

by Alessandro Giovannini and Umberto Marengo

ABSTRACT

Despite renewed commitment from both sides for a quick and successful conclusion of the negotiations for the Transatlantic Trade and Investment Partnership (TTIP), the process has partially lost momentum. Europe should not lose this opportunity. This paper intends to offer a new prospective for the EU on how to look at TTIP negotiations and boost them. By using a trade-in-value-added approach, the paper provides useful indications to the negotiating parties in order to focus on those areas which are really able to deliver much-needed economic benefits. TTIP negotiations should mainly be focused on reducing cost and improving logistics along the production chains of the firms that have production lines across the Atlantic.



by Alessandro Giovannini and Umberto Marengo*

1. The relevance of TTIP negotiations

In 2013, the United States of America and the European Union started negotiations for the Transatlantic Trade and Investment Partnership (TTIP). The deal, in the intentions of both parties, should deliver significant advantages in terms of employment and economic growth on both sides of the Atlantic, thanks to its ability to further strengthen the economic relationship between the two economies.

Despite renewed commitment from both sides for a quick and successful conclusion of the negotiations, the process has partially lost momentum. The United States seems less prone to see in the slow-growing European economy the main destination for its exports. Public opinion, especially in the European continent, is becoming more and more doubtful about the TTIP and opposition against it is growing. For example, in October, about 400 activist groups mobilised across Europe, organising demonstrations of their concerns over the lack of transparency of the negotiations, but also to express fears about environmental and health standards.

The implications of this agreement are, in fact, more than just the economic. The treaty is bound to have important implications in terms of regulation of international markets, environmental impact, labour standards, geopolitical balances, etc. From

¹ The impact of each of these elements requires a detailed analysis of ad hoc measures that is beyond the scope of this paper. On the subject see for reference, among others: Daniel S. Hamilton, "America's Mega-Regional Trade Diplomacy: Comparing TPP and TTIP", in *The International Spectator*, Vol. 49, No. 1 (March 2014), p. 81-97; Philipp M. Richter and Greta F. Schäffer, "The Controversy over the Free-Trade Agreement TTIP", in *DIW Roundup*, No. 42 (22 October 2014), http://www.diw.de/sixcms/detail.php?id=diw_01.c.486374.de; Suparna Karmakar, "Prospects for

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a European perspective, the treaty provides an opportunity to increase economic productivity by facilitating resource relocation towards the most competitive sectors, to create (and benefit from) foreign investment-led technological spillovers, and to make the trans-Atlantic relationship an even stronger anchor of geopolitical influence.

Europe should not lose this opportunity. In a period in which sustained economic growth is still missing, Europe needs to find new drivers of structural change for its economy. That is, events that could put in motion and reinforce a beneficial process of economic innovation and thus lay the ground for a stronger European economy in the coming years.

For this reason, this paper intends to offer a new prospective for the EU on how to look at TTIP negotiations and boost them. By using a trade-in-value-added approach, in fact, it is possible to better see and assess the potential benefits of the TTIP. At the same time, this approach provides useful indications to the negotiating parties in order to focus on those areas which are really able to deliver much-needed economic benefits. The benefits, as we said, are to be understood both in the short and long term. In the short term, those sectors which are already well interconnected are also the ones that could benefit immediately from the removal of barriers with instantaneous beneficial effects on the economy. However, in the longer run, those same sectors are also the ones in which the EU economy has a global trade comparative advantage. Focusing on long-term benefits and comparative advantages should help us to identify what are the sectors towards which the resources of the economy should be relocated in order to increase the long-run potential of the EU's economy.

Section 1 briefly introduces the concept of trade in value added (VA) and global value chains (VC), and their usefulness in analysing trade relationships. Section 2 follows this approach showing the importance of using it for analysing the TTIP. If we measure trade relations in terms of VA rather than gross trade, the relevance of the United States as a trading partner increases even more for all European economies. This is true also for those countries that at first sight do not seem to have particularly relevant trade relations with the United States when one looks at gross trade data only.

Sections 4 moves from the total trade figures and it looks at the interconnectedness of US-EU economies by sector. This approach reveals that the interests of the main EU economies appear much more aligned with each other than looking at gross data, a consideration that should create strong incentives for a successful

regulatory convergence under TTIP", in *Bruegel Policy Contributions*, No. 2013/15 (October 2013), http://t.co/3xcHBcfCrM; Simon Lester and Inu Barbee, "The Challenge of Cooperation: Regulatory Trade Barriers in the Transatlantic Trade and Investment Partnership", in *Journal of International Economic Law*, Vol. 16, No. 4 (December 2013), p. 847-867; Davide Tentori and Myriam Zandonini, "The Future of the Transatlantic Economic Relationship: Opportunities and Challenges towards the TTIP", in *Transworld Working Papers*, No. 35 (June 2014), http://www.transworld-fp7.eu/?p=1547.

conclusion of the negotiations.

Section 5 then looks at the value chains/investments nexus and the significance of intra-firm trade for strengthening the trans-Atlantic economy. This type of trade, in fact, has been proven to be more resilient during the crisis, suggesting that further strengthening in this sense could have positive implications for the economic growth and resilience of the EU economy.

The significance of intra-firm trade plays a role also at the global level. Section 6, in fact, shows that those sectors in which the EU has global comparative advantages are also those in which the TTIP negotiations could matter the most, given the existence of strong linkages already in place. By agreeing on common standards in these sectors, it is therefore possible to establish a global standard, with positive spillovers for exports that go beyond the trans-Atlantic economy. However, even by simply looking at the implications for the US-EU trade, section 7 points out how these same sectors continue to suffer from trade barriers between the two economies. So, even putting aside their importance for global trade, there is room for focusing on these sectors during the negotiations.

