with 101 to 1,000 employees) and giant firms (with over 1,000 employees) account for 46% and 15%, respectively, of the sample. Foreign-owned firms make up 40% of the sample and 60% are domestic firms. A questionnaire was used to collect the firm-level information through face-to-face or telephone interviews. This technique tends to generate more accurate information than questionnaires either emailed or posted to respondents.

Like other tools of empirical analysis, firm survey-based research may have limitations. These can arise from different sources, including the sampling methodology adopted, the appropriate sample size to reflect industry population characteristics, the design of questionnaires, the method of administering questionnaires, and the accuracy of data processing. Nonetheless, in the absence of official published data, well-designed and administered firm surveys are perhaps the only source of actual data that can provide invaluable insights on the impact of FTAs on firms in East Asia.

#### 3.1 Use of FTA Preferences

The question of whether FTA preferences are being used in the East Asian countries surveyed is critical to the debate on the effectiveness of East Asian FTAs. An overarching indicator of the effectiveness of East Asian FTAs is the use made of preferences by business. Previous country- and industry-level studies suggest that FTA preference utilization rates (based on shares of export value enjoying preferences) are low in East Asian countries and that FTAs are not actually used.<sup>11</sup> Accordingly, FTAs are held to be discriminatory and a drain on scarce trade negotiation capacity in developing countries (Bhagwati 2008). This section provides firm-level evidence on preferences use by the sample firms, an analysis of factors associated with FTA use, and impediments to FTA use.

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<sup>8</sup> See Hiratsuka, Isono, and Sato (2008) on Japan; Chia (2008) on Singapore; Wignaraja et al. (2008) on Thailand; Cheong and Cho (2009) on Korea; and Wignaraja, Lazaro, and de Guzman (2009) on the Philippines.

<sup>9</sup> In Thailand, for instance, a list of exporting firms that belong to electronics, automotive, and garments was taken from the Ministry of Labor. Firms were then randomly selected from each sector taking into account firm sizes and ownership structure.

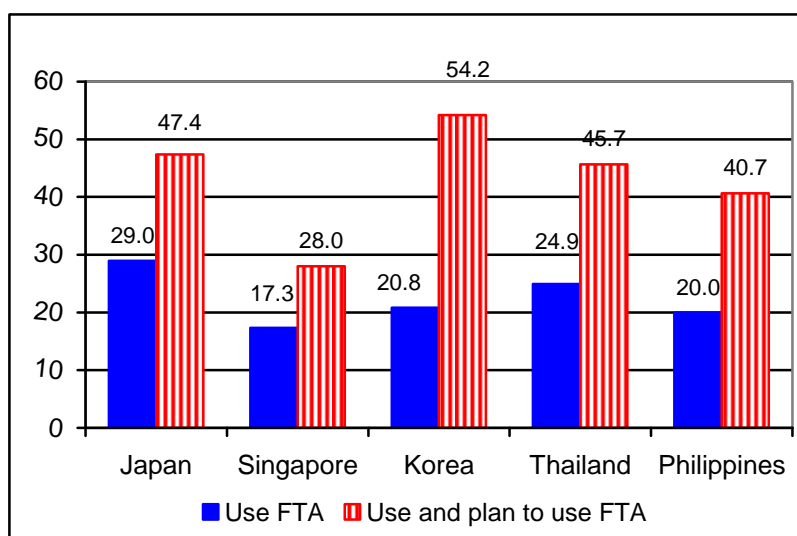
<sup>10</sup> The surveys were conducted in the following periods: Japan (July 2007 to May 2008); Singapore (July to October 2007); Korea (July to August 2008); Thailand (April to August 2007); and Philippines (March to November 2008).

<sup>11</sup> See World Bank (2007) and UNCTAD-JETRO (2008). Furthermore, one of the few firm-level studies for Japan indicated an FTA utilization rate of only 13% for 2006 (JETRO 2007).

### 3.1.1 Utilization of FTA preferences.

East Asian exporting firms tend to utilize FTA preferences more intensively than conventionally thought and may even increase the utilization rate. Although data on shares of export value enjoying preferences were not available from the enterprise surveys, it was possible to estimate utilization of FTA preferences based on the incidence of firms that actually use FTA preferences (i.e., the share of sample firms in a given country). Figure 1 shows the share of firms that use or plan to use FTAs. Use of preferences in the five surveyed countries is higher than expected based on the results of the few existing studies. Of the 609 East Asian sample firms, around 22% (135 firms) use FTA preferences. Viewing the 135 East Asian FTA users by sector reveals that automotive firms use FTAs more intensively than electronics or textiles and garments firms.<sup>12</sup>

**Figure 1: Utilization of FTA Preferences (% Respondents)**



A distinct pattern of FTA use by firms is visible across countries. Japanese firms (29%) are the highest users of FTA preferences—from an albeit small sample—followed by Thai firms (25%). In contrast, firms in Korea (21%), the Philippines (20%), and Singapore (17%) make less use of FTAs. When East Asian firms' future plans on FTA preferences are also included, a significantly higher level of private sector interest in FTAs is indicated. Around 44% (267 firms) of all East Asian firms use or plan to use FTA preferences, which is double the figure for FTA use. The country-level figures—Korea (54%), Japan (47%), Thailand (46%), Philippines (41%), and Singapore (28%)—confirm heightened plans for FTA preference use in Korea, the Philippines, and Thailand, but only limited preference use in Singapore.

The differing patterns of FTA use among the East Asian firms can be explained by a variety of macro- and firm-level factors.

### 3.1.2 Macro-level factors

At the macro-level, the relatively high FTA use in Japanese firms may be linked to two factors: (i) a sophisticated industrial structure based on giant, MNCs which are the centre of regional production networks and trading through FTAs; and (ii) a dense network of private sector

<sup>12</sup> The 135 FTA users consist of 51 automotive firms, 42 electronics firms, 18 textiles and garments firms, 8 food firms, 7 chemicals and pharmaceutical firms, and 7 metals and machinery firms. As a percentage of the sectoral totals, users are: automotives (34%), chemicals and pharmaceuticals (26%), food (19%), electronics (18%), textiles and garments (17%), and metals and machinery (14%).

industry associations and public trade support institutions that provide various services for business adjustment to FTAs. High FTA use by Thai firms is due to the country's emergence as a regional production hub particularly in the automotive sector, a magnet for export-oriented FDI (including from Japan) and strong emphasis on FTAs as a tool of trade policy.

More limited use of FTAs in Korea may be explained by the country's late entry to FTAs in 2004, an initial focus on FTAs with smaller economies (e.g., Chile and Singapore) and low margins of preference. The Philippines firms' usage figure can be attributed to the country's overwhelming export concentration in electronics (with low MFN tariff rates), a heavy reliance on AFTA, and limited experience with bilateral FTAs. The relatively low FTA use by Singaporean firms seems surprising given its strategic geographic location, the high export-orientation of industries, the large number of implemented FTAs, and the extensive outreach programs. Part of the answer may lie in an open trading system and low tariff margins that would mitigate the need for using FTAs with major trading partners.

### 3.1.3 Firm characteristics: users and non-users of FTA preferences

Table 4 reports means and t-test results on the difference in mean values for various firm characteristics, including the number of employees, age, foreign ownership, awareness of FTA provisions, and business response to FTAs. The comparison considers users and non-users of FTA preferences, grouped by country. Korea is excluded from the t-tests as data were not available from the survey. The number of firms is indicated in parentheses for each category.

