

МИРОВАЯ ЭКОНОМИКА И МЕЖДУНАРОДНЫЕ ФИНАНСЫ

UDC 339.9

What is the import intensity of global aggregate demand?¹

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For citation: Auboin M. What is the import intensity of global aggregate demand? *St Petersburg University Journal of Economic Studies*, 2018, vol. 34, issue 1, pp. 59–76. <https://doi.org/10.21638/11701/spbu05.2018.103>

While many studies look at the impact of trade on the supply side, notably through its impact on international vertical specialization and global supply chains, fewer papers examine how import penetration affects aggregate demand. The increased import intensity of aggregate demand has been a feature of the globalization process until the 2008–2009 financial crisis. Since then, the import / trade intensity of some aggregate demand components seems to have behaved differently. Using input / output tables for almost forty countries accounting for the bulk of global trade, this paper calculates the import intensity of aggregate demand over the period 1995–2014. The most pro-cyclical components of aggregate demand, i.e. investment, exports, and private consumption, are also found to be most import intensive; net government expenditures are less so. The most import intensive demand component of all is investment, which globally has an import content of 37%. Unsurprisingly, investment is the only aggregate demand component that, by 2014, had not recovered to its pre-crisis level, a reason that might explain the relative slowdown of trade since the end of the financial crisis, for any given level of import intensity. Further, import intensity of investment seemed to have leveled off, if not fallen, in some emerging market economies. While the phenomenon is not long enough to be examined in detail, this is a change which might affect the pace of trade globalization.

Keywords: international trade, investment, trade policy, business cycles, global supply chains.

Introduction

In the past two decades, the expansion of trade has been significantly larger than overall economic activity, almost by a factor of 2 during its periods of fastest growth — in

¹ The article is written on the basis of the report presented by the author during international conference “Evolution of International Trading System: Prospects and Challenges” (St. Petersburg, Faculty of Economics SPSU, October 26–27, 2017).

the late 1990's and early 2000's. The relationship between trade and economic activity has been looked at from the point of view of the supply side, that is, imports and GDP. This approach is justified as it highlights the impact of trade on the overall economy, which takes place mainly through the change in the allocation of resources and the productivity impact of import competition. From the perspective of national accounts, imports come in addition to GDP, in order to account for the overall supply of an economy. From a global supply perspective, though, imports equal exports. Hence trade has no accounting impact in increasing GDP other than through the resource allocation and productivity effects described above.

However, from a macroeconomic perspective, traded goods are an element of demand for the produced goods of any one country. Exports are the part of demand addressed by foreign residents, while domestic consumption, fixed gross capital formation and net government expenditures form domestic demand. Still, with the opening up of economies, the import content of domestic demand has also increased in recent years, both in developed and developing and emerging economies. Hence, cyclical or structural developments affecting aggregate demand locally and globally affect the demand for traded goods as well, through their import content.

This paper aims at calculating the import content of elements of demand through the use of input-output tables at the national level, and to examine the evolution of its most trade-intensive components, with a view to offer a new perspective on recent trends of global trade. It builds on an analysis of input/output tables for almost 40 countries accounting for the bulk of world trade, by calculating the import intensity of aggregate demand over a full economic cycle (1995–2014), that is a cycle characterized by economic expansion, recession, and recovery.

The paper finds that the investment, exports and private consumption are, respectively, also the most import intensive components of aggregate demand; net government expenditures are less so. The most import intensive demand component of all components of aggregate demand is investment (that is, gross fixed capital formation), which globally has an import content of 37%. Unsurprisingly, investment is the only one aggregate demand component, on average, which, in 2014, had not recovered its pre-crisis level, when averaged at the global level. This is a reason that might explain the relative slowdown of trade, at any given level of import intensity. Moreover, the import intensity of investment seemed to have levelled off, if not fallen, in some emerging market economies. While the phenomenon has not lasted long enough to be considered as a trend, it could impact the shape of trade globalization if it was sustained.

The paper is structured as follows. Section 2 looks at the existing literature on the topic. Section 3 calculates the import intensity-adjusted demand and discusses the results. Section 4 looks at the impact of global value-chains (GVCs) in the global trade slowdown, and finds that it seemed to have played a limited role.

1. Literature

The global economic recovery following the 2008–2009 financial crisis has been unusually weak on nearly all fronts. It involved both slower-than-expected growth domestically in developed and developing economies, as well as weaker links between these countries, as reflected in the reduction of the rate of growth of international capital and trade flows relative to the pre-crisis state [International Monetary Fund..., 2016]. The weakness

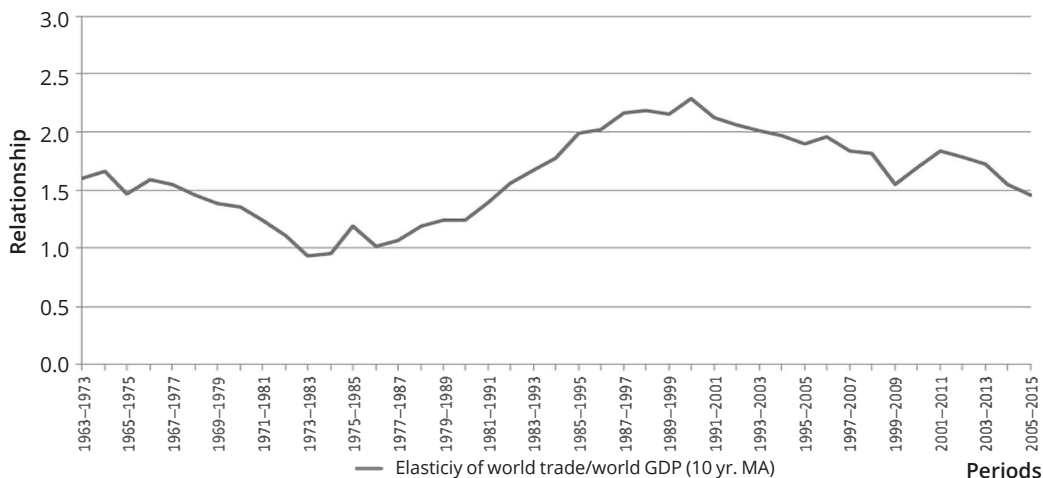


Figure 1. The relationship between GDP and world trade (exports) growth rates, 10 year moving averages

Source: WTO International Trade Statistics, IMF World Economic Outlook for GDP at market exchange rates. URL: https://www.wto.org/english/res_e/statis_e/statis_e.htm (accessed: 06.09.2017); <http://www.imf.org/en/Publications/WEO/Issues/2017/04/04/world-economic-outlook-april-2017> (accessed: 07.09.2017).

in economic activity, initially confined to European countries (during the crisis of the euro-zone in 2011–2013) [Christodouloupoulou, Tkacevs, 2014; Giordano, Zollino, 2016] has been spreading to emerging market economies (2014–2016), some of which fell in recession (Brazil, Russia). Economic activity also softened in China, as prior excesses unwind, and the economy is rebalancing into a consumption-based one [Cheung et al., 2012].