Section 9 considers, instead, how to expand the benefits of the TTIP also to small-and medium-sized enterprises (SMEs) that are not currently integrated into the value chains across the Atlantic. This process will require time, as structural changes to the production systems of the SMEs is not an instantaneous process. Nevertheless, this section discusses how TTIP negotiations could be designed to make this happen more rapidly. The last section concludes.

2. Trade in value added and global value chains

The process of fragmentation of international production, which has been in place now for several decades, has led to the creation of complex global value chains (GVCs). Companies today establish production networks with other firms located where they can make the best of the comparative advantages in the production of intermediate goods and services.

This production system segments the creation of the value embodied in the final product in many separate steps, in order to exploit all the efficacy gains in different locations. All intermediate stages of production can involve networked companies scattered across different countries.

These networks are more and more often used in the production of consumer electronic products or in aerospace industries. For example, Dedrick et al. analysed the distribution of financial value from innovation in the global supply chains of

iPods and notebook computers.² In the same vein, Grossman and Rossi-Hansberg described the industrial production system for Boeing airplanes.³

This phenomenon has now become commonplace in many commercial sectors. The relevance of the global value chains can be summarised by calculating the share of trade in intermediate goods and services out of the total of imports or exports. This fluctuates between 56 and 73 percent for an average developed country⁴ and it has increased worldwide by 40 percent since the mid-70s.⁵

The increasing importance of such forms of goods and services exchanges significantly reduces the relevance of gross trade statistics. Today, products are re-exported many times along the production process and each time the value embodied in the semi-product, which was produced in other countries during the previous productions steps, is counted in gross trade statistics.

To overcome this limitation, it is first of all crucial to understand what is the VA generated during the production processes in a specific country. This approach allows for tracking VA along the various production lines and assessing the effective role played by each country in this process.

The OECD database Trade in VA (TiVA)⁶ allows for such analysis and for this reason this paper uses this source. Unfortunately, the database only covers the years 2005, 2008, and 2009. This does not account, therefore, for the developments of the last few years. Whereas looking at 2009 data is certainly a limitation, nevertheless it allows one to understand the structural characteristics of the trans-Atlantic economy, by netting the effect of the crisis.

3. The trans-Atlantic economy: EU-US using TiVA statistics

A quick overview of the the state of economic linkages between the United States and the European Union is essential to fully understand what is at stake in TTIP. The transatlantic economy is already at present the largest and most interconnected bilateral trade relationship in the world. A relationship that not only strongly influences the two economies, but that defines the shape of the world economy as a whole, since they together account for about half of the entire global GDP.

² Jason Dedrick, Kenneth L. Kraemer and Greg Linden, "Who profits from innovation in global value chains? A study of the iPod and notebook PCs", in *Industrial and Corporate Change*, Vol. 19, No. 1 (February 2010), p. 81-116.

³ Gene M. Grossman and Esteban Rossi-Hansberg, "Task Trade Between Similar Countries", in *Econometrica*, Vol. 80, No. 2 (March 2012), p. 593-629.

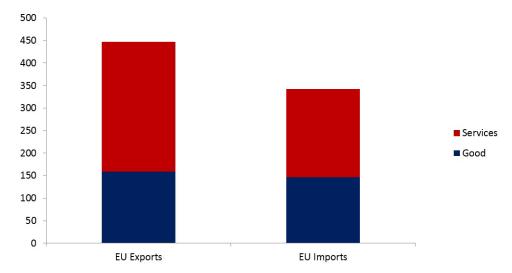
⁴ See Koen De Backer and Sébastien Miroudot, "Mapping Global Value Chains", in *OECD Trade Policy Papers*, No. 159 (December 2013), http://dx.doi.org/10.1787/5k3v1trgnbr4-en.

⁵ David Hummels, Jun Ishii and Kei-Mu Yi, "The nature and growth of vertical specialization in world trade", in *Journal of international Economics*, Vol. 54, No. 1 (June 2001), p. 75-96.

Direct access to TiVA webpage at: http://oe.cd/tiva.

The importance of the US market for the EU economy is evident by looking at the trade statistics. Figure 1, below, shows how the total volume of bilateral trade amounts to around 790 billion euros per year in 2013, of which more than half are European exports to the United States. In 2000, it was just half of this figure.

Figure 1 | Exports of goods and services of EU with the US in 2013



Source: author's elaboration on Eurostat data, 2013.

Moreover, in 2013 the United States was the largest export market for the EU accounting for 16 percent of the total exports of goods and services to the EU. A situation partially mirrored on the other side of the Atlantic. From a US perspective, the European Union is the second largest commercial partner in terms of imported goods (about 17 percent of all United States imports), immediately after China (19 percent).

Figure 1 also shows how the majority of this trade is represented by trade in services, a peculiarity that the two economies share with almost no other partner, demonstrating a strong interconnection of production structures on both sides of the Atlantic.

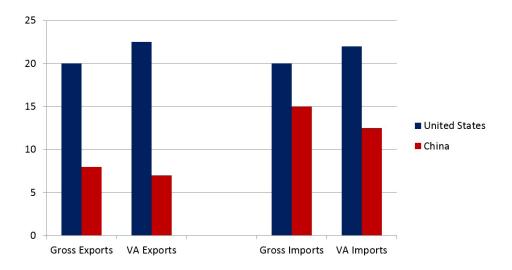
For this reason, as previously discussed, it is necessary to move from gross statistics and analyse trade in terms of VA imports/exports. This indicator shows how much VA actually produced in a country ends up in another country's final demand.

According to OECD data, as shown in Figure 2 below, in 2009 exports from the EU to the United States account for about 25 percent of the total EU exports in VA terms; while, when measured in gross terms, this share falls to 20 percent.

