

16-7 Enhancing Export Opportunities for Small and Medium-Sized Enterprises

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Small and medium-sized enterprises (SMEs) employ about half the American workforce (Caruso 2015), and as a result their needs are deemed important for the economic health of the United States. From this perspective, the fact that 98 percent of exporters are small businesses suggests that trade is a critical component to the economic vitality of SMEs. US Trade Representative (USTR) Michael Froman argues, for example, that trade agreements (such as the Trans-Pacific Partnership between the United States and 11 Pacific Rim countries) open markets to “businesses of all sizes” and that simplifying customs and promoting e-commerce can especially help small businesses.¹

There is, however, a contrary view widely argued in the current political climate. Critics of trade agreements cite the relatively high share of total exports by large firms as an indication that large firms—and their investors—are the main bene-

ficiaries of open markets. For example, Public Citizen (2016), an organization that has opposed trade agreements involving the United States for more than two decades, asserted this year: “The relatively few small businesses that do actually export have seen even more disappointing export performance under FTAs than large firms have seen.”

This *Policy Brief* examines the evidence for these conflicting claims and shows that exports from both small and large firms are boosted when trade barriers are reduced. There is little to substantiate the contention that trade liberalization disproportionately helps or harms small firms. Foreign market liberalization offers as much to small firms as it offers to large firms. One important difference is that exports from small firms are likely to be boosted by increased participation—i.e., more firms export when trade costs fall—while exports from large firms are more likely to grow in volume—i.e., each firm exports more. Reducing the fixed costs of exporting, such as finding information about foreign markets, coping with paperwork, and learning how to finance exports especially helps US firms expand their participation in foreign markets, as does e-commerce.

Exporting activity is known to be highly skewed, with SMEs accounting for the vast majority of exporting firms but a significantly smaller share of total exports. These patterns are magnified in the manufacturing sector, where large firms (more than 500 employees) make up less than 1 percent of exporters but account for 80 percent of US exports. The skewed firm size distribution is not unique to the United States; rather it is the case in all economies around the world (Freund and Pierola 2015, Mayer and Ottaviano 2007).

The dominance of large firms in trade volumes could be because trade liberalization disproportionately helps them, or it could be a natural phenomenon reflecting the broader domestic firm-size distribution and the costs of international trade. To evaluate how exports from firms of different sizes respond to trade liberalization, this *Policy Brief* estimates a gravity equation on exports from small and large firms to 25 markets and shows that the removal of trade barriers affects large and small firms similarly. For example, a new free trade agreement (FTA), tariff removal, or improved trade facilitation stimulates the exports of large and small firms in similar ways.

This *Policy Brief* first assesses the export potential of small firms, starting with a summary of SME exports across sectors. It then examines whether trade liberalization benefits small firms and whether different market opening initiatives are especially helpful to small exporters. It concludes with policy proposals to ensure that all interested firms can participate in international trade.

1. Remarks by Ambassador Michael Froman to the Economic Club of Minnesota Upon Receiving the Bill Frenzel Champion of Free Trade Award, Minneapolis, Minnesota, March 7, 2016, <https://ustr.gov/about-us/policy-offices/press-office/speechestranscripts/2016/March/Remarks-Ambassador-Froman-Economic-Club-Minnesota>.

Table 1 Total US and SME exports and sales, 2012

Sector	US exports ^a (billions of dollars)	SME exports		US sales (billions of dollars)	SME sales	
		Billions of dollars	Percent		Billions of dollars	Percent
Agriculture ^b	4.4	2.7	61	33	27	84
Mining	48	4.3	9	556	127	23
Manufacturing	838	151	18	5,730	1,331	23
Services ^c	632	240	38	18,622	7,279	39
Total^{d,e}	2,014	691	34	32,638	11,817	36

a. The US Census Bureau provides “known values” that are defined as the portion of US total merchandise exports that could be matched to identified companies. US exports in this table do not reflect total US merchandise exports but are from the consistent source (the Census Bureau) to calculate the share of SME exports. Total US merchandise exports in 2012 were reported as \$1,546 billion while the Census Bureau reported the “known value” as \$1,381 billion.

b. US *business* sales reported by the Census Bureau in agriculture are smaller than US *farm* sales of agricultural products (\$395 billion in 2012) reported elsewhere because the Census Bureau does not cover farms not registered as business establishments. US exports of agricultural products are reported as \$81 billion including US farm exports; the Census Bureau reported only \$4 billion in agricultural exports by registered business establishments. For more detail on US farm sales, see the highlights of 2012 in Census of Agriculture, www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Farm_Economics/#sales.

c. Using trade data from the Bureau of Economic Analysis, SME exports of services are estimated on the assumption that the ratio of SME service exports to total US service exports remained the same in 2012 as in 2007. See the ratio in 2007 in table 2.

d. The sum of individual row values may not equal the total due to industries that are not listed on the table. The total for US exports is the sum of agriculture, mining, manufacturing, services, and other sectors that include waste and scrap, used or second hand merchandise, reexported goods, and special classification provisions. The total of SME exports is the sum of agriculture, mining, manufacturing, services, and all North American Industry Classification System (NAICS) coded industries.

e. The totals for US and SME sales represent the sum of agriculture, mining, manufacturing, services, and wholesale trade. US sales in wholesale trade are approximately \$8 billion, and SME sales in wholesale trade are about \$3 billion.

Sources: Bureau of Economic Analysis, “U.S. International Trade in Goods and Services,” www.bea.gov/international/index.htm; Census Bureau, “Profile of U.S. Importing and Exporting Companies,” www.census.gov/foreign-trade/Press-Release/edb/2013/index.html, and “Statistics of U.S. Businesses (SUSB) Main: U.S. & states, NAICS sectors, small employment sizes,” www.census.gov/econ/susb/.

SME LANDSCAPE

Most firms are small. By head count, fully 98 percent of all US exporters are small and medium-sized businesses (defined as having 500 or fewer employees), but only 4 percent of the entire population of US SMEs export to global markets. Collectively, these firms accounted for 34 percent of US exports of goods and services in 2012 (table 1). Nevertheless, the share of direct SME exports in total US exports is smaller than the share of SME sales in total domestic sales in three broad sectors of the US economy: agriculture, mining, and manufacturing (table 1).