Economists have looked at many “supply-side” factors for explaining such slowdown, suspecting “structural” factors to hold back overall economic growth, such as slow demographic trends, the “deleveraging” of public and private debt, secular stagnation, and increasing concerns about the impact of new technologies on employment. In this background, the stronger slowdown of trade relative to that of GDP has been much commented, with the literature focusing on the reasons for such a drop in the income/output elasticity of trade.

The composition of trade has been examined as an important factor in the literature of the 2000’s, both with the expansion of global value chains, and the availability of more granular data. Based on moving averages, figure 1 shows the acceleration of trade relative to output from the late 1980’s to mid-2000’s. The literature emphasised the increased ability of large companies to allocate tasks across countries according to comparative advantage as a potential reason for this strong trade growth. This process was helped by other factors such as the liberalization of trade and investment policies, falling transportation and other trade costs, and the declining relative prices of tradable goods [Wu, 2005]. As a result, the ratio of traded goods relative to GDP had increased for both developing and developed countries.

With growing trade and investment linkages between increasingly economically-integrated regions, the effects of lower demand in one of the world’s main economy spilled-over exponentially to partner economies through lower imports. Still, the way in which the US recession turned into a “great trade collapse” in 2009 surprised the economist community. [Levchenko, Lewis, Tesar, 2010]. This event led to significant research.

Subsequently, economists also went in search for the way the income elasticity slowed down significantly, during the following period of slow economic recovery (2011–2015). The elasticity between real GDP growth and trade had fallen to (barely) 1, raising questions about peak trade, de-globalization, and demand spill-overs. Comparisons were made with previous periods of unit or less than unit elasticity, which had been marked by a combination of recession, protectionism and non-cooperative economic policies, notably during the 1970s to mid-1980s. Articles argued that economic crises had muting effects on trade, which may eventually persist in the medium term [Freund, 2009]. When looking at the dense literature of the past 7-to-8 years, one could look at the following contributions.

Baldwin provided a forum and a summary of the early and rich literature on the “great trade collapse” [The Great Trade Collapse..., 2009]. He highlighted the convergence of views on the central role of real final demand [Bems et al., 2013]. The effect of falling demand had been amplified by the existence of highly integrated and synchronized production networks [Di Giovanni, Levchenko, 2010; Yi, 2009], which eventually contributed to spread the effects of stumbling trade-intensive durable goods.

The role of demand, and that of the composition of trade, was also highlighted by Eaton with co-authors [Eaton et al., 2016]. They calculated that two thirds of the drop in trade, relative to GDP, could be attributed to the shift in spending away from manufactures, particularly from durables. Alessandria, Kaboski and Midrigan [Alessandria et al., 2010] also argued that a strong inventory adjustment had taken place in the industries in which the demand shock was the greatest. On the whole, other supply-side factors accounted for much less of the global trade collapse, although difficulties in obtaining (trade) finance were mentioned by Amiti and Weinstein [Amiti, Weinstein, 2011], Chor and Manova [Chor, Manova, 2012] and Auboin [Auboin, Engemann, 2014]. Other factors, such as the increased use of protectionism, have also been highlighted by Evenett [Evenett, 2009; Evenett, Fritz, 2015] and Bown [Bown, 2016].

Constantinescu, Mattoo and Ruta [Constantinescu et al., 2015] suggested that while short term determinants such as weak global demand were dominant during the financial crisis and the first year of the recovery, the decline of the long-run world trade elasticity (and of trade growth in general) — which started out in the early 2000’s according to the authors — explained more than half of the 2012–2013 global trade slowdown. This decline in the long-term elasticity of trade could be attributed, according to the authors, to the slowing pace of international vertical specialization (global value chains) rather than increasing protection or the changing composition of trade and GDP. Among other evidences, they considered that the post-crisis reduction of the gap between the trade-to-income elasticities for value-added and gross trade suggested that global value chain expansion was slowing down.

In the line of thoughts developed by Eaton with co-authors [Eaton et al., 2016], Bussière with co-authors [Bussière et al., 2013] adopted an original approach to incorporate the changing patterns of trade into the analysis of demand. Rather than using a standard demand model, which prediction value had considerably declined since the global trade collapse, they constructed an import-intensity-adjusted measure of aggregate demand. This measure weights each component of aggregate expenditure (consumption, government expenditure, fixed capital investment, exports) by their import intensity, computed from OECD input-output tables.

Looking at data from 18 OECD countries in the period 1985–2011, their model, incorporating the import-intensity measure, explained 80 % of the average fall in imports of

the G7 countries' imports during the great trade collapse. The authors denied any "puzzle" in the fall of world trade observed during the financial crisis, and concluded that "trade fell mostly because demand crashed globally and did so particularly in its most import-intensive component" [Bussière et al., 2012].

Beyond the improved prediction performance of their model, their methodology introduced an element of trade dynamics in demand-based modelling — with the weights increasing during periods of rising dependence of output on imported input, while falling during less trade-intensive periods (for example the current transition of the Chinese economy towards a more consumption and service-based economy).

Bussière's and co-authors methodology was used in the most recent contributions on the decline in trade income elasticities. The IMF [International Monetary Fund..., 2016] found that "the overall weakness in economic activity and aggregate demand, in particular in investment, has been the primary restraint on trade growth, accounting for up to three-fourths of the overall slowdown." Using the import-intensity measure of demand as part of their import demand model, they explained three-quarters of the global goods import growth decline in the period 2012–2015, relative to the period 2003–2007, by changes in economic activity. They also found that the predicted values for the period 2012–2015 on world imports were higher than the actual — this was especially true for goods relative to services. They called the difference between the two the "missing import growth".