Figure 2 also shows how the United States is by far the most important destination for high VA EU exports, as indicated by the high relative percentage of VA created in Europe for goods and services that end up on the United States domestic market. Looking to the side of European imports, the United States are also the largest

foreign supplier in terms of valued added for the EU, representing approximately 20 percent of total EU imports in VA.

Figure 2 | EU imports and exports, both in VA and gross terms, by trade partner



Source: author's elaboration on OECD data, 2009.

The relevance of this industrial interconnectedness emerges even more clearly by comparing the United States with China, which is Europe's second largest global trading partner. Figure 2 shows that, unlike with the United States, China's share in terms of VA is lower than that in absolute terms, both for exports and imports. China is therefore mainly an "assembly factory" for European companies, more than strategic partner in value adding.

Looking at the TiVA statistics rather than gross values also enables a better understanding of the linkages between single EU Member States and the United States. It is often argued that many small Member States in Europe would not benefit as much as the larger ones from the TTIP, given the small trade linkage with the trans-Atlantic partner. Looking at the TiVA statistics suggests that gross trade flows mask these linkages.

Among the less interconnected EU economies with the United States we find the Slovak Republic, the Czech Republic and Poland: in 2009 the share of exports to the United States accounted only for around 2.5 percent of their total exports. However, these figures do not count the semi-products exported by these countries, finalised in third countries and then exported to the United States (see Table 1 below).

By looking also at the indirect linkages, the percentage of their total exports increases by more than 80 percent, when the share of exports towards the United States amount to around 4 percent of total exports, increase their exposure by 50 percent.

Looking at the TiVA statistics suggests that even those countries that would appear to be less directly integrated with the United States, are, in fact, significantly exposed via indirect linkages – a consideration that should provide a stronger basis to build a common EU effort in reaching an ambitious TTIP deal.

Table 1 | MS export exposure towards the US (% total exports)

	Direct exposure	Overall exposure		Direct exposure	Overall exposure
Slovak Rep.	2.5	4.7	Belgium	7.2	10.5
Czech Rep.	2.6	5.3	Lithuania	7.7	6.9
Poland	2.6	4.9	Luxembourg	7.7	10.5
Romania	3.7	5.7	Italy	7.9	10.3
Hungary	3.9	6.1	Latvia	8.3	11.3
Slovenia	4.0	5.7	France	8.3	10.7
Bulgaria	4.8	6.7	Germany	8.5	11.7
Portugal	5.3	7.7	Denmark	10.0	12.1
Netherlands	5.7	8.7	Greece	11.6	13.8
Spain	6.1	8.5	Malta	13.4	14.7
Austria	6.7	10.0	Ireland	15.8	16.5
Finland	7.1	10.1	UK	16.3	19.1
Estonia	7.2	9.3			

Source: author's elaboration on OECD data, 2009.

4. The value chains nexus by sector

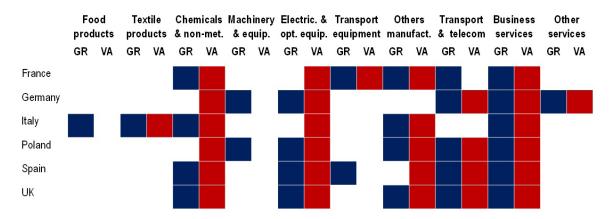
A value chain approach to trade relations allows us to identify whether the interests of two or more regions converge across economic sectors. Furthermore, these statistics have the additional advantage of showing from which countries VA originates and where it ends up in final consumers' demand, even if the given good or service has been traded through third parties.

Sectorial interest alignment has significant policy implications: trade negotiations such as the TTIP include vertical chapters aimed at introducing sector-specific regulatory provisions to facilitate value chain integration. Furthermore, in case of conflict between the horizontal cross-sector chapters (e.g. technical barriers to trade, sanitary and phyto-sanitary standards, etc.) and the vertical ones, it is general practice in trade agreements that specific provisions agreed in vertical chapters take priority over horizontal provisions. From a political economy perspective, we can assume that there are two levels of sectorial interest alignment that could

⁷ TTIP Advisory Group Meeting Report, 12 December 2014, http://trade.ec.europa.eu/doclib/html/152937.htm.

be a positive drive in trade negotiations: sectorial interest alignment among EU Member States, and sectorial interest alignment between the EU and the United States.

Table 2 | MS export exposure towards the US (% total exports)



Source: authors' elaboration on OECD, 2009.

The analysis of EU exports vis-à-vis the US shows (Table 2) that EU Member States sectorial interests are broadly aligned if we look at VA export (red boxes) instead of gross exports (blue boxes). The largest share of EU VA embodied in US final demand originates from five main sectors (chemicals and non-metallic products, electrical and optical equipment, manufacturing, telecommunication and transport services, and business services). While individual countries have specific competitive strengths in certain sectors (e.g. machinery export is particularly important for Germany and Italy), interests across the major EU Member States and the EU as a whole are broadly aligned and are dominated by service-related sectors.

Furthermore, the analysis of trade in VA embodied in EU and US final demand, respectively, (Table 3) shows that there is a broad sectorial interest alignment also between the EU and the US. EU-produced VA embodied in final US demand is concentrated in business services, chemicals, transport and telecommunication services, and financial intermediation. US-produced VA embodied in final EU demand is concentrated in business services, transport and telecommunication services, chemicals, and electrical and optical equipment. There are, however, specific differences that should be taken into account. From a US perspective, for example, the EU is also an important retail market: US-produced VA exported to Europe in the wholesale and retail sector accounts for over 13 percent of the total. This calls for two preliminary considerations: on the one hand, further liberalisation of the wholesale transatlantic market may lead to lower consumer prices in Europe. On the other hand, however, Europe should be aware that the

⁸ The "machinery equipment" sector is classified separately from manufacturing, although it relates to a similar economic activity.

main priority is attracting investments in highly productive sectors, and the liberalisation of wholesale and retail services would not alone be sufficient to yield the much-needed long-term economic benefits.