In agriculture, SMEs account for 61 percent of direct US exports reported by registered business establishments. Giant commodity firms like Cargill and Bunge, however, handle the great bulk of US agricultural exports and domestic sales, which are purchased from farms not registered as business establishments, so in practice the shares of SMEs in both direct trade and sales are even lower. Even so, SME farmers are indirect suppliers for most exports. In mining, SMEs are also underrepresented as direct exporters, and the extent is relatively severe: SMEs account for 23 percent of sales and just 9 percent of direct exports. In manufacturing as well, SMEs account for 23 percent of sales and for somewhat fewer direct exports, 18 percent. In services, however, SME shares of direct exports and sales are virtually the same, 38 and 39 percent, respectively.

Table 2 goes deeper into service exports, so far as available data permit. Services are roughly divided into “tradables” and “nontradables,” although with the internet and other modern

technologies the distinction is now blurred. As for tradables in art, entertainment, and recreation, SMEs account for 61 percent of US sales but an unknown share of direct exports. In professional, scientific and technical services, SMEs represent more than half of US sales as well as exports. Interestingly, the SME share of US exports is larger than the SME share of US sales in finance and insurance and information. Services such as portfolio management and software publishing can be offered to foreign clients electronically, saving the high fixed costs of stationing personnel abroad or leasing office space.² Such services also require little if any external financing for a transaction because the primary input is labor, which makes serving foreign clients similar to serving US clients. SME sales are also large in nontradable services such as real estate, and so are SME shares of exports, but absolute export volumes are insignificant.

WHY ARE DIRECT SME EXPORTS UNDERREPRESENTED?

It is important to understand why SMEs account for a small share of direct exports in agriculture, mining, and manufacturing. The key explanation lies in the cost characteristics of international trade. The general character is *high fixed*

2. Growing wealth in developing countries has created new opportunities for small and medium-sized financial firms, generating large export revenues from portfolio management. See USITC (2010, 3–6).

Table 2 US SME share of total exports and sales of services, 2007

Service sector	Total US exports (billions of dollars)	SME exports (billions of dollars)	SME share of US exports (percent)	SME sales (billions of dollars)	SME share of US sales (percent)
Tradable services					
Transportation and warehousing	66	n.a	n.a	246	35
Accommodation and food services	119	n.a	n.a	328	54
Information	101	22	22	175	17
Finance and insurance	72	27	38	683	18
Professional, scientific & technical services	60	28	50	788	58
Arts, entertainment & recreation	16	n.a	n.a	120	61
Nontradable services					
Real estate & rental leasing	7.1	3.4	47	274	59
Administrative & support services and waste management	2.5	1.6	63	296	46
Other services (except public administration)	10	6.2	62	481	83
All service sectors^a	488	186	38	7,447	41

NAICS = North American Industry Classification System; n.a. = not available

a. The sum of individual row values may not be equal to column totals due to the industries that are not included in the table.

Notes: Transportation and warehousing (NAICS 48-49) is matched with "Transportation" from Bureau of Economic Analysis (BEA). Accommodation and food services (NAICS 72) is matched with "Travel" from BEA. BEA travel accounts cover purchases of goods and services by US travelers abroad and by foreign visitors to the United States for food, lodging, recreation, gifts, and other small expenses. Information (NAICS 51) is matched with "Telecommunications, computer, and information services" and "Charges for the use of intellectual property" from BEA. Arts, entertainment & recreation (NAICS 71) is matched with "Audio-visual and related products" from BEA. Real estate and rental leasing services (NAICS 53) is matched with "Operating leasing services" from BEA. Administrative & support services (NAICS 56) including facilities, support services, employment services, business support services, travel arrangement and reservation services, security services, and others are matched with the sum of "training services" and "other business services" from BEA. Other services (NAICS 81) include repair and maintenance, personal and laundry services, religious, grant-making, civic, professional, and similar organizations, and private households is matched with "Maintenance and repair services" from BEA. Note that industry coverage in service sectors is incomplete, so these are estimates based on the best available data.

Sources: USITC (2010, "Table 3.2 SME involvement in exporting across services sectors, 2007"); Census Bureau, "Historical Data Tables by Enterprise Size—2007," www.census.gov/econ/susb/data/susb2007.html; Bureau of Economic Analysis, "Table 2.1. U.S. Trade in Services, by Type of Service 1999-2014," www.bea.gov/international/bp_web/tb_download_type_modern.cfm?list=4&RowID=160; and authors' calculations.

costs. Some of the fixed costs reflect outright barriers that are amenable to policy reform; others seem beyond reach. A survey published by the International Trade Centre (2015) provides a list of trade-related fixed costs:

- accessing information about export opportunities,
- overcoming nontariff measures (health, safety, and technical standards),
- coping with cumbersome border procedures,
- establishing transportation systems for delivery to foreign customers, and
- contracting for network infrastructure (information and communication technology, electricity, and water).

Multinational corporations (MNCs) export in large volumes, which lowers the share of fixed cost per million dollars of sales. But when SMEs export, they deal on a much smaller scale, which raises the share of fixed cost per million dollars of sales. This is a major handicap for SMEs, making exports an unprofitable venture for many firms.³

3. It's worth pointing out that the US export basket is skewed towards high-technology goods and services that embody

In addition to direct costs, uncertainty and access to finance play an important role in discouraging SME exports. Small firms have a harder time getting loans and may be more reluctant to provide credit to a foreign customer, since contracts might be hard to enforce in the event of disagreement (WTO 2016). Risk causes many companies to forgo foreign customers and prompts others to work with a larger intermediary "trading company," which allows them to pool fixed costs and risk with other small companies.

E-commerce has proven effective in opening commercial opportunities for SMEs by reducing trade costs caused by distance as well as cross-border transaction risks, language differences, and the need for local presence. Online platforms such as Alibaba, Amazon, and eBay offer marketplaces and auxiliary services so that SMEs can advertise and sell relatively low-value goods and services in foreign markets. For example, the share of SME exports is larger on eBay than via offline business models. Some 97 percent of US SMEs using eBay are exporters while

expensive R&D as well as costly management and production expertise. These sorts of fixed costs are so large that they effectively serve as barriers to entry by SMEs in product categories such as aircraft, heavy machinery, medical equipment, and many branches of information technology.