**Table 4: Firm Characteristics between Users and Non-Users of FTAs**

Firm Characteristics	Japan			Singapore		
	User (11)	Non-User (27)	t-value <sup>a</sup>	User (13)	Non-User (62)	t-value <sup>a</sup>
No. of permanent employees	30,104	7,020	2.49**	1,098	142	3.03***
No. of years since establishment	50.8	54.7	-0.32	30.6	22.2	1.47
% foreign-owned <sup>b</sup>	36.4	3.7	2.92***	53.8	50.0	0.249
% aware of FTA provisions <sup>c</sup>	63.6	11.1	3.85***	46.2	9.7	3.47***
% changed/may change business plans <sup>d</sup>	45.5	14.8	2.07**	46.2	21.0	1.92*
Firm Characteristics	Thailand			Philippines		
	User (49)	Non-User (149)	t-value <sup>a</sup>	User (31)	Non-User (124)	t-value <sup>a</sup>
No. of permanent employees	591	291	3.52***	395	269	1.6543*
No. of years since establishment	22.3	18.6	1.80*	17.3	12.5	3.24***
% foreign-owned <sup>b</sup>	61.2	40.3	2.59***	58.1	66.1	-0.84
% aware of FTA provisions <sup>c</sup>	49.0	35.6	1.67*	6.5	1.6	1.52
% changed/may change business plans <sup>d</sup>	79.6	51.0	3.61***	45.2	29.0	1.72*

Notes: (a) t-values of two sample t-test with equal variances: mean (user) – mean (non-user); \*\*\* significant at 1%, \*\* at 5%, and \* at 10% levels.

(b) A firm with foreign equity of greater than zero is classified as foreign-owned.

(c) Awareness level that refers to having thorough and detailed knowledge of FTA provisions that affect business.

(d) Change or possible change of business plans as a response to FTAs.

Source: Authors' computation based on survey data.

First, probably the most striking difference between users and non-users, is that there is a significant difference in firm-size in all four countries. Japan stands out for its base of large MNCs and the average employment for Japanese FTA preference users is 30,104 workers, while this number is 1,098 in Singapore, 591 in Thailand, and 395 in the Philippines. Average employment in non-users is 7,020 in Japan, 291 in Thailand, 269 in the Philippines, and 142 in Singapore. Accordingly, a classic firm size effect is an underlying pattern of FTA preference use in the four countries. The results suggest that using FTAs entail large fixed costs—e.g., learning about FTA provisions, tailoring business plans to complex tariff schedules, and obtaining certificates of origin—and larger firms are better able to muster the requisite financial and human resources to address these issues than small firms.

Second, FTA preference users in Thailand and the Philippines are significantly older than non-users, though Japan seems to be an exception in this regard. The average number of years a firm has existed for users in Thailand is 22.3, while for non-users it is 18.6 years. On average, users in the Philippines are 17.3 years old while non-users are 12.5 years old. As firms with experience are regarded as enjoying greater accumulated knowledge of FTAs and ROOs, firm age is considered to be positively associated with FTA preference use. Accordingly, the evidence seems to support the notion of learning by doing in using FTAs.

Third, FTA preference users in Japan and Thailand have significantly higher foreign equity than non-users; the Philippines seems to be an exception in this vein. On average, users in Japan have 9.8 times more foreign equity than have non-users, while users in Thailand have 1.5 times more foreign equity than non-users do. Access to the marketing know-how of their parent companies—including dealing with multiple tariff schedules and ROOs—makes foreign affiliates better placed to use FTAs than domestic firms.

Fourth, detailed awareness of FTA provisions significantly differs between users and non-users of FTA preferences in Japan, Singapore, and Thailand. FTA users in Japan have higher awareness levels (64%) than do users in Thailand (49%) and Singapore (46%). Firms in the Philippines are generally unaware of FTA provisions, with only 7% of FTA users firms indicating awareness (Wignaraja, Lazaro, and de Guzman 2009).<sup>13</sup> FTA texts are complex legal documents and successful users tend to seek (or hire) legal expertise to improve understanding of business implications of agreements.

Fifth, looking at business responses to FTAs—measured by percentage of firms who changed or may change business plans in response to FTAs—a significant difference is observed between users of FTA preferences in all four countries and non-users. Interestingly, Thai business generally has a high business response to FTAs, with 80% of users and 51% of non-users that changed or may change business plans.

### 3.1.4 Impediments to FTA preference use.

The majority of the East Asian firms do not currently use FTA preferences and the reasons for this are not widely known. Table 5 ranks enterprise responses about various impediments to using FTA preferences. Although response rates to this question varied across countries, non-use of FTA preferences is explained by several factors—a lack of information, small preference margins, delays and administrative costs with ROOs, and non-tariff measures (NTMs) in FTA partners.

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<sup>13</sup> Philippine firms rely extensively on customs brokers and forwarders for their export documentation requirements and therefore have not informed themselves of the details of FTA provisions. With increased FTA activity and more competition in export markets, Firms in the Philippines may need to increase their awareness levels in order to come in line with neighbors.



**Table 5: Impediments to Using FTAs (Number of Respondents)**

Reasons for Impediments	Japan	Singapore	Korea	Thailand	Philippines <sup>a</sup>
Lack of information	5 (33.3 %)	5 (25.0%)	41 (34.2%)	--	94 (70.1%)
Use of EPZ schemes /ITA	--	--	--	--	36 (26.9%)
Delays and administration cost <sup>b</sup>	8 (53.3%)	12 (60.0%)	13 (10.8%)	8 (22.2%)	41 (30.6%)
Small margin of preference	5 (33.3%)	12 (60.0%)	43 (35.8%)	6 (16.7%)	18 (13.4%)
Too many exclusions	--	--	--	9 (25.0%)	20 (14.9%)
Arbitrary classification of product origin <sup>b</sup>	--	--	--	--	31 (23.1%)
NTMs in FTA partners	--	--	5 (4.2%)	13 (36.1%)	12 (9.0%)
Confidentiality of information required <sup>b</sup>	4 (26.7%)	6 (30.0%)	--	--	17 (12.7%)
Number of Respondents <sup>c</sup>	15 (100.0%)	20 (100.0%)	120 (100%)	36 (100.0%)	134 (100.0%)

Notes: (a) AFTA only. (b) Rules of origin requirement. (c) Multiple responses were allowed.

-- indicates option was not available in the survey for that country.

EPZ = export process zone; ITA = Information Technology Agreement; NTM = non-tariff measure.

The largest and most complete datasets are from the Philippines (134 responses) and Korea (120 responses), which is useful as both are relatively low users of FTA preferences. In the Philippines, a lack of information on FTAs is the most important impediment to using AFTA preferences (70% of responses).<sup>14</sup> Issues relating to ROOs—delays and administrative costs and confidentiality of information required by origin forms—are collectively second (43%). A third impediment is the use of other schemes such as export processing zones (EPZ) and the Information Technology Agreement (ITA)<sup>15</sup> for electronics, which also provide incentives for exporters (27%). Other impediments to using FTAs in the Philippines include: arbitrary classification of product origin (also known as “rent-seeking”), small margins of preference, too many exclusions, and NTMs in partner countries. In Korea, low margins of preference (36%) and a lack of information (34%) are both major reasons for non-use of FTAs. Delays and administrative costs linked to ROOs and NTMs seem less important in Korea.

Thailand is a relatively high user of FTA preferences. Of the 36 Thai firms that responded to the issue, NTMs in FTA partners is indicated as the most important impediment (36% of responses). This is followed by too many exclusions (25%), delays, and administrative costs relating to ROOs and small margins of preference.