Table 3 | MS export exposure towards the US (% total exports)

EU-produced value added embodied in final US demand (% total)								
	Chemicals & non- metallic mineral products	Basic metals & fabricated metal products	Machinery & equipment	Wholesale & retail trade; hotels & restaurants	-	Financial intermed.	Business services	Others
France	11	4	4	7	11	9	9	24
Germany	9	6	9	6	9	9	9	23
Italy	9	6	6	10	9	12	12	27
Poland	9	6	4	14	11	5	5	32
Spain	10	4	2	8	13	19	19	21
UK	9	2	2	5	10	19	19	22
EU	10	4	5	7	11	14	14	22

US-produced value added embodied in final EU/MS demand (% total)								
	Chemicals & non- metallic mineral products	Basic metals & fabricated metal products	Machinery & equipment	Wholesale & retail trade; hotels & restaurants	Transport & storage, post & telecomm.	Financial intermed.	Business services	Others
France	13	10	3	10	9	7	25	26
Germany	10	11	3	11	10	7	25	25
Italy	12	8	4	14	10	9	24	25
Poland	11	11	4	12	8	7	27	25
Spain	11	9	2	14	9	9	27	21
UK	8	9	2	14	11	10	25	22
EU	10	9	3	13	10	9	25	23

Source: author's elaboration on OECD data, 2009.

5. The value chains/investments nexus States and the significance of intra-firm trade

Trade and investments are two parallel aspects of value chain integration. As Conconi, Sapir, and Zanardi pointed out, FDI and exports are complementary internationalisation strategies: a firm's FDI entry in a foreign market is almost always preceded by its export entry. Therefore, the "I" of TTIP does not matter

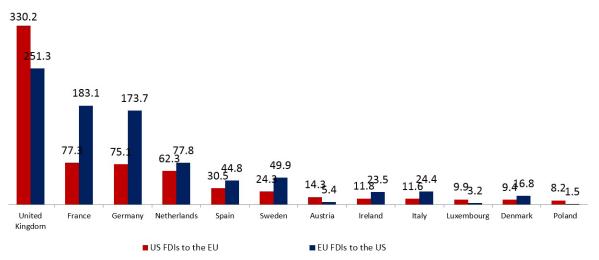
⁹ Paola Conconi, André Sapir and Maurizio Zanardi, *The Internationalization Process of Firms: From Exports to FDI*, May 2015, http://www.ecares.org/ecare/personal/conconi\$/web/

simply for investments but also for trade: lowering investment barriers is among the most efficient ways for a country to become more deeply integrated in value chains across the Atlantic.

The EU and the United States are already deeply inter-invested economies. The United States is a net importer of goods and services from Europe, and it finances its domestic demand and its current account deficit by importing capital. Most of the largest European economies are net capital exporters, with the notable exception of the UK that attracts capital by operating a large financial services industry.

Figure 3 below shows that the stock of EU investments in the United States amounts to 1.63 trillion euros (equal to 13.4 percent of EU GDP), while the stock of United States investment in the EU amounts to 1.65 trillion euros (equal to 13.2 percent of United States GDP). The historical trend also shows a process of positive investment accumulation. EU FDI stock in the United States have increased by over 120 percent since 2004, while United States FDI stock in the EU have increased by 99 percent over the same period.

Figure 3 | FDI stock in the US and EU by country (euros, bln) in 2013



Source: Eurostat, 2013.

There are however, significant differences among EU countries in terms of investment attraction rates. High trade intensity has not always been followed by high cross-country investments: some European countries have attracted a disproportionally low rate of investments even though they have strong trade exchanges with the United States.

To understand the trade/investment nexus we have looked at the ratio between FDI intensity (inward and outward) and trade intensity (import and export) of selected EU countries. A low ratio indicates that high trade intensity is not matched by high

investment intensity (see Table 4). Among the largest European economies Italy, Germany and Poland have a high-intensity trade relation with the United States but relatively limited FDI intensity compared to the EU's average.

We subsequently narrowed the focus on the import/FDI inward nexus. The underlying assumption of this analysis is that the import of goods and services from a country precedes or run in parallel with the import of capital from that country as a result of firms expanding their operations in new markets.

By looking at the Table 4 below, a similar picture emerged: the level of imports from the United States of countries like Italy, German, Ireland and Poland, is not matched by a proportional level of incoming FDI. On the opposite side of the spectrum, the UK, the Nordic countries (i.e. Sweden and Denmark), Spain and France, have attracted a proportionally higher share of investment in relation to import. This preliminary evidence seems to confirm the view expressed by Martin Wolf and others that countries like Germany and Italy are currently suffering an investment dearth.¹⁰

Table 4 | EU investment position vis-à-vis the US, 2013

	FDI stock inward & outward (€ bln)	Import & export (€ bln)	Ratio stock/ trade	FDI stock inward (€ bln)	Import (€ bln)	Ratio inward stock/ import
EU-28	3191.4	499.7	6.4	1536.4	206.53	7.4
Germany	248.7	124.6	2.0	75.1	38.20	2.0
UK	581.5	87.6	6.6	330.2	42.29	7.8
Netherlands	140.1	49.8	2.8	62.3	28.84	2.2
Italy	36.0	39.3	0.9	11.6	12.66	0.9
France	260.4	53.5	4.9	77.3	26.44	2.9
Spain	75.3	17.3	4.3	30.5	8.31	3.7
Sweden	74.2	12.8	5.8	24.3	4.21	5.8
Poland	9.7	5.5	1.8	8.2	2.70	3.0
Austria	19.7	9.4	2.1	14.3	2.75	5.2
Ireland	35.3	24.3	1.5	11.8	6.37	1.9
Denmark	26.2	7.4	3.5	9.4	1.86	5.1

Source: aauthor's elaboration on Eurostat, 2013.