Table 3 Predictions about trade costs and firm size

Cost	Firm size	
	High-productivity exporters, typically large firms	Low-productivity or niche goods, typically small firms
Fixed costs	Raise firm-level export volumes	Reduce entry into exporting
Variable costs	Reduce firm-level export volumes	Reduce firm-level export volumes and entry into exporting

only 4 percent of US SMEs using nondigital platforms are exporters (Bieron, Melin, and Elias 2016). PayPal plays a useful intermediate role by lowering the payment risk on small cross-border transactions. Reflecting such forces, global deliveries of small parcels increased by 48 percent from 2011 to 2014, much faster than the anemic growth of total trade (Meltzer 2015). Because of these trends, cross-border business to business (B2B) e-commerce sales reached \$2 trillion in 2014, while cross-border business to consumer (B2C) e-commerce sales are projected to reach \$1 trillion by 2020 (Manyika et al. 2016). Evidently e-commerce is a key medium for boosting SME exports.

WHAT FACTORS INFLUENCE SME EXPORTS?

Theory and empirical work from the international trade literature show larger and more efficient firms are more likely to export and export larger quantities because they can overcome the high costs of exporting.⁴ The literature focuses on the effects of both fixed costs, such as finding information about markets, accessing distribution networks, and filling paperwork, and variable costs of trade, such as tariffs or shipping costs. High fixed costs, which require a one-time payment to become an exporter, are expected to reduce participation by the less productive firms but increase exports per firm since the market is less competitive for those that enter.⁵ In contrast, higher variable costs, which raise costs on all shipments, are expected not only to reduce participation in exporting by the least productive firms but also to reduce firm-level exports. Table 3 depicts the predicted effects of trade costs from heterogeneous firm models of trade on exports of different types of firms. Fixed costs are expected to have a greater impact on exports of SMEs than on exports of large firms, since higher fixed costs reduce participation in exporting by the least productive (and smaller) firms and raise exports of the most productive (and larger) firms—thus expanding the market share of the large firms. These models, however, do not take into account supply chain formation, which is likely to affect larger firms to a greater extent than small firms. Reducing the variable costs of trade makes the round-tripping of parts and components less costly, implying that large firms could benefit more from trade cost reductions.

In theory it is easy to separate fixed entry costs into exporting from variable costs; but in practice it is more difficult. For example, FTAs reduce fixed costs, since administrative costs

fall and more information is available; but, they also reduce variable costs through tariff reduction and customs facilitation.

While theory predicts how trade costs should affect exporters of different sizes and productivities, it is an empirical question whether these effects happen in practice. To answer this question, we evaluate whether variations in trade costs across markets affect the exports of SMEs and large firms differently. Trade costs could have a greater impact on SMEs, especially to the extent that fixed costs are involved, since high-cost markets are likely to have very low participation by SMEs. Alternatively, to the extent costs are geared toward variable costs and supply chain development, the reverse could be true. In order to understand the responsiveness of SME exports to trade costs, we estimate a simple gravity regression. US Census Bureau provides data on SME and large firm merchandise exports to 25 destinations over 10 years.⁶ Unfortunately, the data allow us to examine only export volumes of large firms and SMEs, as opposed to participation rates, where the effect of trade costs on SMEs may be more important. Still, to the extent participation matters for quantities, we might expect SME exports to be relatively more responsive to trade costs since marginal exporters are more likely to be SMEs. On the other hand, to the extent reducing variable trade costs offers more opportunities for the most productive firms and expands global value chains or that liberalization is especially geared toward big business, we might expect large firms to be more responsive to trade costs.

Using the gravity model, which describes exports as positively correlated with market size and negatively correlated with distance, we assess whether trade costs, such as distance, FTAs, or the absence of a common language, affect SME and large-firm exports differently. We focus on a standard gravity equation. The dependent variable is aggregate bilateral exports by firm size from the United States to 25 markets. The basic equation estimated is:

$$(1) \log Export_{is} = SME_s + \beta_0 \log GDP_i + \beta_1 \log Distance_i + \beta_2 Tradecost_i + \beta_3 SME_s * \log Tradecost_i + \gamma_i + \varepsilon_{is}$$

where $\log Export_{is}$ is total exports to country i either by large or small firms. The type of firm is indicated by the subscript s . SME_s is a dummy variable that takes the value of one for the exports of SME firms and otherwise zero, GDP_i is income in market i ; $Distance_i$ is the distance from the United States to market i , $Tradecost_i$ is one of the various trade cost measures,

4. See Bernard et al. (2012) for a summary of the literature.

5. See Melitz and Redding (2014) for details on how different types of costs affect firms in a heterogeneous firm trade model.

6. Since the US Census Bureau provides only top 25 destination countries of US SME and large firm exports every year, the 25 countries are not identical every year. This means that country A included in 2004 may not be listed in 2013.

Table 4 Effect of trade costs on exports, by firm size

Dependent variable: <i>logExport</i>					
	All (1)	All (2)	All (3)	All (4)	All (5)
logGDP	0.37*** (0.10)	0.41*** (0.10)	0.41*** (0.10)	0.41*** (0.07)	0.44*** (0.10)
logDistance	-0.70*** (0.24)	-0.77*** (0.21)	-0.42* (0.21)	0.25 (0.22)	-0.79*** (0.22)
SME	-0.80*** (0.07)	-1.23*** (0.32)	-0.80*** (0.08)	-0.78*** (0.07)	-0.79*** (0.10)
logTimetoimport		-0.54*** (0.15)			
SME*logTimetoimport		0.18 (0.12)			
FTA			0.62* (0.32)		
SME*FTA			-0.02 (0.13)		
border				2.36*** (0.35)	
SME*border				-0.20 (0.14)	
logTariff					-0.11* (0.06)
SME*logTariff					-0.01 (0.06)
Observations	496	444	496	496	470
R-squared	0.64	0.71	0.67	0.78	0.69

Note: Year fixed effects are included in all regressions. Standard errors, clustered at the country level, are shown in parentheses.

