

IMPORTING GROWTH
THE CRITICAL ROLE OF IMPORTS IN A TRADE-LED GROWTH STRATEGY

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*“Imports, not exports, are the purpose of trade.
That is, what a country gains from trade is the ability to import things it wants.
Exports are not an objective in and of themselves:
the need to export is a burden that a country must bear
because its import suppliers are crass enough to demand payment.”*

Paul Krugman (1993, p. 24)

In the summer 2013 issue of the *Journal of World Trade*, Bernard Hoekman and Mike Finger debated on the first World Bank Group Trade Strategy. Hoekman had developed the strategy when he was director of the World Bank’s International Trade Department. Finger had worked for the World Bank in the 1980s and 1990s. The debate was on the strategy’s focus on export promotion rather than on trade liberalization. The issue is one of priority. What would be most efficient? Increasing a country’s exports capacities or reforming its import regime?

Hoekman explained that “the trade strategy seeks to identify areas where action is likely to have the greatest positive impact in terms of helping countries to integrate further into the world economy and to benefit from global trade opportunities, and more specifically to ensure that what the WBG offers in terms of products and services is responsive to the demands of its clients” (2013, p. 717). On the one hand there is the effectiveness (“the greatest positive impact”); on the other one the alignment behind countries’ priorities (“responsive to the demand of the clients”). There is no contradiction in these two objectives as long as building export capacities is the trade area that will have the greatest positive impact. Finger, however, argued that “trade liberalization [...] is still a *critical* part of the trade agenda” that has been “abandoned” by the World Bank (2013, p. 708, emphasis added).

The debate cannot be disconnected from the political economy of development aid and assistance. “Ownership” and “alignment” behind countries’ priorities are now at the core of the principles guiding aid delivery.² And national authorities see exports as a priority. They

¹ Groupe d’Economie Mondiale (GEM). I thank Patrick Messerlin for his support and suggestions.

² The Paris Declaration on Aid Effectiveness can be found at:
<http://www.oecd.org/dac/effectiveness/parisdeclarationandaccraagendaforaction.htm>.

made clear that export growth and export diversification is what they expect from Aid for Trade (OECD-WTO, 2011) and probably because “an important rationale for developing a trade strategy was to hear from governments what they are looking for in terms of support” (Hoekman, 2013, pp. 717), export growth and export diversification are precisely one of the “four priority themes for World Bank trade support activities” described in the strategy (World Bank, 2011).

The irony is that, just as the political economy of trade and development leads to focus on exports, a recent but large and growing literature provides robust and convincing evidence that imports have a large growth impact and, thus, have a crucial role to play in a country that intends to use trade as an engine for development.

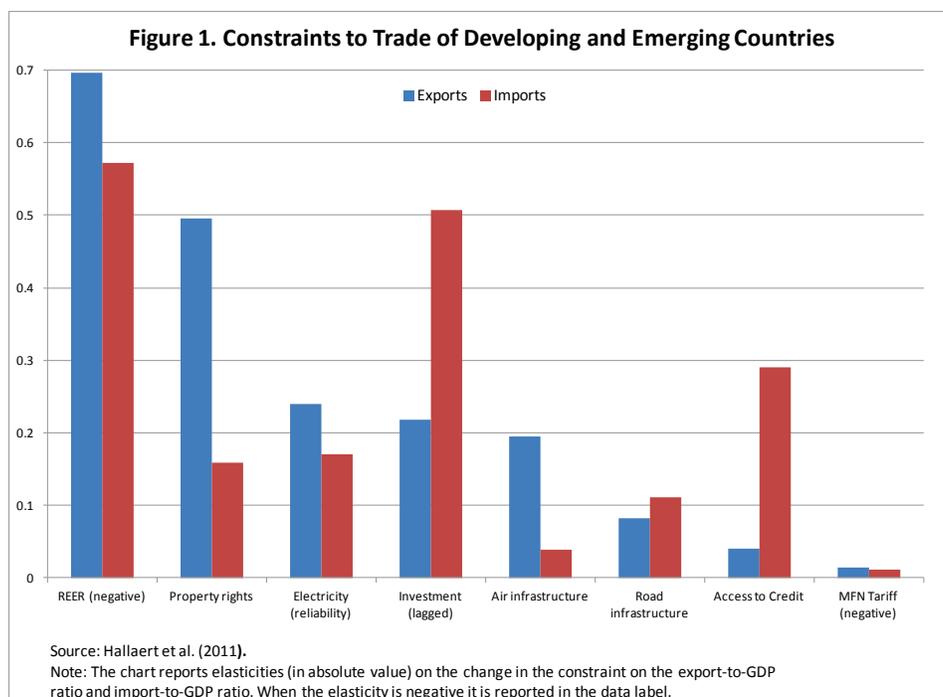
The purpose of this paper is to show that if a country intends to use trade as an engine for growth and development, then it should not overlook imports. The first section provides evidence that imports are an important determinant of export performance. Therefore, the success of an export-led growth strategy will be reduced if it only focuses on exports promotion and ignores barriers to imports. The second section surveys the abundant evidence that imports also foster productivity. Therefore, imports contribute to growth directly by stimulating productivity and indirectly by increasing export performance, making them a key component of a trade-led growth strategy. The third section elaborates on the channels through which imports affects growth. Finally, the fourth section investigates if the export and growth impact of imports is limited to imports of goods.

I. IMPORTS... A CRUCIAL ELEMENT OF AN EXPORT-LED GROWTH STRATEGY

Imports face different constraints than exports. Figure 1 illustrates the results of Hallaert et al. (2011) on the constraints to exports and imports in developing and emerging countries. Reforms are ranked according to their importance for exports. Clearly, with the exception of an adequate exchange rate, the constraints faced by exports overlap little with the constraints faced by imports. Strengthening the protection of property rights and improving the reliability of electricity supply is what matters most for exports while what matters most for imports is supporting investment and access to credit. Moreover, a strategy aiming at fostering exports would also focus on increasing the reliability of electricity but would overlook access to credit, which is a strong constraint to imports but not of exports. Similarly, when transport infrastructure is concerned, it would focus on air infrastructure while road infrastructure matters more for imports.³

³ The study also analyzes specific groups of developing countries (landlocked, small and vulnerable, and commodity exporters). The results confirm that there is little overlap between constraints to imports and constraints to exports.