Most of this "missing import growth" was found to be in developing economies, suggesting that the weak economic activity and its composition was unable to fully account for the recent slowdown in trade, especially in these countries. While the impact of other factors was generally limited, they found that the decline in the growth of global value chains in the observed slowdown was significant.

Haugh with co-authors [Haugh et al., 2016] and the ECB [European Central Bank..., 2016] showed relatively similar findings in different proportions. The result of Haugh with co-authors [Haugh et al., 2016] regressions suggested that weak demand, on the one hand, as captured by output gaps and investment growth, and the slowdown in global value chains expansion, on the other, accounted for roughly equal proportions to the global trade slowdown (about 40 % each). The third largest factor was the slowdown in the pace of trade liberalization.

The ECB [European Central Bank..., 2016] emphasized these two categories, structural (global value chains) and non-structural (the demand channel). The non-structural category, re-named compositional changes, encompassed both the shift of growth in trade and economic activity towards economies with lower trade intensity (i.e. developing and emerging economies), and changes in the composition of aggregate demand towards less trade intensive-component. The other source of change is related to structural factors such as less reliance on GVCs and the growth of protectionism. According to the ECB, compositional effects explained a bigger half of the decline in the global income elasticity of trade, while structural factors accounted for the smaller half.

2. Calculating the import intensity-adjusted demand

2.1. Methodology and data

Like previous other papers, it seemed particularly interesting to follow the innovation introduced by Bussière with co-authors [Bussière et al., 2013] with a view to updating

and improving it. The fact that using the trade-weighted shares of aggregate expenditure components improves the prediction value of demand-based import models indicated that the import-component of demand plays an increasing role in explaining the cyclical behaviours of the economies selected into the sample.

Methodology

In this section, it is explained how the total import content of final demand expenditure (private consumption, gross fixed capital formation, government consumption and exports) was computed, by using Input-Output tables. The details of such methodology are laid out in the Appendix Box. In a second step, by weighting each component of expenditure in each economy with its import content, the import-intensity adjusted demand (IAD) was calculated. The total value of imports for each expenditure component is given by the sum of imports of final goods and services for final use / demand, i.e. direct imports, and imports of inputs required by domestic industries to produce an output which will either be absorbed domestically or exported (indirect import).

For each expenditure component k , national Input-Output tables are used to calculate the value of direct imports (M_k^{dir}) and the value of indirect imports (M_k^{indir}). The total value of imports of each expenditure component (M_k) is then given by:

$$M_k = M_k^{dir} + M_k^{indir}, \quad (1)$$

with k = Private consumption, Government consumption, Investment, Exports.

The total import content of each expenditure component k (ω_k) is then calculated by dividing the total value of imports of each expenditure component k (M_k) by the total final demand for domestic output (value added) plus imports, for the respective expenditure component (F_k):

$$\omega_k = \frac{M_k}{F_k}. \quad (2)$$

Equivalently, combining equations (1) and (2), results in:

$$\omega_k = \frac{M_k^{dir} + M_k^{indir}}{F_k} = \frac{M_k^{dir}}{F_k} + \frac{M_k^{indir}}{F_k} = \omega_k^{dir} + \omega_k^{ind}. \quad (3)$$

Where, the total import content of each expenditure component (ω_k) is the sum of the direct (ω_k^{dir}) and indirect (ω_k^{ind}) import contents. The indirect import content of each aggregate expenditure component represents the share of intermediate imported inputs per unit of final demand (for the rest of the paper it will be referred to as indirect imports). The direct import content represents the share of imported final goods and services per unit of final demand (this will be referred to in the rest of the paper as direct imports)².

The import-intensity-adjusted demand (IAD) was thus constructed country-by-country as a weighted average of traditional aggregate demand components:

² Note that the direct import content of exports is zero as we excluded re-exports of goods and services from our analysis. The author is mindful that for some countries, such as China and other emerging economies, this assumption might be a bit problematic due to the high amount of processing trade; therefore in these countries we are likely to bias downward the total import content of exports.

$$\ln IAD_t = \omega_{C,t} \cdot \ln C_t + \omega_{G,t} \cdot \ln G_t + \omega_{I,t} \cdot \ln I_t + \omega_{X,t} \cdot \ln X_t, \quad (4)$$

where: C stands for private consumption, G for government consumption, I for investment and X for exports. The weights ($\omega_{k,t}$ with $k = C, G, I, X$) are the total import content of each of the four final demand expenditure components for goods and services (C, G, I or X) and they are constructed as explained above. Weights are time varying and normalised in each year so that they sum up to 1.

As indicated in IMF (2016), “this approach explicitly account for differences in the import content of the aggregate demand components and captures the effects of changes in the overall strength of economic activities and across its drivers”. While Bussière et al. (2013) made such calculation for 18 OECD countries, we have extended it to a set of 38 countries, accounting for more than 75 % of world trade in real terms, in 2015. Such calculations incorporated in particular developing countries that are not members of the OECD, such as the “BRIC” (Brazil, Russian Federation, India and China) and other emerging market economies in Asia and Latin America.

By doing so, we have been mindful that the recent rebalancing of some important developing economies (such as the People’s Republic of China) away from investment and manufacturing, towards consumption and services, was likely to reduce the import intensity of demand in these countries. Another expectation was that, over time, with globalization, the trade-intensity of some demand components such as exports and investment was increasing. For consumption and government expenditure, it seemed that the increase might have been slower although this depended on the level of openness of economies and participation to trade agreements (in particular those agreement promoting more open and efficient procurement practices).

Data

Bussière with co-authors [Bussière et al., 2013] calculations of import content of final demand expenditures were limited by the shortage of input-output data for years before 1995 and after 2005. At the time of their work, the OECD input-output (I-O) database provided data for only three benchmark years, 1995, 2000 and 2005. With I-O tables being available only every five years, the authors interpolated linearly the available points to construct weights for other years. For the period after 2005, the authors simply used the 2005 data forward. Since then, the World Input-Output Database (WIOD) has been created under an EU-funded project and made available to users. We therefore decided to use WIOD data, not the least because OECD I-O tables, which do not contain new data, would have meant a significant loss of information (weights have varied quite a bit since 2005) relative to the WIOD.