*** p<0.01, ** p<0.05, * p<0.1, where p indicates the probability that the coefficient differs from zero.

logExport = logarithm of export value (millions of dollars)

logGDP = logarithm of GDP (millions of dollars)

logDistance = logarithm of distance (nautical miles)

SME = dummy variable for small and medium-sized enterprises (the dummy is 1 for SMEs and 0 otherwise)

logTimetoimport = logarithm of time to import (days)

FTA = dummy for free trade areas

Border = dummy variable for a common border between the country pair

logTariff = logarithm of average applied tariffs

Sources: US Census Bureau; United Nations Conference on Trade and Development (UNCTAD) Statistics; www.distancefromto.net; World Bank, *World Development Indicators* and *World Integrated Trade Solution*.

and γ_t is a year fixed effect, which will control for overall changes in US competitiveness. *log* indicates that the variable is expressed as a logarithm, which has the useful property that coefficients on the dependent variables can be interpreted as percentage changes in exports. The variable of interest is the interaction between a trade barrier and *SME*: A negative coefficient on the interaction term would mean that SME exports are more responsive to that trade cost and a positive coefficient would mean the reverse. The errors are clustered at the country level, since the trade cost variables vary at the country level.

The results are reported in table 4. Column 1 records the results of the basic gravity equation with just the *SME* dummy.

Income, distance, and *SME* have the expected signs on exports. The -0.8 coefficient on *SME* in column 1 implies that SME exports are on average 55 percent smaller than large-firm exports to all markets (in line with the underrepresentation in goods trade from table 1).⁷ The negative coefficient on distance

7. Given the log-linear specification of the gravity model, the dependent export variable is expressed in logarithmic terms while the independent *SME* variable is expressed simply as a dummy variable (namely 0 or 1). So, the estimated impact of the presence of an *SME* (dummy variable equals 1) on exports is computed in percentage terms as $100 * [\exp(b_{sme}) - 1.00]$. In this

implies that a 1 percent increase in distance is associated with a 0.7 percent fall in exports.⁸ Column 2 adds time to import (from the World Bank's Doing Business indicators) to the regression equation; the coefficient is negative and significant indicating that a 1 percent increase in customs delay leads to a 0.5 percent reduction in exports. The interaction with SME is, however, not significant, suggesting that exports by both small and large firms are boosted to the same percentage extent by expedited trade facilitation. Column 3 introduces FTA and an interaction effect. The coefficient on the FTA dummy variable of 0.62 implies that FTAs raise exports by 85 percent. The interaction

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of SME with FTAs is small and negative but not significant, indicating that FTAs have about the same effect on the exports of both SMEs and large firms. Column 4 shows that firms export more to border nations, namely, Canada and Mexico,⁹ where trade costs are lower and information is abundant, but that SMEs do not get a significantly bigger or smaller percentage boost than large firms. Column 5 shows that firms export more to countries with lower tariffs, but again tariff reduction helps both small and large firms alike. We tried a number of other trade cost measures, including common language, logistics performance indicators, financial depth, and *de minimis* rules. The estimated coefficients are not reported in table 4, but while these variables were generally significant in affecting trade, there is no evidence that SME exports are significantly more (or less) responsive to variation in these variables than large firms.

Overall, the results imply that variation in trade costs across markets affects SME exporters in a very similar way to large firms. Longer delays in customs or higher tariffs depress both SME and large-firm exports; similarly, FTAs or common borders encourage SME exports in the same way that they encourage large-firm exports. Thus, reducing barriers to exports is unlikely to change the ratio of SME exports to large-firm exports; rather it would increase both proportionately. While we cannot estimate the effect on export participation

expression b_{sme} is the estimated coefficient for the SME dummy variable of 1, and $\exp(b_{sme})$ is the value of the natural number e raised to the exponent b_{sme} . If the coefficient of SME is a negative 0.8, then the value of $\exp(b_{sme})$ is 0.45, and the percentage compression in exports is estimated as $100 \times [0.45 - 1.00]$, which equals minus 55 percent.

8. We also try interacting distance and GDP separately and together with the SME dummy but the interactions are not significant.

9. In fact, the border effect is so strong that the coefficient on the *logDistance* variable is no longer significant.

compared with export volumes using these data, we expect that more SMEs would start exporting, i.e., participation would go up, while large firms are more likely to export larger quantities.

The headline result is that market-specific trade barriers do not deter SMEs any more than they deter large firms; but neither is it true that liberalization has been disproportionately pro big business. Using a very different methodology and focusing on firm-level exports across countries, Hoekman and Shepherd (2015) reach a similar conclusion. They use the World Bank's enterprise surveys from 119 countries and find that reducing delays in exporting benefits large and small exporters in similar ways. In particular, they examine the share of a firm's sales that is exported and find that expedited trade raises the export share, but the effects are not statistically different for small, medium, and large firms.¹⁰

HOW DO FTAs HELP SMEs?

The results above show that existing FTAs significantly boost exports of both small and large firms. To some extent this is not too surprising since FTAs offer market-opening initiatives that affect all firms, for example, calling for less burdensome border procedures and simplified nontariff measures. To ensure firms of all sizes are supported, recent FTAs put special emphasis on SMEs; For example, the Korea-US FTA (KORUS, which entered into force in 2012) established a Working Group on Small and Medium-Sized Enterprises. The Working Group is supposed to evaluate the impact of KORUS on SME production, distribution, and trade and to explore channels for SMEs to better utilize the agreement. In 2013, both the US International Trade Commission (USITC) and Korean Ministry of Trade, Industry and Energy (MOTIE) reported on the significance of KORUS for SMEs.

The MOTIE (2013) report evaluated the impact of KORUS on Korean SMEs. Following the implementation of KORUS in 2012, Korean SME exports to the United States grew by 4 percent. During the same period, overall Korean exports to the United States grew by 4.1 percent, so there was no differential impact of KORUS on small firms (similar to what the evidence above shows for US FTAs). The main exports were manufactured goods such as electronics, machinery, plastic, and automotive parts. However, Korean SMEs are barely present in global value chains, which in turn lessened the impact of KORUS on SME production. The study did find that more SMEs began to take advantage of tariff reductions and increase their exports to the United States.

The USITC report (2013) summarized comments from various SME interest groups on the effect of KORUS. The manufacturing group expressed a positive view, claiming that

10. Fontagné, Orefice, and Piermartini (2016) use a similar approach and also find that trade facilitation helps firms of all sizes, though they find some differences in the specific types of policies. In particular, information availability is especially helpful for small firms. They also find some evidence that better advance rulings and appeal procedures benefit small firms while the simplification of documents and border cooperation favor large firms.