The policy implication is that any reform implemented in order to foster exports will do little to alleviate the constraints faced by imports. This is crucial because, if imports contribute to export performance (as is showed in this section), the impact on exports of any export-led strategy will be less efficient



if it does not tackle the constraints to imports than if it does. Rather than an export-led strategy, a country should pursue a trade-led strategy that covers both imports and exports.

Another reason for facilitating imports in order to promote exports is the development of the Global Value Chains (GVCs). Integrating the GVCs is associated with higher economic growth rate (IMF, 2013) and is often, for developing countries, an easier way to integrate the international trading system than traditional trade. However, integrating the GVCs cannot be achieved without imports as the fragmentation of production across borders implies that exports have large import content.

Figures 1 and 2 illustrate the strong link between imports of intermediates and export performance for 40 advanced and emerging countries. This correlation reflects in part the development of the GVCs, which in turn depends on policy and non-policy constraints to imports. Empirical literature, summarized in Table 1, allows to understand better the important role imports play in exports performance.

First, imported inputs and their diversity have a strong impact on export growth (Feng et al., 2012 and Le Bris et al., 2013), on exporters productivity (Tucci, 2005), as well as on export diversification (Bas and Strauss-Khan, 2011). The importance of this impact is large as the increase in import content of exports is one of the four structural features (along with labor tax wedge, innovation, and labor market rigidities) that significantly explain differences in export performance across advanced countries (Hallaert, 2013).

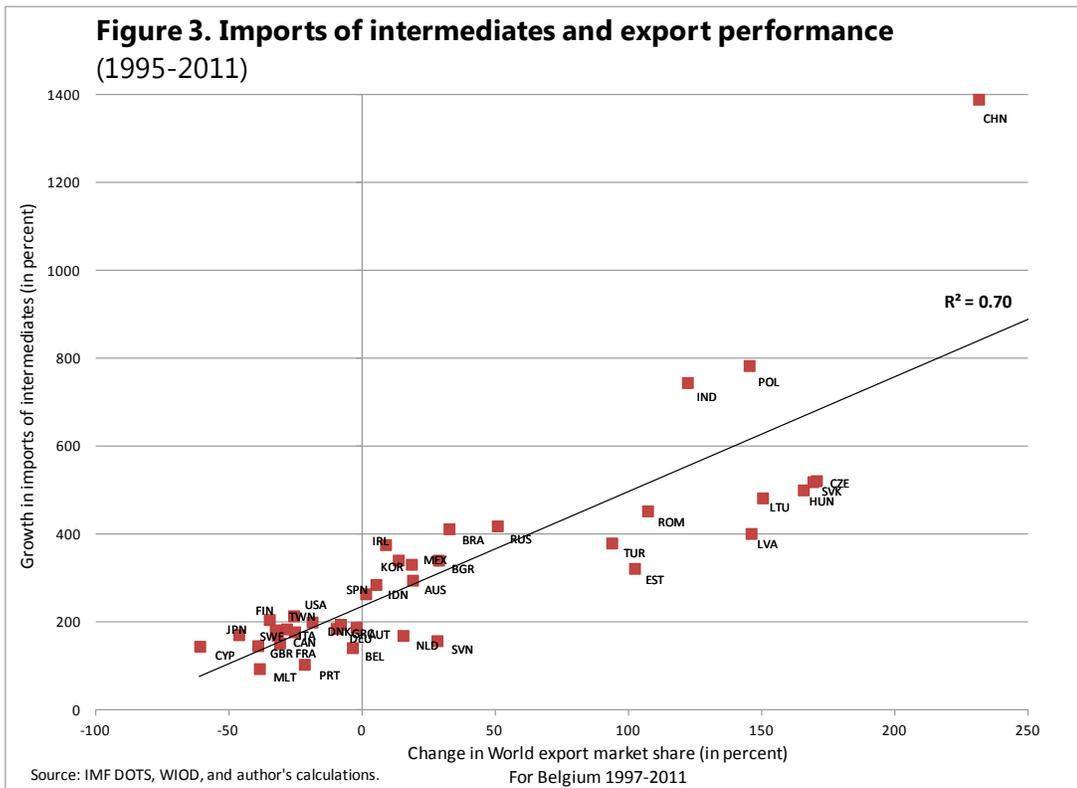
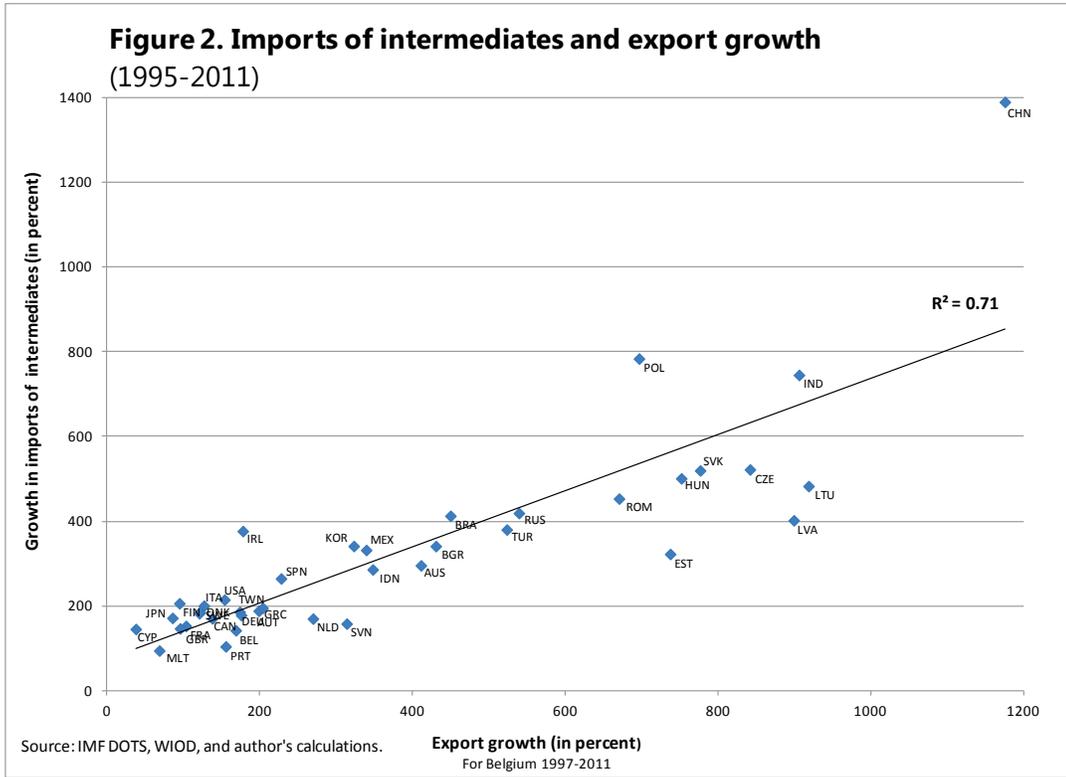