Italy is the most remarkable case among the largest EU economies: the country has high trade-intensive relation with the United States but does not attract a proportional share of United States investments. Italy's inward stock/trade import ratio is the lowest among EU's large economies.

¹⁰ Martin Wolf, The Shifts and the Shocks. What We've Learned-and Have Still to Learn-from the Financial Crisis, London, Allen Lane, 2014.

Whereas each EU country faces different obstacles in attracting investment (lack of domestic demand, high unit labour costs, entry barriers to new investors, etc.), increasing FDI is a key priority for the whole EU to restart Europe's growth engine. In this respect, TTIP could introduce additional investment protection measures (i.e. the Investor-State Dispute Settlement or a public investment court¹¹) could support FDI investment flows towards Europe.

The stock of United States investments in the EU is concentrated in the service and retail sector, and in particular on financial services, as shown by Table 5. Financial and insurance services (e.g. securities) account for almost half of United States investments in the EU, while wholesale trade and professional services account for a further 20 percent. The preponderance of financial investment and wholesale trade provides a preliminary insight into the structure of transatlantic value chains: a large share of investments is driven by the consumers' market on both sides of the Atlantic, especially in the service sector. Moreover, the size of United States' investments in the wholesale/retail and the financial/insurance sectors in the largest EU economies suggests that a significant share of investments takes place within large-size transnational companies (financial and non-financial) branched in both the EU and the United States.

Table 5 | EU direct investment positions vis-à-vis the US (% of total), 2013

		•	of motor		Electricity. gas, & air condit.	Wholesale & retail trade	Infor- mation & commun.	Finan- cial & insurance act	estate	Profess., scien- tific & tech. act
France		1	1	1		10	1	58	1	29
Germany		1	2	2		7	10	22	3	50
Italy		5		4		35	9	26	2	14
Poland	6	3	8	5		3	5	54		8
Spain		3		1	16	4		60	3	3
UK	9	13	1	8		3	5	44		2
EU	4	9	1	3	1	5	8	43	1	14

Source: Eurostat, 2013.

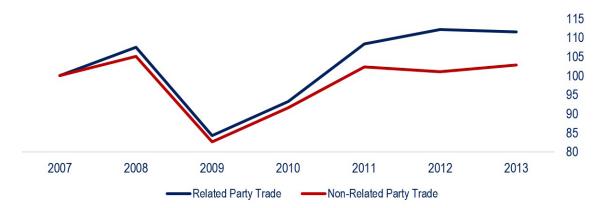
Transnational corporations are a key player in global value chains. A large part of cross-border trade of production inputs and outputs takes place within transnational corporations' networks of affiliates, contractual partners, and arm's-length suppliers.

Figure 4 shows that the trade between affiliates on the two sides of the Atlantic accounted for 47 percent (172 billion dollars) of total EU-United States merchandise

¹¹ Daniela Vincenti, "Brussels considers replacing ISDS with a public court", in *EuroActiv*, 19 March 2014. http://www.euractiv.com/node/313079.

trade in 2002 and increased to 50 percent (305 billion dollars) by 2013. Intra-firm trade has also been proven to be more resilient during the crisis, especially from the EU side: exports to the United States among related parties increased by 12 percent in the period 2007-2012, while the rest of exports only by 6 percent. Strengthening intra-firm investment and trade would help to create more resilient trade relations.

Figure 4 | EU-US trade by type (2007=100)



Source: US Census Bureau, Foreign Trade: Related-Party Trade database, 2014.

6. The significance of TTIP beyond bilateral transatlantic relations: EU global and transatlantic trade interests

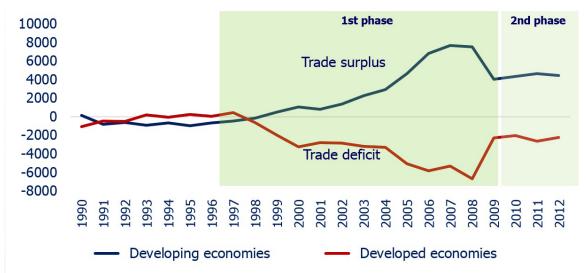
TTIP's significance for Europe's competitiveness goes beyond bilateral transatlantic relations and provides an opportunity for the EU and the United States to take a lead in international trade negotiations. Since its establishment in 1995, the WTO has failed to secure substantial progress on multilateral trade agreements, with the notable exception of the Bali Trade Facilitation agreement of 2014. The Doha Round is nowhere near a positive conclusion due to contrasting positions between developing and developed countries because the complexity and breadth of the agenda has stalled multilateral trade negotiations.

Liberalising trade is essential to rebalance the international economy and usher in the "second phase" of globalisation. In the "first phase," which started with the late 1990s, the industrialised economies opened up markets to foreign import, accumulating large balance of payment deficits that have now become unsustainable and were at the root of the 2008 global financial crisis (see Figure 5). The crisis ushered in the "second phase" of globalisation, as the global economy needs developing countries progressively to increase domestic consumption, to allow their currency to appreciate according to market rates, and to open up to imports from developed countries, especially on the service sector.

The EU and the United States have thus a strong interest in setting the standards on those sectors where they have a competitive advantage as the agreement could create positive spillovers on trade negotiations with third parties. Furthermore, by

identifying the economic sectors where they are more competitive, the EU and the United States could focus the negotiation on the economic sectors with the highest impact, thus helping to build momentum and political support for the agreement.