The Japan and Singapore cases provide limited insights on the range of potential impediments to FTA use.<sup>16</sup> The available information suggests that delays and administrative costs—likely relating to ROOs—show up as a major impediment in both countries. Small margins of preference are also emphasized by Singaporean firms. Meanwhile, confidentiality of information seems less important in both countries.

<sup>14</sup> Previous studies were somewhat limited in coverage of impediments to using AFTA. World Bank (2007), for instance, argues that low use of AFTA preferences is due to a host of ROO issues (e.g., difficulty in satisfying the required value-added requirement, difficulty in proving that the required value-added has been satisfied, and high administrative costs of complying with the ROOs) as well as low margins of preference.

<sup>15</sup> The ITA provides for participants to completely eliminate duties on information technology products covered by the agreement.

<sup>16</sup> This is related to the relatively few respondents and the questionnaire design, which offered only three reasons for non-use (small margins of preference, delays and administrative costs, and confidentiality of information). Meanwhile, Takahashi and Urata (2008) suggested that non-use of Japan’s FTAs is linked to small trade volumes with FTA trading partners and lack of information on FTAs. Contrary to expectations, few firms answered that complicated application procedures for ROOs are an obstacle.

## 3.2 Benefits and Costs of FTAs

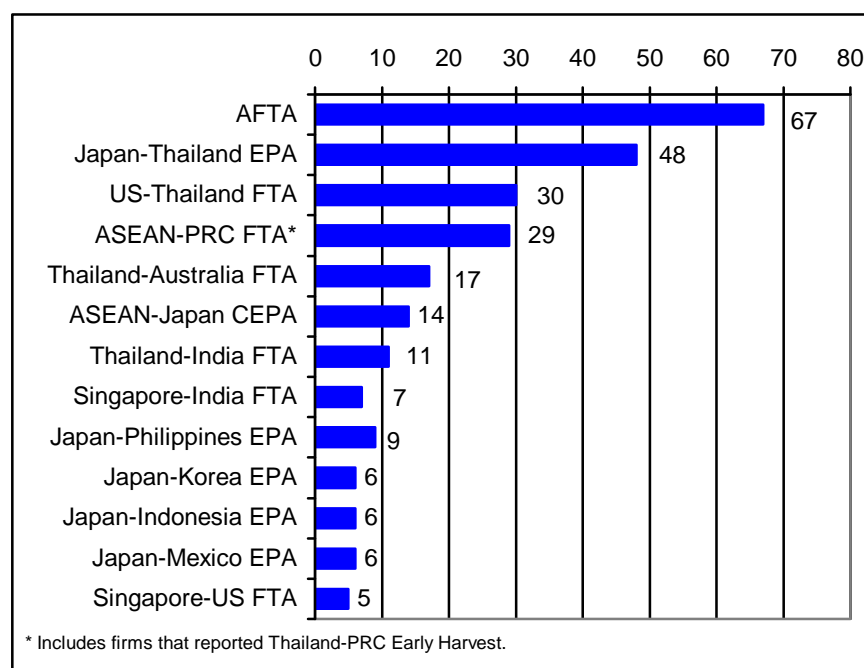
As FTA use is higher than traditionally expected in the five East Asian countries, a closely related issue is what are the benefits and costs of the FTAs that firms use or do not use? Preferential tariffs are often mentioned as a benefit of FTAs while increased competition from imports—or the entry of foreign investors—is viewed as a cost. Could it be that the costs of FTAs are perceived by firms to outweigh the benefits or vice versa? To shed light on the benefits and costs of FTAs, this section examines the types of FTAs that firms use and perceived benefits and costs of major FTAs in effect.

### 3.2.1 Ranking East Asian FTAs by Importance.

AFTA, ASEAN+1 FTAs, and other major bilateral FTAs are regarded as useful by firms. Figure 2 shows the ranking of the region's FTAs judged by actual and potential use in Japan, Singapore, Thailand, and the Philippines, thereby indicating the business importance of the various FTAs. It is worth noting that these figures probably understate actual FTA use in the four countries as some firms were reluctant to reveal which FTAs they have used. Furthermore, Figure 2 does not include the responses from Korean firms. Bearing these qualifications in mind, the findings highlight the key role of AFTA and ASEAN+1 FTAs in facilitating the region's business activity. The largest number of firms (67 firms) selected AFTA—East Asia's oldest plurilateral FTA—as an agreement they were actually using or planning to use most.<sup>17</sup> Another 29 firms chose the ASEAN-PRC FTA (in effect since 2005), reflecting that the PRC is one of the fastest growing areas of interest to businesses. Meanwhile, some firms selected newer ASEAN+1 FTA's—for instance, 14 firms indicated the ASEAN-Japan CEPA (signed in April 2008 and implemented in December 2008).

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<sup>17</sup> The available evidence indicates growing use of AFTA since the late 1990s. As Richard Baldwin noted, "... the extremely low utilization rate in AFTA. In the late 1990s, the overall utilization rate was under three per cent. By 2002, the rate was 11 per cent for Thailand and four per cent for Malaysia" (Baldwin 2006: 1491). Our survey seems to indicate notable use of ASEAN agreements in 2007–2008. Of 202 firms that use or plan to use FTA preferences in Japan, Singapore, Thailand, and Philippines, 61 firms were actually using AFTA and 20 firms were actually using the ASEAN-PRC FTA. Cheong and Cho (2009) also indicated notable use of the ASEAN-Korea FTA.

**Figure 2: Ranking of FTAs (No. of Firms That Use or Plan to Use FTAs)**

The findings also highlight the importance of some bilateral FTAs. Forty-eight firms selected the Japan-Thailand EPA (in effect since November 2007) and another 17 firms the Thailand-Australia FTA (in effect since January 2005). As an indication of the pull of the US market, 30 firms selected the US-Thailand FTA (still under negotiation) and another 5 chose the Singapore-US FTA (in effect since January 2004). In an environment of spreading FTAs since 2000, the pivotal role of ASEAN's FTAs in the region's business activity and the growing importance of bilateral FTAs in improving ties with large markets (e.g., Japan, the US, and Australia) are underlined.

### 3.2.2 Perceived Benefits and Costs of FTA Use

Table 6 summarizes enterprise perceptions of benefits and costs of four major FTAs in effect in East Asia. These include: two plurilaterals involving ASEAN (AFTA and the ASEAN-PRC) and two bilaterals with Thailand's major trading partners (the Japan-Thailand EPA and the Thailand-Australia FTA). Strikingly, East Asian firms typically report more benefits than costs from these four FTAs. The most important benefits include wider "market access" that results in higher export sales and "preferential tariffs" that encourage imports of intermediate inputs. Meanwhile, the main costs are increased competition from imported products and documentation relating to FTA preference use. Minor differences between FTAs are visible on the magnitude of benefits and costs. Under AFTA, for instance, market access and preferential tariffs are both perceived as equally key benefits by firms while market access is the major benefit of the Japan-Thailand EPA.