Table 1. The impact of imports and import policy on exports

Source	Country	Period	Measure	Impact
I. Impact of import policy on exports				
Francois and Manchin (2014)	103 countries	1988-2002	Import policy of a country affects its export performance as much as the import policy of the destination market
Hallaert et al. (2011)	36 developing and emerging economies	1981-2009	10 percent cut in MFN tariff result in an increase in import-to-GDP and exports-to-GDP ratios by 0.1 percentage point
Tokarick (2006)	26 developing countries	2001	Import tariffs...	... are equivalent to a 12.5 percent tax on a country's export
Bas (2012)	Argentina	1992-1996	Firms experiencing falling input tariffs...	... expanded exports more rapidly than firms that did not benefit from similar reduction.
Fan, Li, and Yeapple (2014)	China	2001-2006	A unilateral tariff cut (following WTO accession)...	... leads firms to increase the quality and price of exports where there is scope for differentiation ... or lower export price when there is little scope for quality differentiation
II. Impact of imports on exports				
Hallaert (2013)	34 OECD countries	1997-2011	A 1 percent increase in the import content (goods) of exports is associated with higher world merchandise export market shares by 0.3-0.4 percentage points
Feng, Li, and Swenson (2012)	China	2002-2006	1) A 10 percent increase in imported inputs... 2) A 1 percent increase in imported value... 3) A 1 percent increase in diversity of imported inputs...	... increases exports by 1.84 percent ... increases exports value by 1.35 percent ... increases exports by 1.69 percent
Bas and Strauss-Khan (2011)	France	1995-2005	The increase in imported inputs...	... explains 12 percent of the increase in the variety of exports of the firms
Le Bris, Disdier & Jaud (2013)	Morocco	2002-2011	A 10 percent increase in the imported inputs value increases a firm exports by 3.2 percent
II. Impact of import policy and import costs on the number of exporters				
Bas (2012)	Argentina	1992-1996	A 10 percentage point fall in input tariffs increases by 6 percent the probability of exporting of the average firm, and ... increases by 3 percent the share of exports in total sales for the average firm
Lo Turco & Maggioni (2013)	Italy	2000-2004	1 percent increase in the share of imported inputs in total imported input from low-income countries increases the probability that a firm becomes an exporter by 0.25 percent; ... from adanced countries increases the probability by 0.04 percent (not robust)
Bernard, Jensen, and Schott (2006)	USA	1987-1997	A reduction in import cost...	... increases the probability of non-exporters to become exporters, and ... increases exports of exporters

Source: Author.

Second, turning from trade flows to trade policy, an import tariff acts as a tax on exports (Tokarick, 2006). Consistent with the predictions of heterogeneous-firm models, this increase in the cost of exporting reduces both the number of exporters (Bas, 2012; Bernard et al., 2006 and Lo Turco and Maggioni, 2013) and exports volume. A cut in a country's import tariff boosts its exports (Bas, 2012 and Bernard et al., 2006) as much as it boosts imports (Hallaert et al., 2011). It also leads to an increase in export quality (Fan et al., 2014). The impact of import restrictions on exports is so large that Francois and Manchin (2014) find that the import policy of a country has as much impact on its export performance than the import restrictions implemented by its exports markets. Also because they increase the cost of trading, import restrictions

II. THE GROWTH IMPACT OF IMPORTS

In addition to their indirect impact through exports, imports have a more direct impact on a economic growth as they foster productivity.

Historically, the empirical literature on trade and growth has focused the role of exports but ignored the role of imports (Hallaert, 2006). As early as 1992, Levine and Renelt pointed that imports could explain as well as exports the empirical finding that trade boosts growth, but it is only recently, thanks to the renewed emphasis put on imports by the new growth theory and the release of firm- and plant-level data, that the role of imports has been studied in detail.

Though the literature is recent, it is abundant. Tables 2 and 4 summarize its conclusions. Despite the variety in methods, in countries, and in periods and experiences, the findings are unambiguous providing robust and convincing evidence of the strong productivity impact of imports. Therefore, trade liberalization delivers productivity gains in addition to the gains from better access to export markets traditionally emphasized by empirical literature.

Some studies distinguish the productivity impact of trade according to the trading status of firms. They reach a strong conclusion with large policy implications and so deserve being discussed here: not only is the productivity impact of imports large on aggregate but it is also as large, and most of the time larger, than the productivity impact of exports.