Figure 5 | Net balance of payments, current accounts (dollars, bln)



Source: UNCTAD, 2013.

Building on existing literature on trade incentives¹² and revealed comparative advantages,¹³ we have produced a twofold approach for identifying the sectors in which the EU and its Member States have the strongest incentive to reach an agreement. We have thus identified:

- 1. the sectors in which the EU and the Member States have a comparative export advantage vis-a vis the United States;
- 2. the sectors in which the EU and the Member States have a comparative export advantage vis-à-vis the rest of the world.

In political economy context, it plausible to assume that EU Member States will have a stronger incentive in securing an ambitious agreement that covers the economic sectors where they are more competitive and where their firms can reap the highest commercial benefits. An agreement on these sectors could yield the strongest long-term benefits if TTIP becomes a model for other multilateral negotiations. Furthermore, interest alignment on certain sectors could provide the incentive for ambitious "vertical chapters" in the agreement. On the contrary, European negotiations will have less of an incentive to reach an agreement in those sectors where EU Member States are not competitive vis-à-vis the United States and the rest of the world. This is particularly the case if those sectors are also

Arjan Lejour et al., "Economic Incentives for Indirect TTIP Spillovers", in CEPS Special Reports, No. 94 (October 2014), http://www.ceps.be/node/9868.

¹³ Bela Balassa, "Trade Liberalisation and 'Revelaed' Comparative Advantage", in *The Manchester School*, Vol. 33, No. 2 (May 1965), p. 99-123.

politically and socially controversial (e.g. agriculture-related issues), because there would be limited economic gains to show for in exchange for regulatory changes or liberalisation.

Finally, this analysis identified the extent to which the interests of the EU as a whole are aligned with the interest of its larger Member States. It is plausible to assume that EU Member States will be more likely to reach a common position if the interests of the major EU economies are the same as the interest of the EU as a whole.

Building on the OECD-WTO Trade in VA database, we have calculated the EU's comparative advantage vis-à-vis the United States by looking at the EU/Member State share of sectorial VA embodied in final United States demand as a share of EU/Member State total VA embodied in final United States demand. Similarly, European comparative advantage in global markets is calculated as EU/Member State sectorial VA embodied in final global demand, as a share of EU/Member State total VA embodied in final global demand. The figures are the latest available and refer to 2009.

In absolute terms, service-related sectors encompass the largest share of VA exported to the United States (see Table 6). In this respect, the introduction of a service chapter in TTIP is essential for the success of the negotiations.

Table 6 | Sector share of EU VA exported embodied in US and global final demand

Sectors	EU VA embodied in US final demand	EU VA embodied in global final demand
	(% by sector)	(% by sector)
Business services	26.9	21.1
Transport and storage, post and telecommunication	10.5	11.4
Wholesale and retail trade; Hotels and restaurants	6.5	10.6
Chemicals and non-metallic mineral products	10.3	9.7
Financial intermediation	14.5	7.5
Machinery and equipment, nec	4.6	6.9
Basic metals and fabricated metal products	4.1	5.6
Electrical and optical equipment	5.4	4.7
Other services	3.5	4.2
Transport equipment	3.4	4.1
Wood, paper, paper products, printing and publishing	1.7	2.4
Food products, beverages and tobacco	1.3	2.2
Agriculture, hunting, forestry and fishing	0.9	1.9
Electricity, gas and water supply	1.5	1.9
Mining and quarrying	1.6	1.7
Textiles, textile products, leather and footwear	1.1	1.6
Construction	0.9	1.3
Manufacturing nec; recycling	1.2	1.3

Source: OECD-WTO TiVA database, 2009.

7. The intersection of Europe's comparative advantages

Figure 6 shows the level of competitiveness of the six major European economies (Germany, France, the United Kingdom, Italy, Spain, and Poland) and the EU across 15 major economic sectors. For each sector, we highlighted whether the EU/Member State have a "high" (green-shaded box), "appreciable" (light green-shaded box), or "non-appreciable" (red-shaded box) comparative advantage. High comparative advantage are the top five sectors per country, appreciable comparative advantage include the following 5-6 sectors. Sectors with high and appreciable comparative advantage encompass from 80 to 90 percent of the EU/Member State's VA export embodied in foreign demand.

To sum up, the sectors in which the EU has a "high" or "appreciable" comparative advantage vis-à-vis the United States are the same sectors where Europe is more competitive on a global scale, and thus TTIP provides an opportunity for the EU to set the standards in the economic sectors where it has a comparative advantage. The EU has a "high" comparative advantage in the sectors related to: business services, transport services, chemical products, wholesale trade and financial intermediation. In these sectors the interest of the Member States are generally aligned, with a certain weakness of the financial service sector in Poland and to a lesser extent, France, Germany and Italy.