In this paper, the latest delivery of the WIOD database, the 2016 edition containing 2014 as the last available data year, has been used. The WIOD database contains annual time-series of world input-output tables, comprising national input-output tables connected by bilateral international trade flows. By comparison, OECD I-O tables and the Trade in Value Added database (TiVA) only compiled data for particular benchmark years. The WIOD also covers 43 countries including all 28 EU countries, the United States, Japan, Canada, and the main emerging market economies (including the so-called BRIC).

The WIOD database provides a model for the rest-of-the-world³. We were able to calculate the annual import content of the four components of aggregate demand for 38 out of the 43 countries in the WIOD database, from 1995 to 2014 (5 countries did not have a full set of national accounts, so import intensity indicator by demand component could not be calculated). These 38 countries accounted for around 83 % of world GDP and 76 % of world trade volume in 2015⁴. The results of our calculations are presented in figures 3, 4, 5 and 6 below.

2.2. Results

2.2.1. Import weights and content

Figure 2 shows the evolution of the average total import content of the four GDP expenditure components (private consumption, government expenditure, gross fixed capital formation and exports) in the 38 countries analysed, over the period 1995–2014. The most pro-cyclical components of aggregate demand, i.e. investment, exports and private consumption, are also found to be most import intensive; net government expenditures are less so.

Investment is the most import-intensive component of domestic demand, with an average import content (for all 38 countries) of 37% between 1995 and 2014, although the overall import content of exports and of private consumption have been the two components of demand growing the fastest over this period. The general increase in the import content of aggregate demand reflects the growing openness of most national economies, falling trade costs, and international production fragmentation.

There was a drop in import-intensity during the global financial crisis of 2008–2009, followed by a very slow recovery afterwards. Since then, investment has continued to be the most import-intensive component of GDP but seemed to have levelled off for some emerging market economies; the import intensity of exports and private consumption slightly increased in recent years (see figure 2).

Figure 3 shows that the import content of aggregate demand components varies across countries. For smaller, outward-oriented economies, the import content of exports is particularly high (Belgium, Luxembourg). It is lower for countries with substantial exports in natural resources since these activities require fewer intermediate goods in the production process.

Figure 4 details the evolution of import intensities for three major trading nations, the USA, China and Japan. Relative to other advanced economies, the United States and

³ In addition, the WIOD has been constructed in a clear conceptual framework on the basis of officially published input-output tables in conjunction with national accounts and international trade statistics and therefore, it ensures a high level of data quality, partially at the expense of coverage in term of the number of countries covered. The industry classification of the WIOD 2016 release is based on the ISIC Rev. 4 system and it covers 56 sectors: including agriculture, mining, construction, utilities, manufacturing industries, and services industries.

⁴ For 2015 we assumed the same import content as in 2014. The 38 countries included in this paper's analysis are: 26 European countries (Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Netherland, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, UK) and 12 other major countries (Australia, Brazil, Canada, China, India, Indonesia, Japan, Mexico, Russia, South Korea, Turkey, and the United States).