**Table 6: Benefits and Costs of FTAs**  
**(No. of Firms That Reported on the FTAs That They Use or Plan to Use)**

Benefits and Costs of FTA	AFTA	ASEAN-PRC FTA	Japan- Thailand EPA	Thailand- Australia FTA
<b>Benefits of FTAs</b>				
Market access	36	17	24	5
Preferential tariffs	32	11	11	3
Concentration of production	16	5	13	6
New business opportunities	14	4	9	2
<b>Costs of FTAs</b>				
Increased competition	13	0	5	3
Documentation relating to FTA use	11	2	5	1
Competitive disadvantage	7	4	4	0
Relocation of production	10	2	1	1

### 3.3 Burden of Multiple ROOs for SMEs

It is often suggested that FTAs in East Asia have complicated rules about the origin of goods that qualify for lower tariffs (Cadot, de Melo, and Portugal-Perez 2007; Manchin and Pelkmans-Balaoing 2007; World Bank 2007). This has triggered concerns about what the attendant rules and administrative procedures would imply for the cost of doing business. Multiple ROOs in overlapping FTAs are said to pose a severe burden on SMEs, which are less able to meet such costs. The discussion in Section 3.1 suggested that ROOs are one of several impediments to using FTAs in East Asia. This section probes the issue further and focuses on whether multiple ROOs are indeed a burden for SMEs. It also provides an econometric analysis of firm-level explanations for the findings and enterprise views on the benefits of harmonized ROOs in East Asian FTAs.

#### 3.3.1 Business Costs of Multiple ROOs

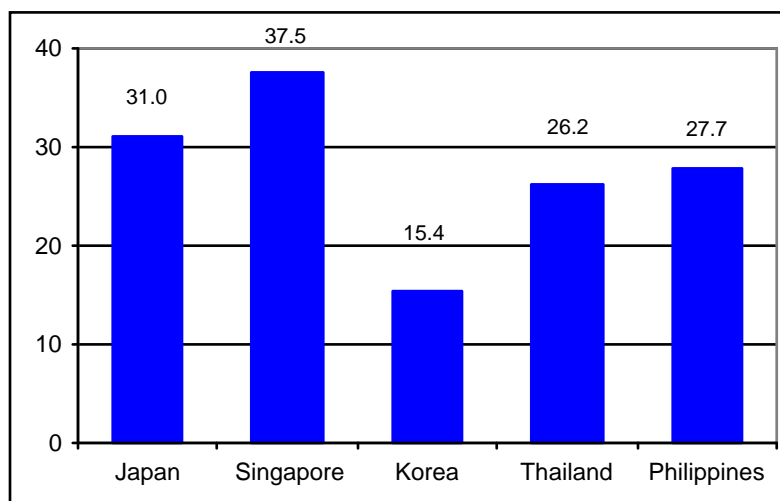
It is useful to understand the nature of firm-level adaptation to the imposition of ROOs in FTAs in order to gauge business costs.<sup>18</sup> In the case of Korea, for instance, a large automobile firm undertook three tasks: (i) created a dedicated team to handle ROOs; (ii) built a computer system for sourcing inputs, analyzing production processes and ROOs; and (iii) constructed a verification system to check compliance with ROOs. Such direct costs appear to be manageable and not prohibitive to exporting. Thai firms typically estimate that these costs would be less than 1% of total export sales, including wages of specialized manpower (for dealing with customs documentation and technical adaptation), costs of changing production processes, and the purchase of computer systems.

Are these costs significant? Figure 3 provides enterprise perceptions of whether dealing with multiple ROOs in the region's FTAs would significantly add to business costs. Of the 465 respondents, 27% of firms said that multiple ROOs do significantly add to business costs. Singaporean firms had the most negative perceptions (38%) while Korean firms have the least (15%). In between are: Japanese (31%), Philippines (28%), and Thai (26%) firms. Clearly inter-

<sup>18</sup> See Cheong and Cho (2009) and Wignaraja et al. (2008) for details.

country variations in ROO perceptions exist.<sup>19</sup> The share of firms that have negative perceptions about multiple ROOs are higher than those reported for Japanese firms by JETRO (2007) and Takahashi and Urata (2008). Nonetheless, even our findings seem to indicate that, at the present level of FTAs in effect, multiple ROOs impose only a limited burden on firms in East Asia.

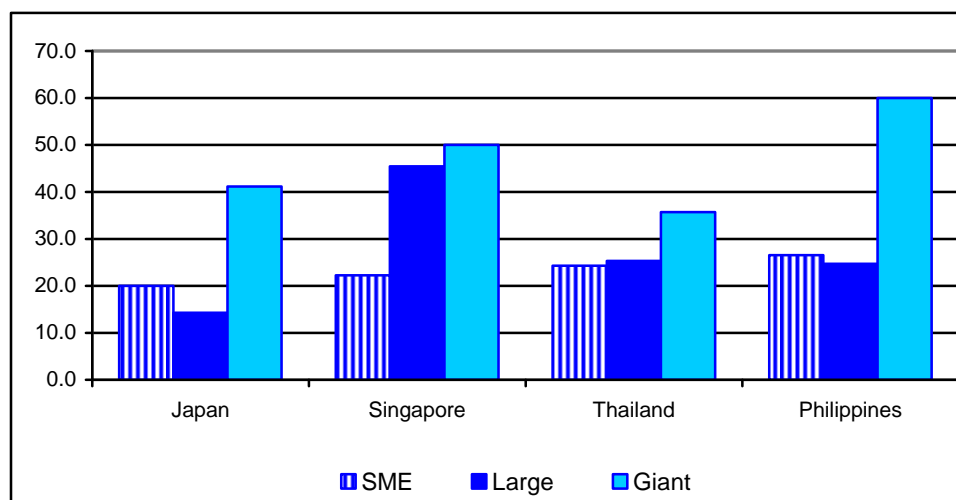
**Figure 3: Burden Imposed by Multiple ROOs in FTAs (% Respondents)**



The percentage distribution within firm sizes of perceptions of whether multiple ROOs would add to business costs for Japan, Singapore, Thailand, and the Philippines is shown in Figure 4. Our expectation was that SMEs, with their limited capacity to deal with the burden of multiple ROOs, would complain the most. The evidence, however, suggests that while firms of all sizes complain about multiple ROOs, giant firms (with over 1000 employees) have the most negative perception. Of all giant firms in the four countries, 42% indicated that dealing with multiple ROOs significantly adds to business costs. This compares with 26% for all large firms (101 to 1000 employees) and 25% for all SMEs. At country-level, the figure for giant firms varies from 60% in the Philippines to 36% in Thailand, and that for SMEs from 27% in the Philippines to 20% in Japan. The results—which appear to run counter to conventional wisdom about the relationship between firm size and the burden imposed by multiple ROOs—present a puzzle for researchers.

<sup>19</sup> There is also evidence of inter-sectoral variations in the cross-country survey. As a percentage of sectoral totals, firms that complained of ROOs are: electronics (31%); automotives (28%); textiles and garments (22%); food (16%); metals, machinery, and sundries (6%); and chemicals and pharmaceuticals (4%).

**Figure 4: Burden Imposed by Multiple Rules of Origin in FTAs, By Firm Size  
(% Respondents in Each Size Category)**



### 3.3.2 Econometric Evidence on Business Perceptions of Multiple ROOs

What explains the puzzle of perceptions of ROOs by firm size? To explore this issue, an analysis of influences on perceptions of ROOs was conducted using a Probit model. More specifically, the econometric analysis focuses on the factors that influence whether or not multiple ROOs significantly add to business costs.<sup>20</sup> Apart from firm size (proxied by number of permanent employees), five explanatory variables were included: age (years since establishment), a dummy variable for foreign ownership, a dummy for exports to multiple markets, a dummy for awareness of FTA provisions, and a dummy for business responses to FTAs. In addition, three country dummy variables were also added to the Probit model to capture country-specific influences. To the best of our knowledge, this is the first econometric model on firm-level perceptions of ROOs. Korea is excluded from the regression analysis as data were not available from the survey.