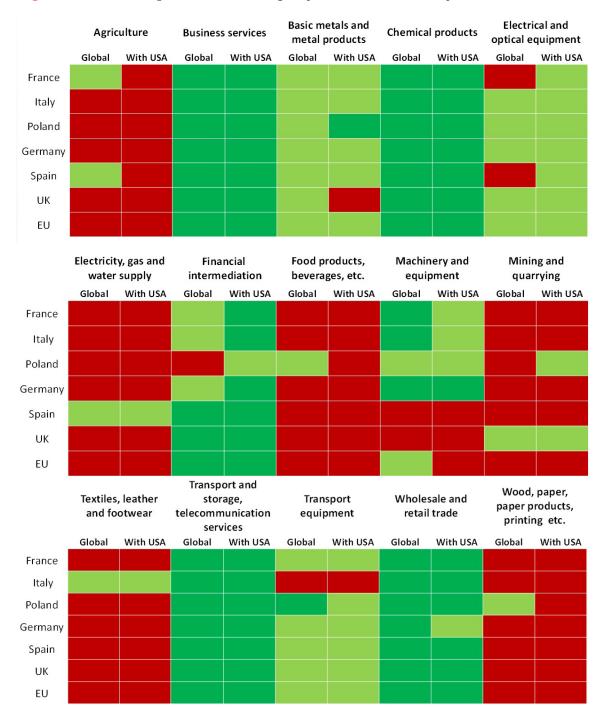
The sectors in which the EU has an "appreciable" comparative advantage are basic metals and products, electrical and optical equipment, and transport equipment. Interests among EU major economies and the EU as a whole are broadly aligned; however, some significant differences among Member States emerge. In particular, the EU comparative advantage in the machinery and equipment sector vis-à-vis the United States is not appreciable, but countries like Germany, Italy and France have very competitive position in this sector, making this a priority for the EU.

In the remaining sectors, the EU has a "non-appreciable" comparative advantage, with some country exceptions. In particular, Italy has a particularly strong textile and footwear export industry, the UK is traditionally strong in the mining and quarrying sectors, and Spain is strong in the electricity and water supply sectors. This shows that some countries will have a strong incentive in using TTIP as a platform to boost their trade position in particular niche sectors.

Overall, there is a significant overlap between the comparative advantages of the major European economies and across sectors, which creates strong incentives for ambitious vertical cooperation chapters in the TTIP agreement.

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Figure 6 | EU's comparative advantage by sector and country



Source: author's elaboration on OECD-WTO TiVA database, 2009.

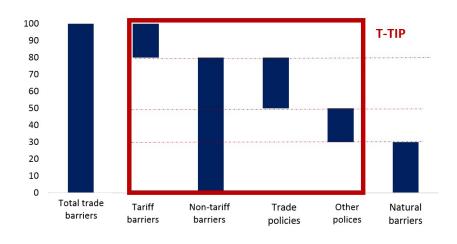
8. Trade barriers: why value chain approach matters

If the tariff barriers between the EU and US are not very high, non-tariff barriers impose significant costs for businesses. A study by ECORYS¹⁴ provides a direct estimate of such costs by measuring the estimated percentage of the increase in costs to trade and investment resulting from divergent regulatory and other non-tariff measures between the two sides of the Atlantic, according to the different sectors of the economy. On average, regulatory (non-tariff) barriers add extra export costs by 41 percent for goods and by 31 percent for services.

The removal of these barriers is the most important element of TTIP: according to the study of the Centre for Economic Policy Research, ¹⁵ up to 80 percent of TTIP's potential economic benefits would stem from non-tariff barriers reduction on both sides of the Atlantic.

Figure 7 summarises the barriers to trade that TTIP seeks to remove. As already mentioned, the commercial costs classified under "non-tariff barriers" represent the most significant of these. They include protectionist trade policy that make access to the national market more difficult for foreign suppliers, such as import quotas or administrative barriers and regulations that discriminate against foreign companies and increase the cost of exports, thus reducing the competition in the target market.





Source: authors' elaboration on Gabriel J. Felbermayr et al., 2013.

¹⁴ Koen G. Berden et al., *Non-Tariff Measures in EU-US Trade and Investment. An Economic Analysis*, Rotterdam, ECORYS, 11 December 2009, http://trade.ec.europa.eu/doclib/html/145613. htm.

¹⁵ Joseph Francois (ed.), Reducing Transatlantic Barriers to Trade and Investment. An Economic Assessment, London, Centre for Economic Policy Research (CEPR), March 2013, p. vii, http://trade.ec.europa.eu/doclib/html/150737.htm.

While import quotas can be removed relatively easily (it would be enough to have the political will to do so), the administrative and regulatory barriers are often more difficult to deal with, because they are linked to national customs and technical configurations. These are often barriers that discriminate against foreign companies by, for example, the need to obtain approval for the sale of the same product for both markets; the application of different conditions and approval procedures; different standards for the environment, health and consumer protection. Achieving greater coordination in this field is, however, possible, through a mutual recognition of standards equivalent (which is the lowest level reached), harmonisation of industrial standards and rules in different jurisdictions through existing and future convergence in regulatory approaches.

The removal of this type of barrier is the heart of TTIP. This is even more true if one continues to look at the TTIP using the approach previously proposed. According to an ECORYS study, ¹⁶ the sectors in which our analysis shows that TTIP may yield the strongest long-term benefits still present sizable nontariff barrier (NTB) costs. Service-related export to the United States faces high trade costs: commercial services +42 percent, financial services +30 percent, communication services +45 percent. In terms of trade in goods, there are still significant barriers in important sectors like chemicals (where the EU has the highest barriers), machineries and equipment (high United States barriers). In view of these considerations, even a partial reduction of NTBs could have a positive impact on the EU's and United States' economies.

9. Value chains implications for SMEs in the TTIP

The main drawback of the arguments so far is that it mainly considers only those sectors/firms that have already established strong linkages across the Atlantic. These are usually large multinational corporations. This consideration begs the question of whether TTIP would result in an unequal distribution of the benefits into the economy, possibly resulting in negative collateral impacts on small and medium enterprises (SMEs), which represent the core of the EU economy.

SMEs are in a comparatively weak position in global value chains. In the EU, only 13 percent of SMEs export outside the European common market. The SMEs face specific challenges in entering foreign markets compared to larger companies, including challenges such as the costs of adjusting to different standard-related measures, protecting intellectual propriety rights (IPRs) and patent protection, custom procedures, rule-of-origin certifications and tax requirements, immigration procedures, the identification of international business opportunities, and limitation in access to public procurements.