Indeed, not only firms engaged in international trade are more productive than non trading firms but the productivity premium of trading internationally⁴ is larger for firms that only import than for firms that only export. As reported in Table 3, this has been documented for Belgium, Germany, Indonesia, Italy, Poland, and the United States. An exception is Sweden where the productivity premium of trading is similar for exporters and importers. In addition and not surprisingly given the role of imports for export performance described in the

⁴ The productivity premium is defined as the average difference in productivity between importing or exporting firms and non trading firms.

Table 2. The productivity impact of imports

Source	Country	Period	Productivity	Imports	Importers	Impact	Channel tested
I. Cross-Country Analysis							
Bloom et al. (2011)	12 European countries	2000-2007	Total Factor Productivity	All imports	Up to half a million firms	Competition from Chinese imports explains 12 percent of productivity growth during 2000-2007 and is associated by increased innovation.	Competition
Coe and Helpman (1995)	21 OECD countries + Israel	1971-1990	Total Factor Productivity	All imports	All economy	Both foreign R&D (through imports) and domestic R&D improve TFP.	Technology embodied in imported inputs and equipment
Coe et al. (1997)	77 developing countries	1971-1990	Total Factor Productivity	Machinery and equipment goods from 22 advanced countries	All economy	R&D spillover through imports are substantial. Productivity in developing countries is positively and significantly related to R&D in their industrial trade partners and to their imports of equipment and machineries from industrial countries.	Technology embodied in imported inputs and equipment
Eaton and Kortum (2001)	34 countries	1985	Labor productivity	Capital goods	All economy	1/4 of productivity difference between developed and developing countries is due to variation in the relative price of equipment; almost 1/2 of this variation is due to barriers to trade in capital goods.	Technology embodied in imported inputs and equipment
Keller (2000)	8 OECD countries	1970-1991	Total Factor Productivity	Machinery goods	6 manufacturing sectors	Both domestic and foreign (through imports) R&D stocks have a positive and significant impact on productivity.	Technology embodied in imported inputs and equipment
Keller (2002)	8 OECD countries	1970-1991	Total Factor Productivity	Intermediates	13 manufacturing sectors	20 percent of the impact of R&D on productivity is due to foreign R&D accessed through imports	Technology embodied in imported inputs and equipment
Stone and Shepherd (2010)	115 countries	?	Total Factor Productivity	Intermediates and equipment goods	100,000 firms	Imports have (i) a positive impact of imports on firm productivity and (ii) a positive role on firm-level innovation	Access to inputs
Xu and Wang (1999)	21 OECD countries	1983-1990	Total Factor Productivity	Capital goods and non-capital goods	All economy	Imports are an important channel for transfers of technology. It is due to capital goods imports. The impact of non-capital goods is statistically insignificant.	Technology embodied in imported inputs and equipment
II. Industry-, Firm-, and plant-level analysis							
Muendler (2004)	Brazil	1986-1998	Total Factor Productivity	Intermediates and equipment goods	9500 manufacturing firms	Competition increases productivity immediately; access to foreign inputs is negligible for productivity; the elimination of less productive firm has a slow and small impact on aggregate productivity.	Competition (trade liberalization), access to inputs, and relocation of output
Schor (2004)	Brazil	1989-1998	Total Factor Productivity	Inputs and final goods	4484 manufacturing firms	Impact of reducing tariffs on inputs (access channel) is slightly stronger than the impact of reducing tariffs on final goods (competition channel).	Competition (trade liberalization) and access to inputs
Trefler (2004)	Canada, USA	1989-1996	Labor productivity	All imports	Manufacturing plants	Productivity of manufacturing increased by 6 percent as a result of tariff cuts of the Canada-U.S. Free Trade Agreement.	Competition (trade liberalization)
Kasahara and Rodrigue (2008)	Chile	1979-1996	Total Factor Productivity	Intermediates	3,598 manufacturing plants	Uses of imported intermediates immediately raises productivity by 2.6 percent (downward biased estimates) to 22 percent.	Access to inputs

Pavcnik (2002)	Chile	1979-1986	Plant productivity and industry-level aggregate productivity	All imports	4,379 manufacturing plants	Productivity of import-competing industries increased by 3 to 10 percent more than non traded goods sectors due to the liberalization. Reallocation of output explains about 2/3 of the manufacturing sector productivity growth after trade liberalization.	Competition (trade liberalization)
Yu, Ye and Qu (2013)	China	1998-2002	Total Factor Productivity	Import penetration	Over 150,000 manufacturing plants	Positive for firm producing differentiated goods. Negative for firm producing homogenous goods.	Competition (trade liberalization)
Fernandes (2007)	Colombia	1977-1991	Total Factor Productivity	Intermediates and equipment goods	6,474 manufacturing plants	Imports have a strong positive impact on productivity due to access to inputs (within-plants productivity) and reallocation of output.	Competition (trade liberalization), access to imports (technology embodied in imported inputs)
Smeets and Warzynski (2010)	Denmark	1998-2005	Total Factor Productivity	Intermediates and equipment goods	About 4,500 Manufacturing firms	Imports increase productivity.	Access to inputs (input cost and technology embodied in imported inputs)
Bas and Strauss-Khan (2011)	France	1995-2005	Total Factor Productivity	Intermediates	About 21,000 manufacturing firms	Increase in imported inputs boosted average firm's productivity by 1.5 percent.	Access to inputs (technology embodied in imported inputs and variety)
Halpern <i>et al.</i> (2005)	Hungary	1992-2001	Total Factor Productivity	Product-level imports	2,043 large exporting manufacturing firms	Imports explain 30 percent of productivity growth. Half of this effect is through the reallocation of output across continuing firms and the remaining is intra-firm increase of productivity due to access to imported inputs.	Access to inputs (variety and quality) and reallocation of output
Harrison <i>et al.</i> (2011)	India	1985-1994; 1998-2004	Total Factor Productivity	Inputs and final goods	Up to 587,303 manufacturing firms	Trade liberalization and FDI reforms explain a large part of productivity growth. Within-firm improvement is the main source of productivity growth on the whole period but immediately after the 1991 trade liberalization, reallocation is the main source. Cut in tariffs on inputs has the largest productivity impact followed by the cut of tariffs on final goods.	Competition (trade liberalization): reallocation of output and within-firm improvement
Topalova and Khandelwal (2011)	India	1989-1996	Total Factor Productivity	Inputs and final goods	About 4,100 manufacturing firms	Lower tariffs on final goods and lower input tariffs, both increased firm-level productivity, with input tariffs having a larger impact.	Competition (trade liberalization) for final goods Access to (better) inputs
Amiti and Koenigs (2007)	Indonesia	1991-2001	Total Factor Productivity	Inputs and final goods	Plant level (manufacturing)	Productivity impact of a fall in input tariffs is at least twice as high as the impact of lower tariff on final goods.	Competition (tariff cuts) and access to input
Lawrence and Weinstein (1999)	Japan	1964-1973	Total Factor Productivity	All imports	Industry level	Lower tariffs and higher import volume boosted productivity. The impact stems more from competition (which promotes innovation) than from intermediate inputs	Competition and access to inputs
Tybout and Westbrook (1995)	Mexico	1984-1990	Total Factor Productivity	All imports	2,227 manufacturing plants	Trade liberalization increased productivity by 11.2 percent during the period. 9.6 percent was due to within-firm improvements, 1 percent to reallocation, and 0.6 percent to economies of scale.	Competition (reallocation of output and within-firm improvement) and economies of scale