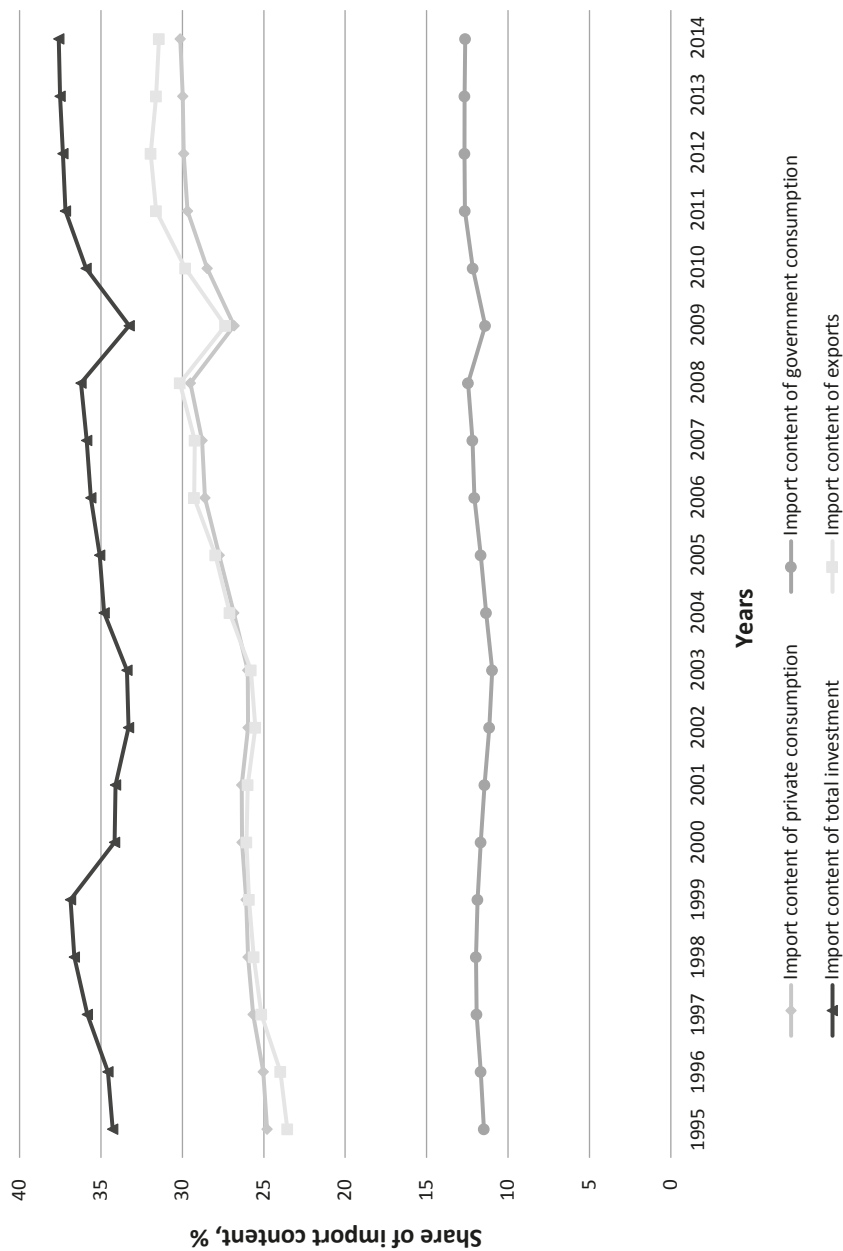
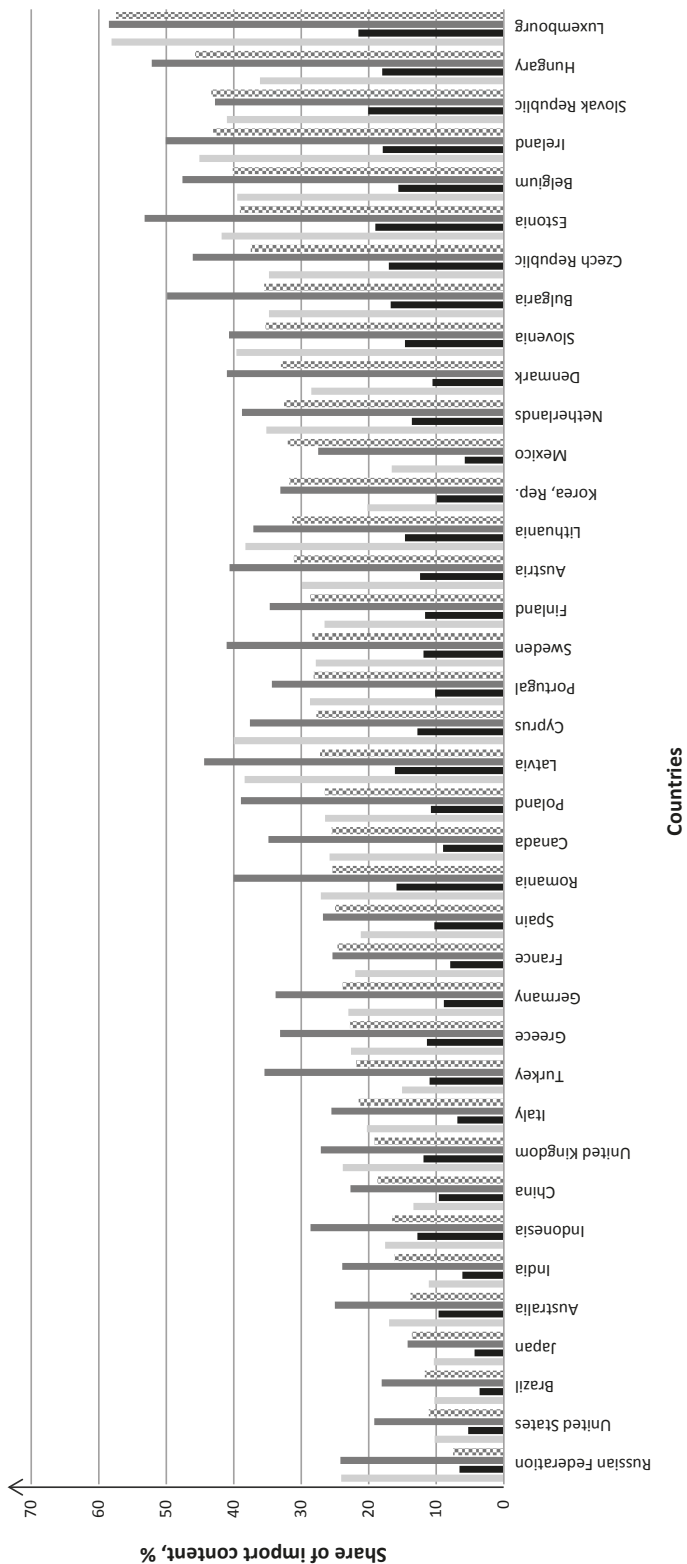


Figure 2. Evolution of average import content of aggregate demand components for all sample countries
 Source: WIOD Input-Output tables and authors' calculations. URL: <http://www.wiod.org/database/wiots16> (accessed: 24.08.2017).



4 columns (from left to right) depict for each country:

- Import content for private consumption;
- Import content for government consumption;
- Import content of total investment;
- Import content of exports.

Figure 3. Import content of aggregate demand components — average of 1995 to 2014

Source: WIOD Input-Output tables and authors' calculations. URL: <http://www.wiod.org/database/wiots16> (accessed: 24.08.2017).

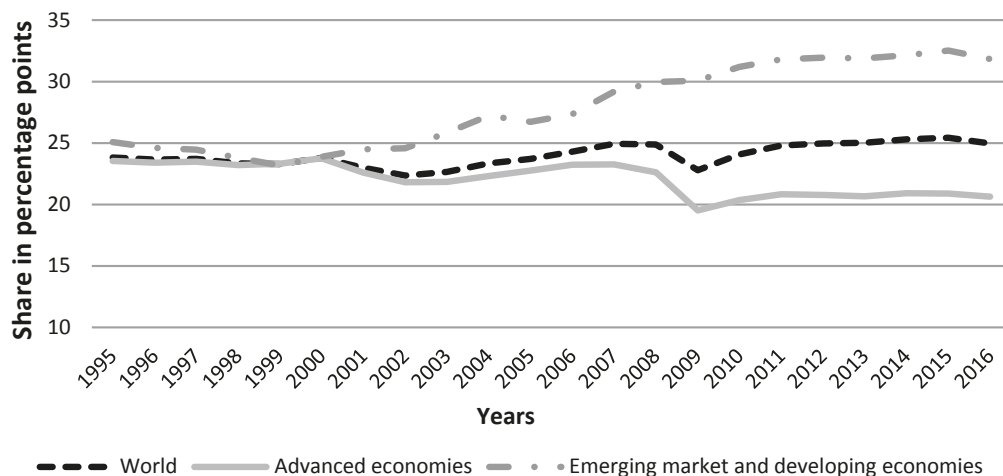


Figure 4. Selected economies' evolution over time of import content of main GDP components

Source: WIOD Input-Output tables and author calculations. URL: <http://www.wiod.org/database/wiots16> (accessed: 24.08.2017).

Japan display lower import intensities, reflecting the large pool of domestic intermediate suppliers. However in Japan, the import content of all aggregate demand components has been rising significantly over the past two decades. The import content of investment and private consumption, in particular, increased fourfold between 1995 and 2014 (figure 4).