¹⁶ Koen G. Berden et al., Non-Tariff Measures in EU-US Trade and Investment, cit.

¹⁷ European Commission, Opportunities for the internationalisation of European SMEs, Brussels, 2011, p. 44, http://bookshop.europa.eu/en/-pbNB0414189.

Nevertheless, the approach so far proposed does not imply that only the large companies would benefit from the TTIP. The removal of the NTBs (that is the heart of TTIP), if reached, would have an impact, especially for SMEs, which are, in fact, the most disadvantaged by these barriers. While large corporations have greater ability to meet the costs arising from the different regulatory and bureaucratic procedures, SMEs often lack the resources early enough to exceed those limits. In this context, progress in this area would lead to a significant reduction in entry costs for SMEs, allowing them to open up to new markets on the other side of the Atlantic and in the rest of the world.

It follows that the promotion of the internationalisation of SMEs should be an important element of the EU-United States trade agenda, as often recognised by the parties involved. The incorporation of SMEs into value chains requires a new approach that integrates sector specific-issues with SME-specific issues. TTIP could support the internationalisation of the SMEs by acting on the three pillars currently under discussion: market access, trade rules, and trade regulation.

On market access, TTIP should focus on removing transatlantic tariffs, simplify rule-of-origin certifications, and provide better information and access to public procurement. Furthermore, many companies, especially SMEs, cannot afford to change production processes to comply with different or divergent rule-of-origin certifications. In particular, European SMEs face significant difficulties when undertaking, for example, installation work abroad due to strict visa regulations and labour restrictions.

The second pillar of TTIP negotiations, trade rules, should include ambitious provisions on intellectual propriety rights and trade secrets. Trade secrets are particularly important to SMEs because, unlike patents, they can be protected without registration or filing formalities, and they are less expensive to maintain and enforce. The United States has more stringent policies on trade secrets than the EU. TTIP will thus have to strike the right balance between consumer protection on the one side and IPR protection on the other. Furthermore, an ambitious transatlantic agreement on IPR could lead to further integration and harmonisation within the EU on patent protection.

Thirdly, the cost of complying with different regulatory standards in the EU and the United States are proportionally higher for SMEs than larger companies. Regulatory harmonisation should follow the "better regulation" approach that inspires, in principle, the EU legislation. Regulations should be justified by market failures, follow an evidence-based risk assessment, and be discussed through open consultations. ¹⁹ SME participation in the definition of standards is a precondition

¹⁸ European Commission, *Transatlantic trade and investment partnership (TTIP). The opportunities for small and medium-sized enterprises*, Brussels, 2014, http://dx.doi.org/10.2781/72139.

¹⁹ European Commission, *Better Regulation, Simply Explained*, Brussels, 2006, http://bookshop.europa.eu/en/-pbKA7606161.

for success. In the definition of the regulatory chapter, TTIP negotiators should introduce an "SME test" to assess with the affected industry representatives the potential impact of the agreement on SMEs (the EU Commission already introduced its own "SME test" in 2013).

In addition to trade provision, the United States have proposed to introduce a standalone chapter that would include specific "trade supporting" provisions for SMEs. To increase SME interconnectedness in global value chains, the chapter's objective should be twofold. First, it should provide SMEs with easily accessible and adequate information on how to expand their business abroad. This would commit both parties to facilitate SMEs' access to information on EU and United States regulations (i.e. rule of origin, tariffs, custom policies, etc.), trade facilitation provisions, or exchange of information on best practices. This initiative could encourage SMEs to make full use of any future agreement, but it cannot be expected that it will have a transformative effect on SMEs export in the short- to medium-term. Moreover, simply devoting a dedicated chapter to SMEs in the TTIP negotiations would not be of sufficient help, if in all other chapters the agreement leads to provisions that will put SMEs at a disadvantage.

The overall objective should be to support SMEs in identifying and securing international business opportunities within the entire TTIP deal. By using this perspective, it would be possible to combine both the shorter-term objective of rapidly delivering the expected economic benefits of the TTIP and the medium-term objective of structural change to the EU economy through a reallocation of resources towards the most productive firms.

Conclusions

Boosting TTIP negotiations and building popular consensus for an ambitious agreement to be reached by the end of 2015 is in the interest of both sides. This is even more the case for Europe, that is still struggling from weak economic growth.

The recent decisions of the European Council to make the TTIP negotiation mandate public is a step in the right direction to secure citizens' support for the deal and the Commission should continue to work on transparency, citizen participation, and deeper engagement in civil society dialogues and consultations at each stage of the process.

Nevertheless, the current negotiating strategy faces multiple obstacles. The dossiers linked to the TTIP are numerous and resistance from specific vested interests could risk jeopardising the whole trade deal. The value chain approach to TTIP developed by this paper could represent a valid argument for narrowing the discussion and boosting negotiations. The convergence of sectorial economic interests at two levels (within the EU, and between EU and the US) suggests that negotiators have a strong incentive to reach an ambitious deal on the "vertical chapters," especially

in those sectors where they are already highly competitive vis-à-vis each other and the rest of the world. This approach would help to focus political attention onto those sectors that may yield the largest and more widely distributed economic gains.

Moreover, value chain approach to TTIP shows that the sectors where the EU is competitive vis-à-vis the United States are the same were the EU is competitive on the global scale: this creates the opportunity for the EU to set global standards in the sectors with the highest potential for long-term export and growth.

To build momentum for the negotiations, regulatory cooperation and political focus should thus concentrate on the sectors that are already integrated and with the highest potential. To do so, the TTIP negotiations should mainly be focused on reducing cost and improving logistics along the production chains of the firms which have production lines across the Atlantic. This will serve a pathfinder in the future for SMEs that could then transform their production systems and move towards deeper integration in GVCs.

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