Augier <i>et al.</i> (2013)	Spain	1991-2002	Total Factor Productivity	Intermediates and capital goods	2,354 manufacturing firms	10 ppts increase in imports raises productivity by 1.5 percent.	Access to inputs (technology embodied in the imported inputs)
Andersson, Lööf and Johannsson (2010)	Sweden	1997-2004	Labor Productivity	All imports	57,000 manufacturing firm level observations	Firms that import or export are more productive than firm that do not trade. That premium is larger for firm that both imports and exports.	No specific channel tested
Lööf and Andersson (2010)	Sweden	1997-2004	Labor Productivity	All imports	57,000 manufacturing firm level observations	Imports cause higher productivity. The larger the share of imports from the G7 in total imports the stronger the productivity impact of imports.	Access to inputs (technology spillovers through imports)
Bernard, Jensen, and Schott (2006)	USA	1982-1997; 1987-1997	Total Factor Productivity	Industry specific import cost (ad valorem effective tariff and transport cost)	210,000 manufacturing plants	A reduction in import cost leads to higher productivity growth. These results are driven by a reallocation of activity toward more productive plants within industries. Less important source of productivity gains are reallocation across industries and within plants.	Competition (reallocation of output and within-plant improvement)
Keller and Yeaple (2009)	USA	1987-1996	Total Factor Productivity	All imports (import penetration)	1,277 manufacturing firms	Imports have a positive but non significant impact.	Access to inputs (technology spillovers through imports)

Source: Author.

previous section, the productivity premium is the largest for firm that both exports and imports (two-way traders).

The sample of countries studied is still limited in size and, more case studies are needed to confirm the strong conclusion that emerges: “the productivity advantage of exporters towards non-exporters may have been overstated in the current literature, because of the neglected role of imports” (Muûls and Pisu, 2009, p. 695). Nonetheless they provide additional evidence of the importance of not overlooking imports when designing a trade-led growth strategy.

III. IMPORTS FOSTER GROWTH BY DIFFERENT CHANNELS THAN EXPORTS

Why is the productivity premium of imports so large and larger than the productivity premium of exports? The answer is that a firm’s high productivity is likely to *precede* its entry into export markets while importing *is a source* of productivity growth.⁵

There are two explanations for the productivity premium of exports. The first one, the so-called “self-selection”, is that only the most productive firms chose to become exporters. The idea is that only the most productive firms are able to face the sunk cost of exports or have a cost advantage over their competitors (Bernard *et al.*, 2003; Melitz, 2003; and Melitz and Ottaviano, 2008). In this case, higher productivity is a condition for exporting and not the

⁵ The productivity premium reflects the difference in the *level of productivity* between exporters and importers and non traders. This higher level of productivity may precede or be the consequence of trading. This section moves to impact of imports (and exports) on *productivity growth*.

result of exporting. The second one is “learning by exporting” (exporters obtain information from foreign clients on how to improve production processes and products) and the effect of economies of scale. In that case, exports are a source of higher productivity.

Table 3. Productivity premium of international trade

Source	Country	Period	Measure of Productivity	Productivity premium over non-traders (in percent)	
Muûls and Pisu (2009)	Belgium	1996-2004	Total Factor Productivity	Two-way traders	21
				Importers only	9
				Exporters only	6
Vogel and Wagner (2008)	West Germany	2005	Labor Productivity	Two-way traders	47
				Importers only	18
				Exporters only	15
Vogel and Wagner (2008)	East Germany	2005	Labor Productivity	Two-way traders	41
				Importers only	21
				Exporters only	10
Sjöholm (1999) ^{1/}	Indonesia	1991	Labor Productivity	Importers	33
				Exporters	31
Castellani, Serti, and Tomasi (2008)	Italy	1993-1997	Labor Productivity	Two-way traders	55.7
				Importers only	38.4
				Exporters only	24.9
			Total Factor Productivity	Two-way traders	74.0
				Importers only	27.8
				Exporters only	25.7
Hagemejer and Kolase (2008) ^{1/}	Poland	1991	Labor Productivity	Importers	41.7
				Exporters	21.5
			Total Factor Productivity	Importers	24.7
				Exporters	17.4
Bernard, Jensen, Redding and Schott (2007)	USA	1997	Labor Productivity	Two-way traders	25
				Importers only	23
				Exporters only	23
			Total Factor Productivity	Two-way traders	7
				Importers only	12
				Exporters only	7
Anderson et al. (2008)	Sweden	1997-2004	Labor Productivity	Productivity premium is similar for exporters and importers. The productivity premium of two-way traders is about twice as large	

^{1/} The importers and exporters include two-way traders.