KORUS provided a better business environment. Within the services group, two SMEs answered that the KORUS helped protect their intellectual property rights (IPRs). After the KORUS entered into force, US agricultural SMEs immediately discovered their growing price competitiveness via lower tariff rates and higher quotas in the Korean market. Neither the MOTIE nor the USITC report offered recommendations for improving KORUS in ways that would boost SME participation in bilateral trade.

In US FTAs with Peru and Colombia, Chapter 20 on Administration of the Agreement and Trade Capacity Building establishes in each case a bilateral Free Trade Commission of cabinet-level officials. Among other things, the respective commissions may instruct working groups to review the impact of the FTAs on SMEs and make recommendations.

The US-Peru FTA entered into force in 2009, and the Free Trade Commission held its second meeting in July 2011. The joint statement announced that the SME working group discussed the possible adoption of the US Small Business Development Center (SBDC) model in Peru and the expanded use of the SBDCglobal.com network to help SMEs utilize the FTA.¹¹ The working group published a brochure to increase awareness among SMEs in each country about export opportunities.

It's fair to conclude that US FTAs with Peru and Colombia each made an effort to address SME issues, but not much came of those efforts.

WHAT'S NEW IN THE TRANS-PACIFIC PARTNERSHIP?

Several chapters in the Trans-Pacific Partnership (TPP) agreement are designed to reduce trade frictions for multinational corporations (MNCs) and SMEs alike—for example, Technical Barriers to Trade (Chapter 8), Customs Administration and Trade Facilitation (Chapter 5), Electronic Commerce (Chapter 14), and Small and Medium-Sized Enterprises (Chapter 24).¹² Unlike prior US FTAs, TPP Chapter 24 specifically addresses SME issues. The major commitment is information sharing. A recent report found that more than 60 percent of SMEs prioritized better access to information on export opportunities, as well as access to information on trade regulations and procedures (International Trade Centre 2015).¹³

TPP Chapter 24 embraced these findings. TPP members are required to build websites for SMEs to access information. Each website will summarize the agreement, describe TPP provisions that are aimed at SMEs, and offer tips on exporting goods and services. Additionally, the national websites are encouraged to provide information on customs regulations and

procedures, IPRs, nontariff barriers, foreign direct investment, employment regulations, and business registration procedures.

Another contribution of TPP Chapter 24 is to establish a Small and Medium-Sized Enterprises Committee designed to follow up on the experience of SMEs in utilizing the TPP. Along with issuing periodic reports, the committee will recommend capacity-building measures to help SMEs engage in international trade. It might highlight measures that could disproportionately benefit SMEs, such as raising *de minimis* thresholds (Freund 2016). The committee is required to meet in the first year of TPP implementation and thereafter as necessary.

GLOBAL INITIATIVES FOR SMEs

Global efforts also seek to promote SME exports both by advanced and developing countries. While the United Nations focuses on financial access for SMEs, the G-20 emphasizes their access to international markets via trade, global supply chain, and digital commerce.

In September 2015, the United Nations launched its new agenda for sustainable development, aiming to achieve 17 Global Goals by 2030. It is notable that the 8th and 9th UN goals—economic growth and infrastructure and industrialization—target SMEs in developing countries. The United Nations promised to improve access for SMEs to financial services and global value chains. As part of the UN agenda, the financial agreement suggests relaxed financial regulations on SMEs, encourages domestic development banks to finance SMEs, and highlights the significant impact of trade facilitation on SMEs.¹⁴

The G-20 perceives a key role for SMEs in innovation, economic growth, and job creation. The Turkey B20 Task Force on SMEs and Entrepreneurship was created as a platform to support policy implementation. Addressing SMEs' challenges in integrating global value chains and international markets, the task force offers recommendations to improve SME access to global value chains, finance, managerial, and entrepreneurial skills, and the digital economy.¹⁵ In line with these recommendations, the G-20 subsequently launched the World SME Forum.

WHAT HAS THE WTO DONE FOR SMEs?

For almost 20 years, the WTO has fostered modest efforts to address the special needs of SMEs. Partly these efforts have been designed to counter the common perception that WTO agreements exclusively benefit MNCs.

11. See "Joint Statement of the Second U.S.-Peru FTA Free Trade Commission Meeting Lima, Peru," July 13, 2011, <https://ustr.gov> (accessed on January 11, 2015).

12. TPP Chapter 14 addresses cooperative efforts to assist SMEs overcome obstacles by eliminating restrictions on data flows.

13. In the report, SMEs are defined as firms with less than 250 employees.

14. The agreement is entitled Addis Ababa Action Agenda of the Third International Conference on Financing for Development. See United Nations (2015).

15. For more detail, see Turkey B20 (2015b).

Work Program on Electronic Commerce

In 1998, the WTO launched a Work Program on Electronic Commerce.¹⁶ Among other goals, the work program was created to support SME engagement in globalization through e-commerce. It is specifically aimed at opening opportunities for developing and least developed countries through the spread of internet technology.

Work program issues include “enhancing internet connectivity and access to information and telecommunications technologies and public internet sites, the growth of mobile commerce, electronically delivered software, cloud computing, the protection of confidential data, privacy and consumer protection.”¹⁷ A concrete result from this flurry of activity is the continued practice of zero tariffs on e-commerce transactions.¹⁸

The most recent review of this program was released in July 2015, but no new actions were taken besides the extension for zero tariffs on e-commerce.¹⁹ There was general support for SMEs and for covering other issues such as data flows, privacy, and e-signatures, but the delegations differed on moving from workshops to actual negotiations.

In fact, four WTO bodies—the Council for Trade in Services, Council for Trade in Goods, Council for Trade Related Aspects of Intellectual Property Rights (TRIPS), and the Committee on Trade and Development—have examined the relation between existing WTO agreements and e-commerce.

- The Council for Trade in Services draws on the legal framework of the General Agreement on Trade in Services (GATS) to examine e-commerce in terms of general access to internet networks and the special problems of electronic service providers such as banks and service distributors such as those offering hotel and travel reservations.
- The Council for TRIPS examines issues involving the sale or license of information and IPR-protected information technology in relation to e-commerce.
- The Council for Trade in Goods examines e-commerce in regard to Article VII of GATT 1994, which permits members to impose tariffs on the basis “either of the value

of carrier media bearing software (i.e., USB containing data) or of the value of the carrier medium and the value of the software.” So far, as mentioned, the moratorium against tariffs on the value of e-commerce has held.