Table 7 summarizes the results of the econometric analysis where the binary dependent variable is enterprise perceptions of whether or not dealing with multiple ROOs significantly adds to business costs. The Pseudo  $R^2$  is as expected for cross-section studies. The results should be judged as tentative as possible simultaneity bias—due to, for example, possible endogenous choice of business plan change—has not been taken care of. Nonetheless, the findings underline the critical links between larger, established firms and the probability of expressing concerns about the burdens of multiple ROOs.

<sup>20</sup> This exercise draws on a growing body of empirical research on the determinants of firm-level export performance in developing countries. This literature finds that exporting firms are larger, have higher foreign equity, and are more innovative than non-exporters. For a survey, see Wignaraja (2008).

**Table 7: Factors Affecting Perception of ROOs as a Burden on Business**

Explanatory variables <sup>a</sup>	Estimated Coefficients <sup>b</sup>	z-values <sup>b</sup>
Firm size (no. of permanent employees)	0.0000438	1.75*
Age of firm (no. of years since establishment)	0.00878	1.70*
Dummy: 1 = firm exports to multiple markets <sup>d</sup>	0.463935	2.18**
Dummy: 1 = firm has changed business plans in response to FTAs	0.6860978	4.23***
Dummy: 1 = firm is foreign-owned	0.2610859	1.66*
Dummy: 1 = firm is aware of FTA provisions that affect business <sup>c</sup>	0.1795896	1.01
Dummy: 1 = firm is located in Singapore <sup>e</sup>	-0.2673106	-0.62
Dummy: 1 = firm is located in Thailand <sup>e</sup>	0.0063365	0.02
Dummy: 1 = firm is located in Philippines <sup>e</sup>	0.4588984	1.05
Constant	-1.622582	-3.64***
n	388	
Wald $\chi^2$	50.77 ***	
Pseudo R <sup>2</sup>	0.15	

Notes:

(a) Dependent binary variable: 1 = firm reports that dealing with multiple ROOs in FTAs significantly adds to business cost; 0 = otherwise

(b) Coefficients are estimated using robust standard errors; z-values: significant at \*\*\* 1% level, \*\* 5% level, and \* at 10% level.

(c) Refers to an awareness level that involves thorough and detailed knowledge of FTA provisions that affect business.

(d) Indicator that firm exports to multiple markets (ASEAN, EU, or any region are considered as one market.)

(e) All zeros for country dummies refer to firms that are located in Japan.

Source: Authors' computation based on survey data.

First, the number of permanent employees and age have positive and significant impacts (10% level), indicating that larger, older firms are more likely to express concerns about ROOs. Second, the dummy variable for exports to multiple markets has significant (5% level) and positive impacts. This suggests that firms with export experience with multiple markets—and hence multiple FTAs—are more likely to express concerns about business costs of multiple ROOs than firms that export to a single market or use a single FTA. Third, the dummy variable for change in business plans is highly significant (1% level) and positive. This indicates that firms that are more responsive to FTAs are more likely to complain about multiple ROOs. Accordingly, larger, older firms that tend to export to multiple markets and change their business plans in response to FTAs, are likely to complain about issues of multiple ROOs. In other words, less-established SMEs that do not tend to export to multiple markets (nor use many FTAs) do not have much to complain.

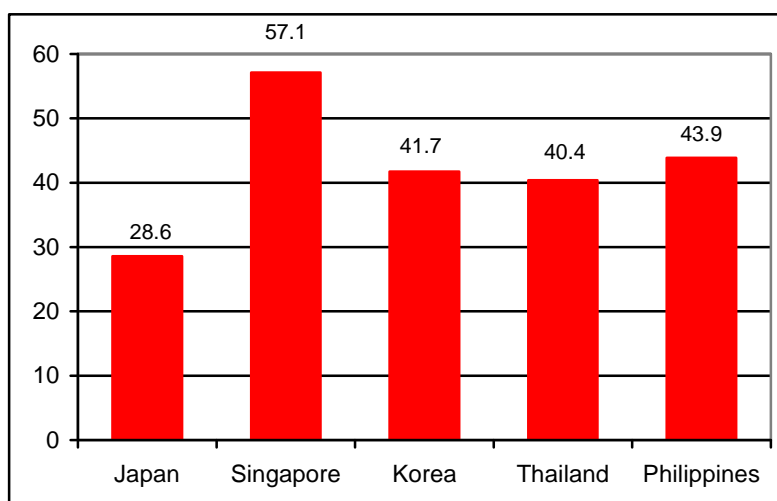
Furthermore, the dummy variable for foreign equity also has significant and positive impact (10% level) indicating a link between foreign ownership and the probability of complaining about multiple ROOs. Foreign firms tend to express concerns about multiple ROOs.

Awareness of FTA provisions and the country dummy variables do not have significant impacts. Further work at country-level using larger enterprise samples may be useful to verify these cross-country regression results.

### 3.3.3 Harmonized ROOs and Alternative ROOs

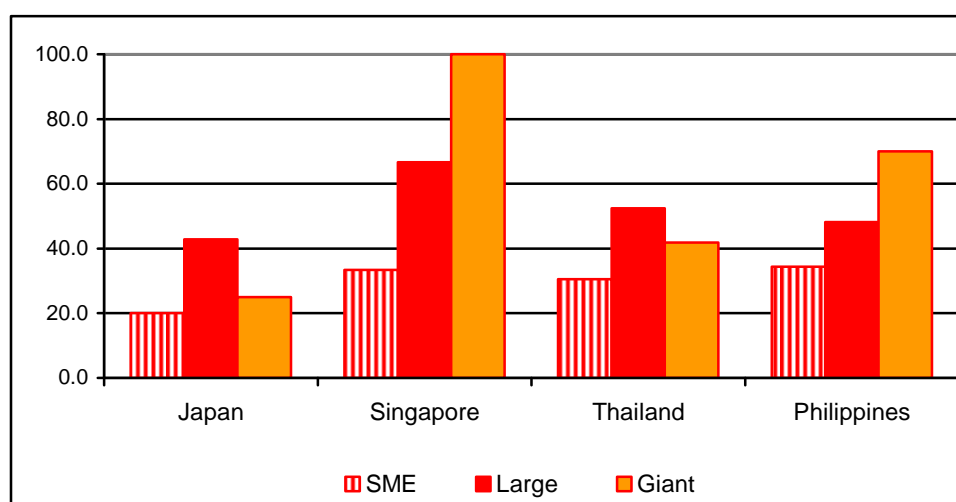
It is natural to hold the view that the adoption of harmonized ROOs in East Asian FTAs creates large benefits. Figure 4 shows the share of firms that are in favor of harmonized ROOs in the five East Asian countries. Of 549 respondents, 43% see benefits from such harmonization. Singaporean firms, which perceive the largest burden from multiple ROOs, also have the largest share in favor of harmonized ROOs (57%) while Japanese firms have the smallest (29%). Over 40% of firms in Korea, Thailand, and the Philippines also favor harmonized ROOs.

**Figure 4: Benefits of Harmonized Rules of Origin (% Respondents)**



The percentage distribution within firm sizes of those in favor of harmonized ROOs is provided in Figure 5. Data on Korea were not available. Typically, large and giant firms in the four East Asian countries seem to recognize the benefits of harmonized ROOs more than SMEs. Accordingly, 51% of all large firms and 46% of all giant firms are in favor of this measure, as compared with only 32% of all SMEs.