Source: Author.

These two explanations are not mutually exclusive but empirical evidence suggests that the self selection effect dominates. Virtually all studies conclude that high productivity precedes entry into export markets but the evidence of “learning by exporting” is less clear. For example, Van Biesebroeck (2005) for a panel of nine African countries, Hagemejer and Kolase (2008) for Poland, and De Loecker (2007) for Slovenia find evidence that exporters experience faster productivity growth, but many other studies do not, notably and Aw et al. (2000) for Korea and Taiwan, Clerides et al. (1998) for Colombia, Mexico, and Morocco, and Bernard and Jensen (1999) for the United States. In the case of Chile, Alvarez and López (2005) find evidence of both self-selection and learning by exporting but their results suggest

that learning by exporting may be a short term phenomenon as it is limited to entrants and does not apply to firms that export continuously.

What about imports? Endogenous growth models have highlighted different avenues through which imports may boost productivity. They can be classified into three broad categories:

First, competition (Grossman and Helpman, 1991; Helpman and Krugman, 1985). Imports boost productivity through their competitive impact. Competitive pressure fosters within firm improvements through reorganization and elimination of inefficiencies and provides incentives to innovate. The heterogeneous firm models, such as Melitz (2003) and Bernard et al. (2003) also show that import competition leads to an average productivity increase as most productive firms expand while the less productive domestic firms exit.⁶

Second, access to inputs (Grossman and Helpman, 1991; Rivera-Batiz and Romer, 1991; Romer, 1990). Imports provide firms with access to better, cheaper, and domestically unavailable inputs and equipment. As a result, they stimulate productivity and reduce production costs making the production of new goods becomes both possible and profitable.

Third, technology transfers (Coe and Helpman, 1995). This channel is somewhat, related to the preceding one. Imports allow access to foreign technology because foreign technology is embodied in imported inputs and equipment.

For long, the relevance of these various channels linking imports and productivity growth remained unclear (Tybout, 2003). With the exception of the technology transfer channel, identifying and quantifying their impact required moving from cross-country analysis to micro-economic analysis at plant- or at firm-level.

This is now done and all the channels identified by theory are validated by empirical evidence as reported in Table 2 (the last column points to the channel tested). Their relative importance varies across countries and periods as should be expected. The sizable heterogeneity in the extent to which growth and exports respond to imports and trade liberalization is partly explained by reforms in other areas and by the economic environment. The access to technology embodied in imports will only deliver its full impact if the importing country has the necessary absorptive capacity (which, in turn, depends among other things of adequate and sufficient education) and access to reliable electricity so that sophisticated equipment can work without being damaged by power surges. The benefit from competition and the reallocation of resources depend on labor market flexibility, adequate product market regulation, and bankruptcy laws. The same is true for the innovation triggered by competition and access to new inputs. That said, synergies are important and there is a virtuous feedback loop. Trade liberalization through the competitive pressure of imports is also providing incentives to undertake reforms that would reinforce the positive impact on growth.

⁶ This is the “reallocation of output” mentioned in Table 2.

IV. IMPORTS OF SERVICES AND IMPORTS OF GOODS: IS THE IMPACT DIFFERENT?

The impact of imports on export performance and on growth is now well established but, at first glance, appears limited to imports of goods while imports of services intermediates seem to have no impact and, in some studies, even a negative impact.

The weak link between imports of services and export performance can be illustrated by noting that the strong correlation between the growth in total intermediates imports and export performance of Figures 2 and 3 is driven by goods only. When imports of intermediates are restricted to services the correlation vanishes (Figure 4 and 5).⁷ Hallaert (2013) also finds that the import content of exports econometrically explains differences in export performance across advanced countries only if it is limited to the import content in manufactured goods.

This is also a common finding of the empirical analysis of the impact of imports on productivity growth as reported in Table 4. For example, Daveri and Jona-Lasinio (2008) find that offshoring of parts and components has a positive productivity impact on Italian manufacturing firms (1995-2003) but that the offshoring of services has no impact. Görg and Hanley (2005) reach the same conclusion for the Irish electronic sector (1990-1995).

One reason for this lack of impact is that services offshoring is still in its infancy. It is more recent and much less developed than goods offshoring. For example, Amiti and Wei (2009) calculate that, in 2000, imports of services accounted for 0.3 percent of U.S. manufacturing consumption of intermediates while imports of goods accounted for 17.3 percent for goods.⁸ In 2011, services accounted on average for less than 21 percent of imports of intermediates by the 39 countries of the World Input-Output Database (WIOD).⁹ This is less than half the share of services in the consumption of intermediates (47 percent). Moreover the growth is slow: the share of services in intermediates imports is only 2 percentage points higher than in 1995 that is less than the 5 percentage point average in the share of services in total consumption of intermediates. Intermediates services remain mostly sourced domestically.

Another but related explanation is that, because services offshoring is recent and still limited, not enough time has elapsed to capture empirically their impact on exports and productivity.