- The Committee on Trade and Development reports on the implications of e-commerce for developing countries. A Workshop on E-Commerce, Development and Small and Medium-Sized Enterprises was held in April 2013 to review the use of e-commerce by SMEs in developing countries in promoting their products and services in domestic and international markets.²⁰

Government Procurement Agreement

The Government Procurement Agreement (GPA) is a plurilateral agreement within the multilateral WTO framework. The Tokyo Round Code on Government Procurement entered into force in 1981. Subsequently the GPA was extended in 1994 and 2012 by adding new members, reducing discriminatory measures, and enlarging its coverage of goods and services. The latest edition of the GPA entered into force in April 2014, following ratification by two-thirds of GPA members (Israel was the last). Currently 45 WTO members belong to the GPA, while another 40 are either observers or in the queue to obtain GPA membership. The current GPA covers an estimated \$1.7 trillion of potential market access.²¹

The purpose of the GPA is to liberalize government procurement markets among its members. Whether it actually has much effect is another matter; a recent empirical study suggests not (Ragoussis 2016). In any event, while the agreement requires “open, fair and transparent conditions of competition” in government procurement of covered goods and services, it allows member states to provide preferential “set-asides” for procurement from minority-owned firms and SMEs. But “set-aside” procurement “shall avoid introducing discriminatory measures that favor only domestic SMEs and shall discourage the introduction of such measures and policies by acceding Parties.”²²

Trade Facilitation Agreement

More than 40 percent of US SME manufacturing firms report that customs procedures pose major obstacles to their export efforts (USITC 2010). Several features of the Trade Facilitation Agreement (TFA) could help reduce these obsta-

16. WTO, Declaration on Global Electronic Commerce, WT/MIN(98)/DEC/2, May 25, 1998, www.wto.org/english/tratop_e/ecom_e/ecom_e.htm (accessed on January 7, 2016).

17. WTO, “Briefing note: Electronic Commerce,” www.wto.org/english/thewto_e/minist_e/mc10_e/briefing_notes_e/brief_ecommerce_e.htm (accessed on January 4, 2016).

18. The US Congress passed the Trade Facilitation and Trade Enforcement Act of 2015 in February 2016, which imposes a permanent moratorium on internet access taxes and on multiple and discriminatory taxes on e-commerce. States that have such taxes are required to phase them out by 2020. This provision applies to sales taxes on a consumer’s monthly payment to their internet service providers, such as Comcast or AT&T, in order to access the internet. But the moratorium does not apply to goods purchased over the internet (e.g., Amazon sales).

19. See Ambassador Alfredo Suescum, “Item 6—Work Programme on electronic Commerce—Review of Progress,” WT/GC/W/701, July 24, 2015, https://docs.wto.org/dol2fe/Pages/FE_Search/.../133451/q/.../W701.pdf (accessed on January 7, 2016).

20. For more detail, see WTO, Workshop on E-Commerce, Development, and Small and Medium sized Enterprises, www.wto.org/english/tratop_e/devel_e/wkshop_apr13_e/wkshop_apr13_e.htm (accessed on January 7, 2016).

21. See WTO, Agreement on Government Procurement, www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm (accessed on January 4, 2016).

22. Decision of the Committee on Government Procurement on a Work Programme on SMEs, reprinted in “Adoption of the results of the Negotiations under Article XXIV:7 of the Agreement on Government Procurement, Following their Verification and Legal Review, As Required by the Ministerial Decision of 15 December 2011,” WTO document GPA/113 of 2 April 2012, Appendix 2, Annex C, pp. 439–41.

cles. Participating member states are required to publish the information required to clear customs, including procedures, documents, taxes, classification rules, rules of origin, penalties, appeal procedures, and the administration of tariff-rate quotas.

In addition, participating members are required to expedite the release of goods for importation, exportation, and transit through positive measures in 10 categories:

- allow documentation to be processed prior to the arrival of goods;
- allow traders to use electronic payment;
- permit the release of goods before the final determination of customs duties;
- operate risk management systems for inspecting goods;
- operate a postclearance audit;
- publish average release times;
- establish a program to designate good traders as authorized operators;
- allow the release of express delivery through air cargo facilities;
- release perishable goods within the shortest possible time; and
- simplify documentation required for importation, exportation, and transit.

In connection with the last category, TFA members are either required or encouraged to accept both electronic and paper copies of documents, observe international standards, and establish a single window for submitting documentation.

The TFA will enter into effect once two-thirds of the WTO members, namely 109 countries, ratify the agreement. As of May 2016, 81 out of 164 WTO members have ratified the TFA.²³ The WTO (2015) estimates that full implementation of the TFA will eventually increase trade in goods by as much as \$1 trillion annually. Hufbauer and Schott (2013) provide similar estimates, calculating that the TFA will deliver an increase of about \$950 billion in two-way merchandise trade and raise world GDP by approximately \$440 billion. These estimates do not indicate what proportion of the trade gains will accrue to SMEs, but given the relatively high burden of fixed costs on SME exporters, a fair guess is that such firms will be winners.

At the Nairobi Ministerial Conference in December 2015, issues of concern to SMEs, such as trade facilitation and e-commerce, were again addressed. The Ministerial Declaration urged WTO members to adopt the TFA. Director-General Roberto Azevêdo stressed the importance of TFA by emphasizing that the reforms would create a better business environ-

ment for small enterprises to participate in global value chains.²⁴ USTR Froman remarked that “When we ask our SMEs what are the biggest challenges facing them when they engage in international trade, the number one issue they point to are the complexities at the border, the various customs procedures and border measures. The TFA is very much an effort to address that.”²⁵ Members agreed that the work program on electronic commerce would continue, that the moratorium on taxation of electronic transmissions would be extended, and that the members would hold periodic meetings to review the reports provided by WTO bodies.