In China the import intensity of GDP components has followed a different pattern. Import-contents peaked in mid-2000s and have followed a downward trend since then, despite a short-lived recovery in 2010–2011. This declining trend in the import content since 2005 might partly reflect the rebalancing of China's economic growth towards the domestic consumption of non-tradables, mostly services (rent, business and private services in particular). On the production side, this rebalancing has coincided with the rapid expansion of the services sectors, which is less import and investment intensive, relative to manufacturing (with the earlier outpacing the later in 2015).

2.2.2. Import adjusted demand (IAD)

As indicated just above, import-intensity-adjusted demand (IAD) is the weighted average of aggregate demand components multiplied by their import contents (weights). Table below shows annual changes for IAD relative to real GDP and real imports of goods and services (M) for advanced economies, on the one hand, and developing and emerging economies, on the other, over the entire sample period. Blended by imports, IAD is a measure of demand which is somewhat more volatile than GDP.

Figure 5 shows that in the BRIC, IAD growth had been slower than real GDP growth in recent years. A similar trend was observed in developed economies, as a result of lower growth in investment and exports, which are the two most import/trade intensive elements of economic activity (as shown in section 2.2.1).

Table. Descriptive statistics (1995–2014)

Indicators	GDP	IAD	M
<i>Advanced economies</i>			
Mean	2.4	3.2	5.2
Std. Dev.	3.3	5.0	7.9
Min	-16.0	-27.1	-38.1
Max	11.2	18.2	25.9
Obs	520	520	520
<i>Developing and emerging economies</i>			
Mean	3.9	4.9	7.1
Std. Dev.	4.0	6.5	11.8
Min	-14.1	-26.4	-52.2
Max	21.4	20.6	32.0
Obs	240	240	240

Note: The table presents descriptive statistics from the log difference of GDP, IAD, real import of goods and services (M). All values are reported in percent unit. The dataset covers annual data from 1995 to 2015 for 38 countries.

Source: WIOD Input-Output tables and author calculations. URL: <http://www.wiod.org/database/wiots16> (accessed: 24.08.2017).

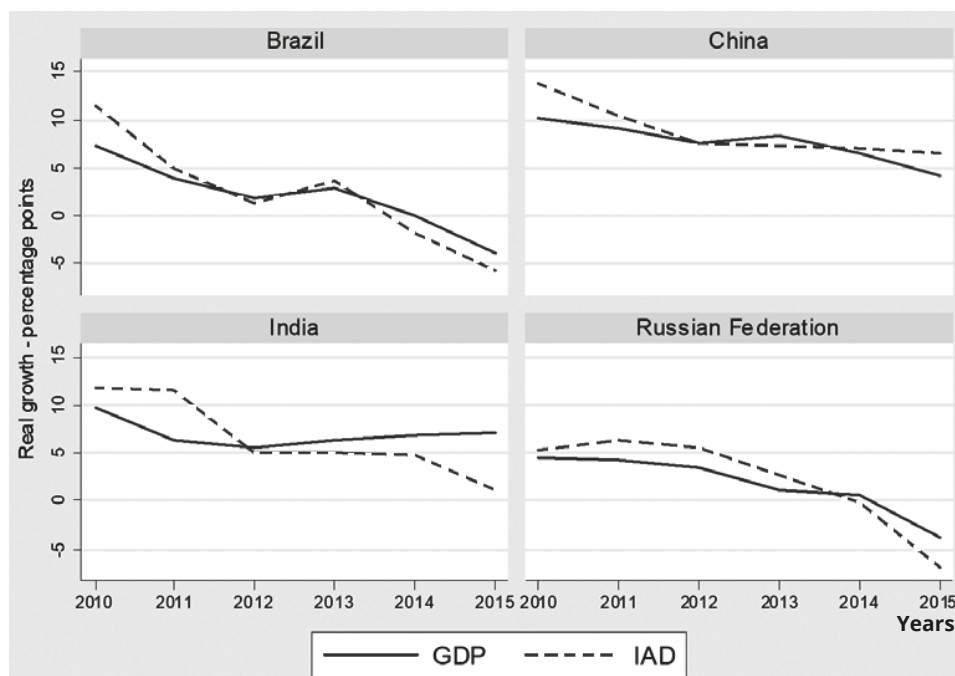


Figure 5. GDP and IAD for BRIC

Source: WIOD input-output table and authors' estimates. World Development Indicator (WDI) (World Bank). URL: <http://wdi.worldbank.org/table> (accessed: 15.08.2017); <http://www.wiod.org/database/wiots16> (accessed: 24.08.2017).

2.2.3. Why is investment so important?

Gross fixed investment has the highest import content among the components of aggregate demand, and has been weak in many advanced economies since the end of the financial crisis — it is actually the only component of aggregate demand which has still not fully recovered, as shown in figure 6.