**Figure 5: Benefits of Harmonized ROOs, By Firm Size (% Respondents in Each Size Category, by Country)**



Firms in the four East Asian countries were also asked about their preferred ROOs. Flexibility seemed to be emphasized with 52% of 143 respondents wanting the option to choose between



a value added rule and a change in tariff classification (CTC) rule.<sup>21</sup> Another 29% chose the CTC rule only and 19% the value added rule. Giant firms are particularly in favor of being able to choose between ROOs because they use FTAs more and encounter multiple rule issues. The surveys suggest that firms are supportive of alternative ROOs (or co-equal rules) for the same product for several reasons: (i) if they cannot reach the value content requirement, having another ROO enables them to avail of FTA preference; (ii) as the application for the value content rule may require disclosure of confidential information on costs, suppliers and many firms are often reluctant to divulge such information; and (iii) some ROOs may be better aligned with the technology and production process of particular industries.

### 3.4 Institutional Support for Exporting Under FTAs

In order to successfully trade under FTA preferences, firms have to acquire information about specific provisions in agreements—e.g., tariff preferences, liberalization schedules, ROOs, and investment rules—and upgrade their capabilities to take advantage of them, including developing appropriate regional sourcing strategies and efficient systems for ROOs administration. A wide-range of support services are required to help enterprises use FTA preferences effectively and generally adjust to FTAs. The five East Asian countries have institutional support systems—made up of government agencies and business associations, which provide information, training, technical advice, and other services—of varying degrees of comprehensiveness and quality.<sup>22</sup> This section analyzes whether there is enough support for domestic firms to trade under FTAs. It examines whether the sources of support are used for trade through FTAs, whether the take-up rate of support services and quality of support are high enough, and what additional services are required for trading under FTAs.

#### 3.4.1 Sources of institutional support

Table 8 shows enterprise responses on the sources of institutional support—from the public and private sector—used for trading through FTAs, by country. Public sector sources include ministries, customs departments, and export/investment promotion agencies while private sector sources include business associations, chambers of commerce, trade lawyers/private consultants, and business counterparts. A broad pattern is visible on the mix of public and private provision of support services by the development stage of an economy.

<sup>21</sup> Interestingly, the Korean survey also indicated that around 44% of respondents preferred less restrictive ROOs.

<sup>22</sup> See Lall (2001) and Wignaraja (2003) for a discussion of institutions for industrial technology development in East Asian countries.

**Table 8: Sources of Support (% of Responses)**

<b>Institutions</b>	<b>Japan (n =38)</b>	<b>Singapore<sup>a</sup> (a)</b>	<b>Korea (n =221)</b>	<b>Thailand (n =221)</b>	<b>Philippines (n =155)</b>
<b>Public Sector Sources</b>	<b>48.9</b>	<b>45.5</b>	<b>27.5</b>	<b>74.3</b>	<b>63.3</b>
Ministries <sup>b</sup>	26.5	45.5	16.7	54.9	33.3
Customs departments	--	--	--	8.4	14.3
Export and/or investment promotion agencies	22.4	--	10.8	11.0	15.8
<b>Private Sector Sources</b>	<b>51.0</b>	<b>45.4</b>	<b>72.5</b>	<b>25.6</b>	<b>36.7</b>
Business/industrial associations	20.4	13.6	--	18.8	21.9
Chambers of commerce	14.3	13.6	--	6.8	3.4
Trade lawyers/private consultants	10.2	9.1	--	--	11.3
Business counterparts	6.1	9.1	--	--	--

Notes:

(a) 9.1% of Singaporean firms said that they do not use support services. For all other countries, 100% of firms responded to this issue.

(b) Ministries of Finance, Trade and Industry and Foreign Affairs. -- indicates option was not available in the survey for that country.

Firms based in Japan, Singapore, and Korea (the three high-income economies) seem to rely more on private sector sources of support than those in Thailand and the Philippines (the two middle-income economies). Accordingly, private sources are used by 73% of respondents in Korea, 51% in Japan, and 45% in Singapore compared with 37% in the Philippines and 26% in Thailand. Part of the explanation for these differences may lie in higher levels of per capita income reflecting better functioning markets for support services, including those for exporting through FTAs. Private provision of support services through business associations and chambers of commerce, for instance, also tends to be higher in high-income economies. In middle-income economies with less well-functioning markets and weaker private institutions, enterprises tend to rely on public sources. Ministries appear to be used more (59% in Thailand and 33% in the Philippines) than other public sources.

### 3.4.2 Use and Quality of FTA Support Systems

A related issue to the support system one is the extent to which firms have participated in consultations on FTAs. Government agencies and business associations in East Asia organize periodic consultations with business firms on the specific provisions of FTAs prior to official FTA negotiations. The available evidence from Thailand points to relatively high participation rates in consultations with government and business associations—around 49% of respondents said that they had participated in consultations with government agencies prior to official FTA negotiations and around 46% in consultations with business associations. The figures are lower for the Philippines—19% for consultations with government agencies and 23% for consultations with business associations.

Some impressions on use and the quality of three specific types of FTA support—online information, business consulting services, and support for issuing certificates of origin—in the two high-income countries (Japan and Singapore) is provided in Table 9. Unfortunately, comparable information was not available for Thailand and the Philippines. Overall use of these services seems relatively low in both countries. For instance, usage rates for online information on FTAs were 21% in Japan and 15% in Singapore. Usage rates for support on issuing certificates of origin were 15% in Singapore and 11% in Japan. Business consulting services, however, are used relatively more in Japan than in Singapore. Nonetheless, firms in both countries seemed relatively satisfied with the quality level of such services—the rankings for

quality of services range from 2.7 to 3.2 for the three services in Japan and 3.7 for two services in Singapore.

**Table 9: Use of FTA Support in Japan and Singapore**

FTA support services	Japan		Singapore	
	Usage rate % respondents	Quality level <sup>a</sup> (1 to 5)	Usage rate % respondents	Quality level <sup>a</sup> (1 to 5)
Online information on FTAs/EPAs	21.0	2.7	14.7	3.7
Business consulting services on FTAs/EPAs	10.5	3.2	1.3	--
Support for issuing origin certificates	10.5	3.0	14.7	3.7

Note: (a) rated by firms on a scale of 1 to 5 where 5 is highest quality.

### 3.4.3 Demand for Support Services

Alongside this picture in the two high-income countries, a significant demand remains far more support for firms exporting through FTAs in the middle-income countries. Table 10 provides respondents' views on types of services demanded by all firms and by SMEs in Thailand and the Philippines.

**Table 10: Demand for Support in Thailand and Philippines**

FTA support services demanded	Thailand		Philippines	
	% respondents (n=202)	% SMEs (n=106)	% respondents (n=155)	% SMEs (n=64)
More awareness training on concluded FTAs	33.7	52.8	82.6	82.8
More information on the implication of FTAs for business	49.0	58.5	65.2	65.6
Upgrading of technical standards and quality	44.6	50.0	52.3	56.3
Adoption of electronic data interchange to speed up and simplify procedures for ROO certification	25.7	35.8	53.5	56.3
Financial support for upgrading technology and skills	36.1	33.0	41.9	45.3
Enhanced consultations during FTA negotiations	27.7	32.1	42.6	40.6
Improved extension services for SMEs	21.8	26.4	46.5	45.3
More effective surveillance of NTMs in FTA partner country markets	19.3	29.2	38.1	42.2

The main services demanded seem to be: more information on the implications of FTAs on business, more awareness training on concluded FTAs, upgrading of technical standards and quality and adoption of electronic data interchange; financial support for upgrading technology and skills and enhanced consultations during FTA negotiations were also emphasized. Issues such as more surveillance on NTMs in FTA partner country markets and improved extension services for SMEs are likely to become more important in the future as more FTAs take effect in the region.