RECOMMENDATIONS

Research published by international organizations such as the G-20, United Nations, and WTO affirm that SME exports contribute to economic growth, productivity, and innovation. Related literature focuses on a small group of fast-growing firms, most of which are SMEs, that is especially beneficial for employment growth (Ferrantino et al. 2012). Explaining the fact that SMEs are underrepresented in international trade (shown by the lower share of SME participation in direct exports than in domestic sales), the consensus holds that high fixed costs are major barriers. In order to tackle such barriers, SMEs depend on policies that reduce trade costs, mitigate regulatory obstacles, enable financial credit, and improve information on export markets.²⁶

TFA implementation is the critical first step toward improving the global trade environment for SMEs.

Recently concluded US bilateral FTAs and the TPP include chapters or provisions that help overcome these impediments and create new administrative and information channels for SMEs. However, complex rules of origin and different certification processes in each bilateral or regional FTA make it hard for SMEs to take advantage of low or zero FTA tariffs. Even if 109 WTO members successfully ratify the TFA, additional efforts will be needed to enhance SME participation in the global trading system. We offer four policy recommendations toward this objective.

First, WTO members should not only ratify but also faithfully implement the TFA. Full implementation will simplify

23. This number includes Afghanistan and Liberia, which were approved for accession to the WTO in December 2015, but they are not official WTO members until they ratify the accession in their domestic legislature. On May 31, Sri Lanka became the 81st WTO member to ratify the TFA. See www.wto.org/english/news_e/news16_e/fac_31may16_e.htm (accessed on June 7, 2016).

24. “WTO trade facilitation in action—launch of Global Alliance for Trade Facilitation: Speech by Director-General Roberto Azevêdo,” December 17, 2015, www.wto.org/english/news_e/spra_e/spra106_e.htm (accessed on January 19, 2016).

25. Remarks by Ambassador Michael Froman on the Launch of the Global Alliance for Trade Facilitation, December 17, 2015, <https://ustr.gov/about-us/policy-offices/press-office/speeches-transcripts/2015/december/remarks-ambassador-michael-1> (accessed on January 4, 2016).

26. Dadush et al. (2015) provide more details.

Table 5 *De minimis* threshold in G-20 countries, 2016

Country	US dollars
Argentina	25
Australia	756
Brazil	50
Canada	15
China	8
France	170
Germany	170
India	150
Indonesia	50
Italy	170
Japan	90
South Korea ^a	150 to 200
Mexico	300
Russia	119
Saudi Arabia	100
South Africa	n.a.
Turkey	87
United Kingdom	170
United States	800

n.a = not applicable

a. South Korea applies \$200 of *de minimis* value for trade with the United States and \$150 for trade with others.

Source: Global Express Association, www.global-express.org/assets/files/Customs%20Committee/de-minimis/GEA-overview-on-de-minimis_April-2016.pdf.

documentation and otherwise make customs procedures faster and less costly. SMEs will especially benefit when they export low-value or small packages. Greater standardization of customs procedures will enable SMEs to export to more than one country. TFA implementation is, therefore, the critical first step toward improving the global trade environment for SMEs.

Second, WTO members should advance the work program for cross-border e-commerce to the next stage, reaching multi-lateral or plurilateral agreements. SMEs encounter many challenges in digital trade, such as data protectionism, security of online payments, and insufficient broadband infrastructure.²⁷ While digital trade in goods and services has grown rapidly over the past decade, the four WTO groups dealing with e-commerce have not made much progress. In parallel with Trade in Services Agreement (TiSA) negotiations, the Council for Trade in Services could open a negotiation to agree on best practices for data privacy—including consumer protection—

that would support cross-border data transfers. The Committee on Trade and Development could offer proposals to accelerate the development of digital infrastructure, including financing to build broadband internet connections.

Third, governments should help SMEs access trade finance through export credit agencies and alternative financing sources. When SMEs enter new export markets, they need financing but often encounter impediments. The B20 Financing Growth Taskforce Policy Paper identifies these challenges and offers useful suggestions (Turkey B20 2015a). Banks tend to view SMEs as risky due to the absence of reliable credit histories and the difficulty of tapping alternative financial sources (e.g., issuance of shares). Elevated risk perceptions lead to higher interest rates and stiffer collateral requirements on SME loans. One answer is for firms patterned after Dun & Bradstreet to collect and distribute information on SME business performance and credit history. In addition, governments can foster alternative financing sources for SMEs, such as equity crowdfunding, peer-to-peer lending platforms, venture capital, and private equity investment.

Fourth, WTO members should raise *de minimis* thresholds, namely import levels for shipments that are tariff-free and require only very simple customs declarations. Table 5 shows

27. Suominen (2014) provides detailed explanations for challenges faced by SMEs in e-commerce and suggests aid for e-trade. Data protectionism refers to efforts by governments to curb cross-border data transfer and instead force companies to save data on local servers and perform any data analysis locally.

de minimis levels in G-20 countries. The United States and Australia have the highest levels, \$800 and \$756, respectively.²⁸ But other G-20 countries have *de minimis* thresholds below \$300, including China and Canada, which have the lowest figures, \$8 and \$15, respectively. Many countries defend low *de minimis* levels for fear of losing government revenues and because they want to protect local retailers who pay sales or value-added taxes. However, these governments overlook potential benefits from raising their thresholds. Hufbauer and Wong (2011) estimated that annual net gains from increasing the US *de minimis* threshold from \$200 to \$800 (which happened in 2016) would amount to about \$17 million and concluded that savings to customs personnel, consumers,

SMEs, and express shipping firms would outweigh the loss of tariff revenue. Latipov, McDaniel, and Schropp (2016) calculate even larger net gains for Canada, using parcel-level data, from increasing the *de minimis* level to \$80 from \$20 and find the change would be fiscally neutral. The same may be true for other countries, and the benefits to SMEs in an era of digital commerce are especially noteworthy.

The WTO should collaborate with various forums around the world such as the United Nations, G-20, the Organization for Economic Cooperation and Development (OECD), and business groups to push the implementation of the preceding recommendations and to maintain an active dialogue on additional reforms that will benefit SMEs. For example, the World SME Forum, launched by the G-20 in 2015, has been brainstorming SME export-led policies with business groups in G-20 countries. The WTO can initiate similar dialogues with its developing-country members.

Finally, from a research perspective, it would be useful to better understand indirect exporting, which occurs both via intermediaries and when SMEs supply to large exporting firms. A more complete picture of the interconnectedness of firms both within and across countries would ensure that policy prescriptions are best designed to promote jobs and growth.