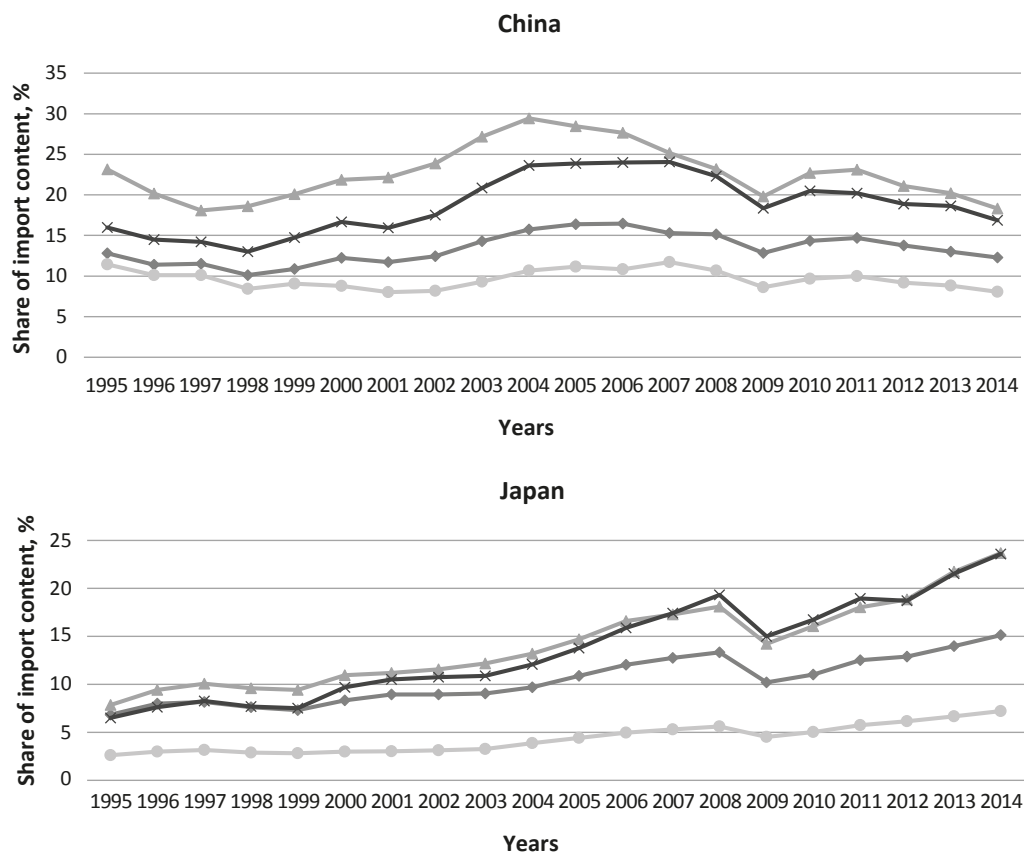


Figure 6. Investment to GDP ratio: advanced versus emerging and developing countries

Source: [International Monetary Fund..., 2016].

Note: Country-level data are weighted by GDP valued at purchasing power parities (PPPs) as a share of group GDP.

Gross fixed investment in emerging and developing countries has been more resilient in the immediate aftermath of the financial crisis, though. It continued to increase strongly until 2012, thus stagnated in 2013–2014, before falling as a share of GDP in these countries (particularly corporate investment), as shown in figure 6. In the specific cases of China and Russia, though, the share of investment in GDP has been declining for a longer period, contrary to other elements of demand such as government expenditure or consumption, thereby clearly driving down import growth in these countries.

4. Other factors behind the trade slowdown: the case of global value chains

Some have argued that the expansion of GVCs has come to an end, because protectionism had risen, producers had exhausted efficiency gains, and / or wage-to-productivity gaps had closed up. However, the impact of GVCs on the recent trade slowdown is difficult to measure in part because of large delay in data availability (notably in the construction of the GVC participation index)⁵.

Constantinescu, Mattoo and Ruta [Constantinescu et al., 2015] highlighted the role of a lesser expansion in global value chains showing the closing gap between the long-run elasticities of value added trade with respect to income and the (gross) trade elasticities since 2000s. The IMF [International Monetary Fund..., 2016] constructed a GVCs participation measure using Eora input-output tables. The authors found that a 10 % increase in participation in GVCs was associated with a 1 % increase in real import growth.

The ECB [European Central Bank..., 2016] also found that changes in GVC participation had played a role in the fluctuations in the global trade-income elasticity, raising the elasticity by 0.3 in the 2000s. However, ECB authors did not find that GVCs had contributed to the lower elasticity since the Great Recession.

The emerging GVC data suggests that 2015 could have seen a decline in GVC trade, but the longer period covered by most of the recent analysis does not support the claim. This is something to be watched and monitored closely in the future. The analysis of traded intermediates, shown below, suggests that they remain a very stable share of total trade volume once correcting for price and value changes. Thus in analysing detailed intermediate trade, one cannot infer a decline in the goods used in GVCs leading the trade slow down, but rather moving with the trade slowdown.

Emerging economies, which were the driving force in trade and economic growth in recent decades, have been greatly affected by the sharp declines in commodity prices. Some analysts also think that global value chains have been contracting as production, in some cases, was returning to domestic markets and as China was moving up the value chain. In fact, the share of parts and components in world manufactured goods trade has been relatively flat, while a modest decline in the share of intermediate goods in world trade is mostly explained by price movements (commodities and exchange rates) in 2015.

Despite the relatively flat trend in world trade in 2015, underlying GVC trade patterns are evolving somewhat. China continues to export high technology products with foreign inputs but lower technology production is shifting to regional neighbours. Declining intra-regional intermediate goods trade in the Europe measured in dollars is also mostly due to the sharp 13 % appreciation of the dollar against major currencies in 2015.

Two simple measures of the extent of global value chains are (1) the share of intermediate goods trade in world merchandise trade, and (2) the share of parts and component trade in world manufactured goods trade. The evolution of these shares is rather stable over the period 2000–2015.

One way to account for the strong oil price fluctuations in recent years is to recalculate the shares excluding fuels from both intermediate goods and total merchandise trade (see figure 7). The resulting shares are slightly lower but the overall pattern of ups

⁵ The TiVA database for example is only available until 2011.

and downs remains the same since other commodity prices also rose and fell during this period in line with oil prices.

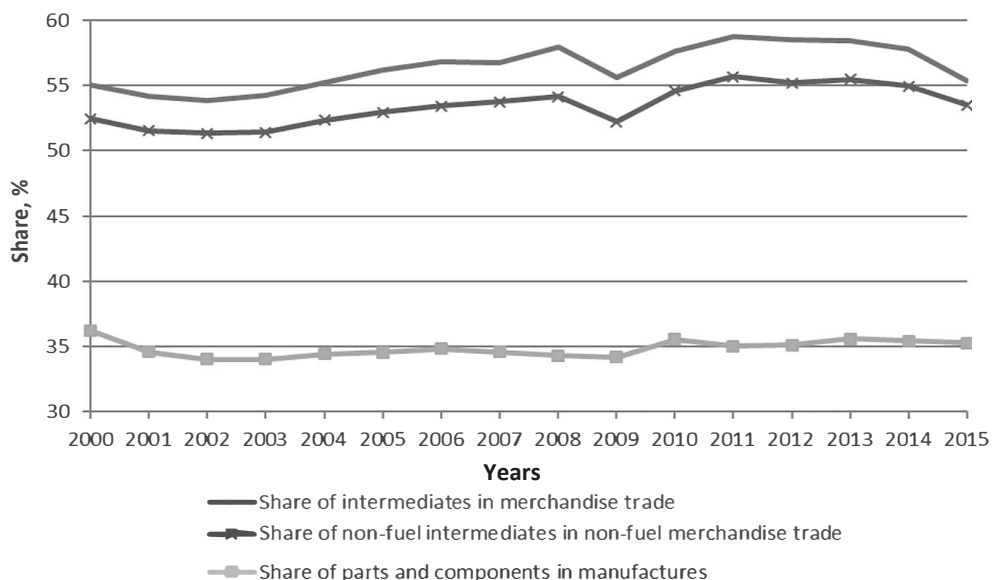


Figure 7. Intermediate goods and parts and components shares in world trade, 2000–2015, %
 Source: UN Comtrade database. URL: <https://comtrade.un.org/pb/CommodityPagesNew.aspx?y=2015> (accessed: 25.08.2017).