## 4. POLICY IMPLICATIONS

The five firm surveys have produced a rich and fresh set of findings on the business impacts of FTAs in East Asia. As trade barriers are gradually dismantled in the region, margins of preference will fall and FTAs may become redundant at least in tariff barriers.<sup>23</sup> Nonetheless, in the interim, the findings of the firm surveys indicate several policy areas that can help facilitate a more SME-inclusive environment and positive business response to FTAs in the region. Increased resources and closer cooperation between government agencies and business associations are necessary features of implementation. This section briefly discusses six key ideas:

1. *Reduce MFN Tariffs.* In the absence of other ways to deal with the noodle bowl, influential economists like Jagdish Bhagwati argue that “we can virtually eliminate PTA (preferential trade agreement) by reducing the MFN (most favored nation) tariff itself to zero” (2008: 97). This is an attractive idea but is not happening much in Asia—or elsewhere for that matter—today. MFN tariffs have fallen in Asia since the 1980s but the trade-dependent, open economies of Singapore and Hong Kong, China are the few Asian exceptions with negligible MFN tariffs. While encouraging MFN tariff reduction, other means suggested below may also be useful.
2. *Encourage Rationalization of ROOs.* Widespread gains are possible from pursuing a simplified approach to ROOs in East Asia, involving harmonized ROOs, co-equality of rules, and cumulation of value contents. Around half the East Asian sample firms perceive benefits from harmonized ROOs and adoption of co-equal rules. Alternative co-equal rules have already been incorporated into ASEAN FTAs (particularly AFTA and the ASEAN-Japan CEPA); AFTA recently allowed a comprehensive listing of co-equal product specific rules. The benefits from co-equal ROOs could be increased significantly with rationalized cumulation policies. In the absence of a single East Asian FTA (or uniform ROOs), one remedy lies in encouraging rationalization of ROOs, including the adoption of co-equal rules and use of extended cumulation.<sup>24</sup>
3. *Upgrade ROO Administration.* Weaknesses in ROO administration (including delays in issuing origin certificates) were highlighted as an impediment to FTA use in the firm surveys. In middle-income countries, these may arise from a reliance on paper-based ROO systems and a focus on public sector customs agencies with limited capacity. Good practices in ROO administration from within East Asia and internationally should be disseminated to reduce transactions costs particularly for SMEs. These may include introduction of a “trusted trader program,” as is done with NAFTA, for example, that would allow successful applicants to self-certify their own certificates of origin, a switch to business associations issuing certificates of origin for a fee, increased use of IT-based systems of ROO administration, and training programs for SMEs.
4. *Increase Awareness of FTA Provisions.* Awareness of FTA provisions—including phasing out of tariff schedules, margins of preference at product level, and administrative procedures for ROOs—is positively associated with FTA use (as indicated

<sup>23</sup> The value of FTAs with WTO-plus elements does exist even if MFN tariffs are reduced significantly.

<sup>24</sup> Extended cumulation allows cumulation of all value contents of originating goods used indirectly within ASEAN+3 that would otherwise enter the duty into an ASEAN+3 country. As it relates to specified products (i.e., various apparel and agricultural goods) an arrangement similar to extended cumulation already exists, for example, in Japan’s bilateral EPAs with Malaysia and Thailand, that permit use of inputs from other ASEAN partners. For an application of extended cumulation in the Americas, see Cornejo and Harris (2007).

by the t-tests in Table 4). Likewise, the main impediment to use of AFTA preferences in the Philippines is a lack of information on FTAs. SMEs typically have lower levels of awareness than large and giant firms. Accordingly, business associations and governments could improve transparency and information on how to use FTAs particularly for SMEs. Practical ideas might include: frequent seminars with SMEs, television programs directed at business, dedicated websites, and telephone helplines.

5. *Improve Business Participation in FTA Consultations.* Government agencies and business associations in East Asia organize periodic consultations with firms on FTAs in general and prior to specific FTA negotiations. In some countries, a study group is formed that investigates the perceived benefits and costs of forming a specific FTA is organized before officially proposing such an FTA with a potential partner country. Such a study group should involve the private sector so that their interests are sufficiently reflected in FTA negotiations. If this is done, FTA use may rise. Participation rates in consultations, however, seem to differ markedly between Thailand and the Philippines. Present efforts are commendable but more needs to be done particularly to involve SMEs in consultations before FTA negotiations. Increased business participation in consultations before official FTA negotiations are likely to increase FTA use once it is implemented.
6. *Improve Institutional Support Systems Particularly for SMEs.* Existing support systems for exporting under FTAs are of variable quality and take-up rates differ. Significant public and private investment is required in East Asia to improve service coverage, upgrade service quality, and reduce bureaucratic impediments to service use. Business and industry associations will have to play an increasing role in delivering services relating to exporting under FTAs to members. Attention might focus on upgrading of technical standards, quality, and productivity of SMEs so that they can play a fuller role in regional production networks driven by large firms.

## 5. CONCLUSION

The rapid growth of FTAs involving East Asian economies in recent years has focused attention on the impact of agreements on the region's business activity. East Asia had 37 FTAs in effect in January 2009 and the critical issue is whether the Asian noodle bowl of multiple, overlapping FTAs is harmful to business activity, particularly SMEs. The lack of micro-level data has made it difficult to verify this topical issue and related issues (e.g., the use of FTAs, benefits and costs of FTAs, and effects of multiple ROOs on SMEs). The paper seeks to generate debate on East Asian FTAs with new evidence from surveys of 609 firms in Japan, Singapore, Korea, Thailand, and the Philippines conducted in 2007–2008.

To the best of our knowledge, this is the first comprehensive firm survey of the business impacts of East Asian FTAs across countries. Faced with heightened reliance on FTAs as trade policy instruments, many East Asian firms are increasingly responding to the commercial opportunities presented by these agreements. Hence, the view that the Asian noodle bowl has severely harmed the region's business activity over the last eight years receives little support from the firm surveys. As more FTAs under negotiation take effect and the complexity of the Asian noodle bowl increases, the business impact is likely to intensify. Implementation of key policies can help mitigate negative effects and facilitate a more SME-inclusive business response to FTAs.

The main findings from the East Asian firm surveys are as follows:

1. Use of East Asian FTAs (measured by incidence of firms) is higher than expected from previous studies. Around 22% of the East Asian firms surveyed use FTA preferences and this figure will likely nearly double when future plans are included. Japanese and Thai firms make higher use of FTA preferences than firms from Korea, Singapore, and the Philippines. T-tests on characteristics of FTA preference users and non-users suggest that users are larger, older, have more foreign equity, are more aware of FTA provisions, and more responsive to FTAs in terms of business model than non-users are.
2. East Asian firms report more benefits than costs from major FTAs in effect, including AFTA. The main benefits are wider market access that results from higher export sales and preferential tariffs that make it easier to import intermediate inputs. Meanwhile, costs relate to increased competition from imported products and documentation work relating to FTA preference use. The general perception of net benefits of major FTAs is emphasized by the level of use being made of AFTA and ASEAN+1 FTAs to facilitate the region's business activity and also of key bilateral FTAs with major partner countries.
3. At the present level of concluded FTAs in the region, the evidence suggests that multiple ROOs impose a limited burden on firms in East Asia. Although around 27% of responding East Asian firms said that multiple ROOs significantly added to business costs, the bulk of the sample did not think they were a problem at present. The evidence also suggests that larger firms have more negative perceptions of multiple ROOs than do SMEs. The relationship between firm size and concerns about multiple ROOs presents a puzzle for researchers. Econometric analysis to resolve the puzzle indicates that larger, older firms tend to export to multiple markets, change their business plans in response to FTAs and, therefore, are more likely to complain about issues of multiple ROOs, while smaller firms tend to export only to a single market and hence do not have much basis for complaint.
4. The four East Asian countries have institutional support systems of varying degrees of comprehensiveness and quality. As expected, high-income Japan, Singapore, and Korea have more comprehensive support systems than middle-income Thailand and the Philippines. Private provision of services is also increasingly common in high-income countries. A significant demand remains for more support for SMEs to export through FTAs in East Asian countries. Services demanded include more information on FTAs, upgrading of technical quality and standards, financial support, and enhanced consultations with business during FTA negotiations.