28. In February 2016, the US Congress approved an increase in the *de minimis* level from \$200 to \$800. See H.R.644: Trade Facilitation and Trade Enforcement Act of 2015, www.congress.gov (accessed on February 16, 2016). Increasing the *de minimis* level is expected to decrease the budget deficit by \$116 million over the 2016–25 period. See Congressional Budget Office, letter to Chairman, Committee on Ways and Means, US House of Representatives, December 10, 2015, www.cbo.gov/sites/default/files/114th-congress-2015-2016/costestimate/hr644conference.pdf (accessed on May 4, 2016).

REFERENCES

- Bernard, Andrew B., J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott. 2012. The Empirics of Firm Heterogeneity and International Trade. *Annual Review of Economics* 4, no. 1: 283–313.
- Bieron, Brian, Hanne Melin, and Alan Elias. 2016. *eBay Small Online Business Growth Report: Towards an Inclusive Global Economy*. Annual Policy Paper (January). Washington: eBay Main Street.
- Caruso, Anthony. 2015. *Statistics of US Businesses Employment and Payroll Summary: 2012*. Washington: US Census Bureau. Available at www.census.gov/content/dam/Census/library/publications/2015/econ/g12-susb.pdf.
- Dadush, Uri, Beatriz L. Gardoqui, Christopher Logan, Alex Manson, Susan Schwab, and Vera Thorstensen. 2015. *What Companies want from the World Trading System*. Geneva: World Economic Forum (September).
- Fontagné, Lionel, Gianluca Orefice, and Roberta Piermartini. 2016. *Making (Small) Firms Happy: The Heterogeneous Effect of Trade Facilitation Measures*. CESIFO Working Paper 5899. München: Center for Economic Studies and Ifo Institute.
- Ferrantino, Michael J. Megha Mukim, Alison Pearson, and Nathanael David Snow. 2012. *Gazelles and Gazillas in China and India*. USITC Working Paper no. 2012/12C (October). Washington: US International Trade Commission.
- Freund, Caroline. 2016. Other New Areas: Trade Facilitation, Corruption, SMEs, and Development. In *Assessing the Trans-Pacific Partnership, Volume 2: Innovation in Trading Rules*. PIIE Briefing 16-4. Washington: Peterson Institute for International Economics.
- Freund, Caroline, and Martha Denisse Pierola. 2015. Export Superstars. *Review of Economics and Statistics* 97, no. 5: 1023–32.
- Hoekman, Bernard, and Ben Shepherd. 2015. Who Profits from Trade Facilitation Initiatives? Implication for African Countries. *Journal of African Trade* 2, no. 1: 51–70.
- Hufbauer, Gary C., and Jeffrey J. Schott. 2013. *The Payoff from the World Trade Agenda*. Report to the International Chamber of Commerce Research Foundation. Washington.
- Hufbauer, Gary C., and Yee Wong. 2011. *Logistics Reform for Low-Value Shipments*. PIIE Policy Brief 11-7. Washington: Peterson Institute for International Economics.
- International Trade Centre. 2015. Costs and Small and Medium-Sized Enterprises. In *Aid for Trade at a Glance 2015*. Geneva: World Trade Organization and Organization for Economic Cooperation and Development.
- Latipov, O., C. McDaniel, and S. Schropp. 2016 (forthcoming). *Small is beautiful: The impact of raising the ceiling on duty-free imports in Canada*. Trade and International Policy Working Paper. Toronto: CD Howe Institute.
- Manyika, James, Susan Lund, Jacques Bughin, Jonathan Woetzel, Kalin Stamenov, and Dhruv Dhringra. 2016. *Digital Globalization: The New Era of Global Flows* (March). McKinsey Global Institute
- Mayer, Thierry, and Gianmarco I. P. Ottaviano. 2007. *The Happy Few: The Internationalization of European Firms*. Bruegel Blueprint Series, volume 3. Brussels: Bruegel and Center for Economic Policy Research.
- Melitz, Marc J, and Stephen J Redding. 2014. Heterogeneous Firms and Trade. *Handbook of International Economics*, 4th ed., 4: 1–54.
- Meltzer, Joshua P. 2015. *Maximizing the Opportunities of the Internet for International Trade*. E15 Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

- MOTIE (Republic of Korea, Ministry of Trade, Industry and Energy). 2013. *한·미FTA가 중소기업에 미친 영향 분석*[Analysis: KORUS FTA Impacts on SMEs]. Seoul.
- Public Citizen. 2016. *Raw Deals for Small Businesses: U.S. Small Firms Have Endured Slow and Declining Exports under "Free Trade" Deals*. Washington. Available at www.citizen.org/documents/raw-deals-for-small-businesses.pdf.
- Ragoussis, Alexandros. 2016. *Government Agoraphobia: Hobe Bias in Developing Country Procurement Markets*. Discussion Paper (May). Bonn: German Development Institute.
- Suominen, Kati. 2014. *Aid for eTrade: Accelerating the Global eCommerce Revolution*. Washington: CSIS. Available at http://csis.org/files/publication/141107_eBay_CSIS_aid_eTrade.pdf.
- Turkey B20. 2015a. *B20 Financing Growth Taskforce Policy Paper* (September). Available at http://b20turkey.org/policy-papers/b20turkey_fgtf.pdf.
- Turkey B20. 2015b. *B20 SMEs & Entrepreneurship Taskforce Policy Paper* (September). Available at http://b20turkey.org/policy-papers/b20turkey_sme.pdf.
- United Nations. 2015. *Addis Ababa Action Agenda of the Third International Conference on Financing for Development* (July). New York: United Nations Department of Economic and Social Affairs Financing for Development Office.
- USITC (United States International Trade Commission). 2010. *Small and Medium-Sized Enterprises: Characteristics and Performance*. Washington.
- USITC (United States International Trade Commission). 2013. *U.S.-Korea Free Trade Agreement: Effects on U.S. Small and Medium-Sized Enterprises*. Washington.
- WTO (World Trade Organization). 2015. *World Trade Report 2015—Speeding up trade: Benefits and challenges of implementing the WTO Trade Facilitation Agreement*. Geneva.
- WTO (World Trade Organization). 2016. *Trade Finance and SMEs: Bridging the Gaps in Provision*. Geneva.

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