Note: Parts and components are defined as the sum of BEC categories 42 and 53.

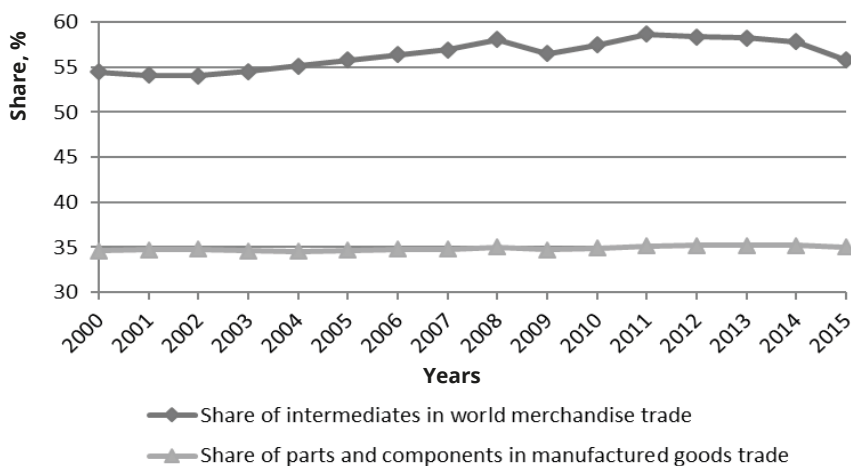


Figure 8. Intermediate goods and parts and components shares in world trade accounting for US dollar effective exchange rate, 2000–2015, %

Source: UN Comtrade database for trade URL: <https://comtrade.un.org/pb/CommodityPagesNew.aspx?y=2015> (accessed: 25.08.2017); Federal Reserve for US dollar effective exchange rates URL: <https://www.federalreserve.gov/releases/h10/current/> (accessed: 23.08.2017).

Restricting the attention to the share of parts and components in manufactured goods trade eliminates primary products from the equation entirely. In this case, there is no decline in 2014–15. In all cases the shares are quite stable over time. The unadjusted share of intermediates in world trade ranges between 54% and 59%, with its value in 2015 roughly equal to its value in 2000. Meanwhile, the share of parts and components is remarkably stable at around 35% for the entire period from 2000 to 2015.

The fact that most trade statistics are measured in US dollar also contributes to the fluctuating shares since exchange rate movements affect regions and products to varying degrees. Figure 8 shows the trade shares of intermediate goods and parts and components with the influence of the dollar purged by ordinary least squares regression. The results are similar to those shown in figure 8 only slightly smoother, particularly in the early 2000.

Conclusion

This paper highlights the role of the import intensity of aggregate demand in the overall trends of trade flows, in particular in the role such intensity for some demand components to explain the recent global trade slowdown. The findings presented in this paper confirm recent publications. While the trade slowdown may be essentially explained by demand factors, global value chains (GVCs) are also changing. However, to date, the share of intermediate goods and parts and components remains relatively stable, although it is likely that within GVCs, a regional re-allocation of task is probably taking place according to shifts in comparative advantage and flows of foreign direct investment.

In the future, though, such analyses are likely to benefit from the current efforts to improve world input-output databases. We were able to rely on data covering 38 countries accounting for 76% of global imports. Hopefully, the WIOD or similar databases will help getting closer to all of global trade, a difficult undertaking though.

While in the past decade a significant share of the literature on trade has focused on global value chains and its implications, this paper is a reminder that, in the end, trade is demand-driven. The weakness of domestic demand, in particular investment, has been a feature of the post-2008 financial crisis environment. Within domestic demand, low investment has had many implications, not only for global trade, but also for productivity and potential output growth, which have proved to be significantly lower than in the previous decade. Current research should focus on the relations between the investment content of GDP, technology, growth and globalization.

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Received: 06.10.2017

Accepted: 13.12.2017

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Импорт как элемент совокупного мирового спроса

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Для цитирования: Auboin M. What is the import intensity of global aggregate demand? // Вестник СПбГУ. Экономика. 2018. Т. 34. Вып. 1. С. 59–76. <https://doi.org/10.21638/11701/spbu05.2018.103>

В то время как авторы многих исследований анализируют воздействие международной торговли на предложение, обращая внимание в первую очередь на вертикальную специализацию и глобальные производственные системы, значительно меньше работ посвящено влиянию, которое импорт оказывает на совокупный спрос. Между тем вплоть до финансового кризиса 2008–2009 гг. значение данного фактора росло. В последующие годы импортные составляющие отдельных компонентов совокупного спроса демонстрировали различную динамику. На основе использования таблиц «затраты — выпуск» по 40 странам, на которые приходится основная часть международной торговли, в данной статье рассчитаны показатели доли импорта в компонентах совокупного спроса за период 1995–2014 гг. Автор настоящей статьи приходит к выводу, что эта доля выше в более подверженных циклическим колебаниям компонентах совокупного спроса — инвестициях, экспорте и личном потреблении, и ниже в государственных расходах. Самый высокий показатель, составляющий 37%, имеют инвестиции. При этом именно инвестиции являются единственным компонентом совокупного спроса, который на данный момент еще не достиг своего докризисного уровня. Этим, в частности, можно объяснить замедление темпов роста международной торговли, наблюдаемое после финансового кризиса. Более того, стагнация импортной составляющей совокупного спроса характерна для стран с формирующимися рынками. Данное еще недостаточно изученное обстоятельство может оказать большое влияние на процесс глобализации торговли.

Ключевые слова: международная торговля, инвестиции, торговая политика, деловые циклы, глобальные производственные системы.

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