The findings point to the need for a comprehensive set of policies to mitigate the negative effects of the Asian noodle bowl in the future. Such a comprehensive response is particularly important in view of the global financial crisis and accompanying economic downturn. MFN tariff reduction is an attractive idea and one to be encouraged. However, it is not happening much in Asia—nor globally for that matter—at present. Accordingly, other supportive policies are also needed, including encouraging rationalization of ROOs, upgrading origin administration, increased awareness of FTA provisions, improving business participation in FTA consultations, and improving institutional support systems for SMEs. Increased resources and closer cooperation between government agencies and business associations are necessary features of policy implementation.

More generally, this paper underlines the fact that firm surveys are an invaluable tool of empirical research to improve our understanding of the effects of FTAs on business in East Asia. Widening the number of sample countries and extending the scope of the survey to cover services would further deepen our insights.

## APPENDIX

**Table A1: Concluded FTAs in the East Asian Countries Surveyed, 2009**

Country	FTAs In effect	Signed FTAs
Japan	(1) Japan-Singapore Economic Agreement for a New-Age Partnership (30 Nov 2002) (2) Japan-Mexico Economic Partnership Agreement (1 Apr 2005) (3) Japan-Malaysia Economic Partnership Agreement (13 Jul 2006) (4) Japan-Chile Economic Partnership Agreement (3 Sep 2007) (5) Japan-Thailand Economic Partnership Agreement (21 Nov 2007) (6) Japan-Brunei Free Trade Agreement (31 Jul 2008) (7) Japan-Indonesia Economic Partnership Agreement (1 Jul 2008) (8) ASEAN-Japan Comprehensive Economic Partnership (1 Dec 2008) (9) Japan-Philippines Economic Partnership Agreement (11 Dec 2008)	(1) Japan-Viet Nam Economic Partnership Agreement (25 Dec 2008)
Korea	(1) Asia-Pacific Trade Agreement (17 Jun 1976) (2) Korea-Chile Free Trade Agreement (1 Apr 2004) (3) Korea-Singapore Free Trade Agreement (2 Mar 2006) (4) European Free Trade Association- Korea Free Trade Agreement (1 Sep 2006) (5) ASEAN-Korea Free Trade Area (1 Jun 2007)	(1) Korea-United States Free Trade Agreement (30 Jun 2007)
Singapore	(1) ASEAN Free Trade Area (1 Jan 1993) (2) New Zealand-Singapore Closer Economic Partnership (1 Jan 2001) (3) Japan-Singapore Economic Agreement for a New-Age Partnership (30 Nov 2002) (4) European Free Trade Association-Singapore Free Trade Agreement (1 Jan 2003) (5) Singapore-Australia Free Trade Agreement (28 Jul 2003) (6) United States-Singapore Free Trade Agreement (1 Jan 2004) (7) India-Singapore Comprehensive Economic Cooperation Agreement (1 Aug 2005) (8) Singapore-Jordan Free Trade Agreement (22 Aug 2005) (9) Korea-Singapore Free Trade Agreement (2 Mar 2006) (10) Singapore-Panama Free Trade Agreement (24 Jul 2006) (11) Trans-Pacific Strategic Economic Partnership Agreement (28 May 2006) (12) ASEAN-PRC Free Trade Area (1 Jul 2005) (13) ASEAN-Korea Free Trade Area (1 Jun 2007) (14) ASEAN-Japan Comprehensive Economic Partnership (1 Dec 2008)	(1) People's Republic of PRC-Singapore Free Trade Agreement (23 Oct 2008) (2) Singapore-Peru Free Trade Agreement (29 May 2008) (3) Gulf Cooperation Council-Singapore Free Trade Agreement (15 Dec 2008)

Thailand	<ul style="list-style-type: none"> <li>(1) Lao PDR-Thailand Preferential Trading Arrangement (20 Jun 1991)</li> <li>(2) ASEAN Free Trade Area (1 Jan 1993)</li> <li>(3) People's Republic of PRC-Thailand Free Trade Agreement (Oct 2003)</li> <li>(4) Thailand-Australia Free Trade Agreement (1 Jan 2005)</li> <li>(5) Thailand-New Zealand Closer Economic Partnership Agreement (1 Jul 2005)</li> <li>(6) ASEAN-PRC Free Trade Area (1 Jul 2005)</li> <li>(7) Japan-Thailand Economic Partnership Agreement (21 Nov 2007)</li> <li>(8) ASEAN-Japan Comprehensive Economic Partnership (1 Dec 2008)</li> </ul>	
Philippines	<ul style="list-style-type: none"> <li>(1) ASEAN Free Trade Area (1 Jan 1993)</li> <li>(2) ASEAN-PRC Free Trade Area (1 Jul 2005)</li> <li>(3) ASEAN-Korea Free Trade Area (1 Jun 2007)</li> <li>(4) ASEAN-Japan Comprehensive Economic Partnership (1 Dec 2008)</li> <li>(5) Japan-Philippines Economic Partnership Agreement (11 Dec-2008)</li> </ul>	

Source: ADB (2009). Data as of January 2009.



**Table A2: East Asian Enterprise Sample Profile**

	All Firms	Japan	Singapore	Korea	Thailand	Philippines
<b>No. of exporting firms</b>	<b>609</b>	<b>38</b>	<b>75</b>	<b>120</b>	<b>221</b>	<b>155</b>
<b>By sector, % distribution<sup>a</sup></b>						
Electronics	38.1	42.1	66.7	14.2	33.0	49.0
Auto	24.6	34.2	--	14.2	38.0	23.2
Textiles/Garments	17.4	23.7	21.3	14.2	29.0	--
Chemicals and Pharmaceuticals	4.4	--	12.0	15.0	--	--
Food	7.1	--	--	--	--	27.7
Metals, Machinery, and Sundries	8.4	--	--	42.5	--	--
<b>By size, % distribution<sup>b</sup></b>						
SMEs	38.8	15.8	69.3	5.8	48.4	41.3
Large	46.3	18.4	25.3	75.0	38.5	52.3
Giant	14.9	65.8	5.3	19.2	13.1	6.5
<b>By ownership, % distribution<sup>c</sup></b>						
Foreign	39.7	13.2	50.7	0.0	44.8	64.5
Domestic	60.3	86.8	49.3	100.0	55.2	35.5

Notes:

(a) – indicates sector not covered by survey for that country.

(b) SMEs: 100 employees or less; large firms: 101 to 1,000 employees; giant firms: over 1,000 employees.

(c) A firm with foreign equity of greater than zero is classified as foreign-owned.

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