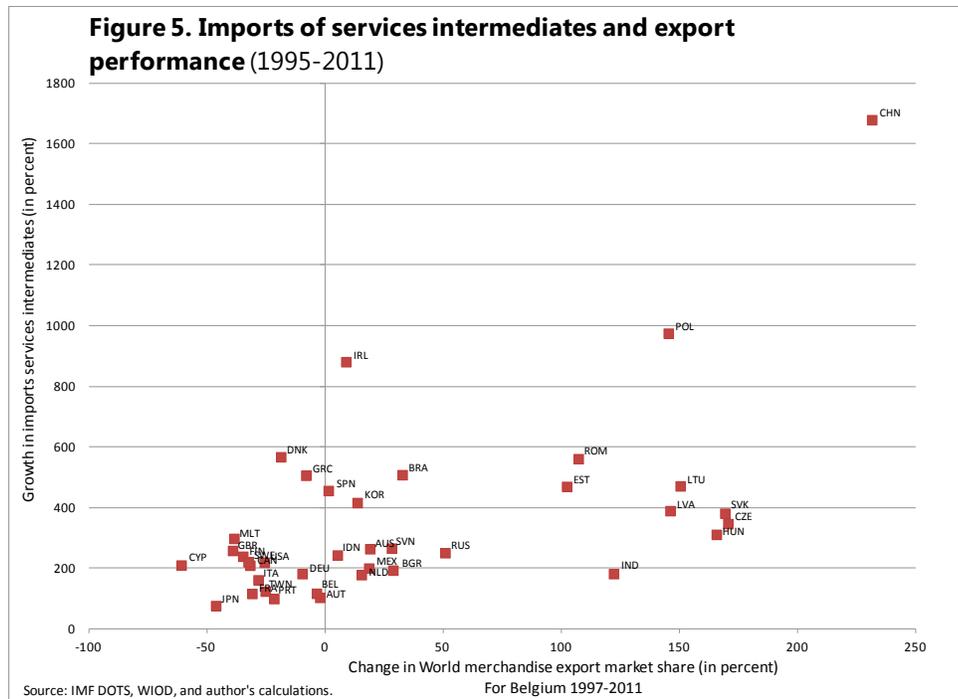
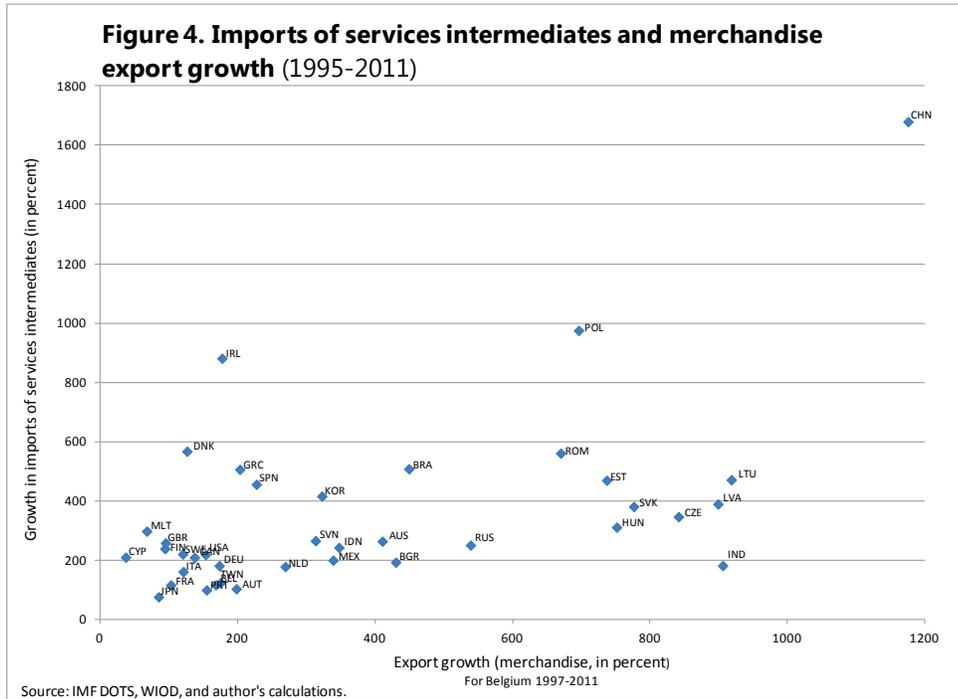
Moreover, there may be several measurement issues. Beside the difficulties in measuring services offshoring, trade in services is not well captured by traditional statistics and a large share of exported services is actually embodied in exported goods. When this is accounted

⁷ Turkey is not represented because due to a low level in 1995, growth in services imports exceeds 2600.

⁸ See also Criscuolo and Leaver (2005) for the UK and Görg and Hanley (2005) for the Irish electronic sector.

⁹ The November 2013 vintage of the World Input-Output Database used in this paper is available at: http://www.wiod.org/new_site/data.htm. It covers trade in both goods and services and 40 countries (27 countries are European). It provides annual data for the period 1995-2011.

for, the share of services in total trade of the 57 countries of the TiVA database jumps from an average of 23.3 percent in 2009 to 42.7 percent.¹⁰ Therefore, imported services may contribute to the link between imported goods and export and growth performance.



¹⁰ The OECD-WTO trade in value-added database (TiVA) is available at <http://stats.oecd.org/index.aspx?queryid=47807>.

Table 4. The productivity impact of offshoring

Source	Country	Period	Measure of Productivity	Impact
I. Goods Offshoring				
Egger and Egger (2006)	EU(12)	1992-1997	Labor Productivity (Low-skilled workers) in 21 manufacturing industries.	Short term: Negative; Long Term: Positive.
Egger <i>et al.</i> (2001)	Austria	1990-1998	Total Factor Productivity in 18 manufacturing industries.	Positive.
Jabbour (2010)	France	1990-2001	About 1,950 manufacturing firms.	Positive but only for outsourcing to developing countries.
Görg and Hanley (2005)	Ireland	1990-1995	Total Factor Productivity of 652 plants of 12 electronics industries.	Short term: Positive (1 percentage point increase in offshoring intensity increases TFP by 1.2 percent).
Görg, Hanley, and Strobl (2008)	Ireland	1990-1998	Total Factor Productivity in 1,099 manufacturing plants.	Positive but not always significant depending on the simulation method. The Impact is smaller than for service offshoring.
Daveri and Jonas-Lasinio (2008)	Italy	1995-2003	Labor productivity in 21 manufacturing industries.	Positive.
Morrisson Paul and Yassar	Turkey	1990-1996	Labor productivity and total factor productivity of 1193 plants of the textile and apparel sector.	Positive. The impact of offshoring is larger than the impact of domestic outsourcing.
Amiti and Wei (2009)	USA	1992-2000	Labor and Total Factor Productivity in 96 manufacturing industries.	Positive on both measures of productivity. Good offshoring explains 5 percent of labor productivity growth. This impact is both smaller and less significant than the impact of Service offshoring.
Mann (2003)	USA	1995-2002	Total Factor Productivity.	Positive: Offshoring led to a drop in IT hardware prices triggering investment in IT and change in production process. As a result productivity growth was about 0.3 percentage point higher per year.
II. Services Offshoring				
Winkler (2010)	Germany	1995-2006	Labor Productivity of manufacturing.	0.9 to 2.0 percent per year.
Görg and Hanley (2003)	Ireland	1990-1995	Labor Productivity of 12 electronics industries.	Not clear for the all sample Positive for downstream firms only.
Görg and Hanley (2005)	Ireland	1990-1995	Total Factor Productivity of 652 plants of 12 electronics industries.	Short term: Positive but insignificant.
Görg, Hanley, and Strobl (2008)	Ireland	1990-1998	Total Factor Productivity in 1,099 manufacturing plants.	A 10 percentage point increase in service offshoring increases productivity by 0.8-0.9 percent (full sample). This is fully due to the positive impact for exporters (no significant impact for non-exporters).
Daveri and Jonas-Lasinio (2008)	Italy	1995-2003	Labor productivity.	No impact.
Crisuolo and Leaver (2005)	UK	2000-2003	Total Factor Productivity in manufacturing and services (about 37,000 plants).	Positive for the full sample (10 percent increase in svices offshoring intensity is associated with 0.37 percent increase in productivity). When separating manufacturing and services firms, positive only for services firms (impact on productivity is 0.68 percent).
Amiti and Wei (2009)	USA	1992-2000	Labor and Total Factor Productivity in 96 manufacturing industries.	Positive. Services ooffshoring explains 10 percent of labor productivity growth. This is 2 times more than the impact of goods offshoring.

Sources: Author, Olsen (2006), and Winkler (2010).

Short term impact through access to better and/or cheaper inputs. Long term impact is through the restructuring i.e., changes in factor shares.

Also, virtually all studies analyze the impact of intermediates imports on the manufacturing sector.¹¹ Looking at the productivity impact of services offshoring by services industries provides a different picture. In his survey of the early impact of offshoring, Olsen (2006, p. 28) concludes that “offshoring of services generally appears to have productivity enhancing effects if undertaken by manufacturing companies while the opposite is true for firms in the services sector.” In the UK during 2000 and 2003 services offshoring (defined as cross border supply of services or in WTO parlance “Mode 1”) was associated with positive impact on total factor productivity only for the services firms (Crisuolo and Leaver, 2005).¹²

Finally, Görg et al. (2008) in their analysis of the Irish manufacturing sector in the 1990s find that services offshoring has a positive impact on productivity only for exporters. Since both theory and empirical analyses show that productivity is a major determinant of the choice of a firm to become exporter and of exporter’s export volume, this result, if confirmed by other studies, is crucial as it shows the importance of services imports for both exports and productivity.

To sum up, while aggregated numbers do not show a positive impact of imported services on exports and on productivity, this may be due to measurement issues or because the phenomenon is too recent and not big enough for its impact to be felt. However, some firm-level studies suggest that imported services have a positive impact on services industries and on exporters. This evidence remains however limited and given its importance (not to mention the political sensitivity of services offshoring), the impact of imported services would deserve additional analysis.

V. CONCLUSION

The role of trade as an engine for growth and development is much more recognized than it used to be. However, this role tends to be narrowly understood as the role of exports and this understanding is supported by the political economy of development agencies and of the WTO. For example, although the Hong Kong Ministerial Declaration (WTO 2005), that launched Aid for Trade Initiative, indicates that the objective of the Aid for Trade Initiative is to expand trade, the WTO Task Force on Aid for Trade, tasked to provide recommendations on how to operationalize Aid for Trade, focused on ... increasing exports (WTO 2006).¹³

¹¹ Similarly due to data limitations, Figures 2-5 report the impact of imports on goods exports.

¹² A 10 percentage point increase in services offshoring is associated with a 0.7 percent increase in total productivity for services firms but a non significant 0.1 percent for manufacturing firms.

¹³ The Hong Kong Declaration definition of the objective of Aid for Trade (paragraph 57) “Aid for Trade should aim to help developing countries, particularly LDCs, to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and more broadly to *expand their trade*” differs from the one adopted by the Task Force: “Aid for Trade is about assisting developing countries to *increase exports* of goods and services, to integrate into the multilateral trading system, and to benefit from liberalized trade and increased market access” (emphasis added).

In contrast to the growth impact of exports that has long been documented, the growth impact of imports has only been recently investigated. This was partly due to the difficulty to provide evidence. However, empirical literature by shifting its focus from cross-country analysis to firm- and plant-level analysis is now able to provide robust and clear evidence and to test the relative importance of the various channels through which imports affect productivity and export performance.

This paper surveys this evidence and show that imports are a crucial component of any policy aiming at using trade as a tool for growth and development. An export-led growth strategy that ignores imports would not only deprive itself from a powerful tool but would also greatly reduce the effectiveness. Therefore, while recognizing the importance of export promotion that governments tend to favor, donors and international organizations should also emphasize the role of imports as a source of growth.

The focus on export-led growth strategy is so widespread that the argument for import liberalization is likely be met by political resistance and skepticism. However, the growth impact of import is so large to be ignored. One possible way to overcome resistance is to emphasize that import liberalization is a needed component of an export strategy and that this role is magnified by the rapid development of the Global Value Chains, which is both the main engine of global trade expansion and an important way for developing countries to integrate in and benefit from the world trading system.

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