# The Transatlantic Trade and Investment Partnership (TTIP): Potentials, Problems and Perspectives

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*"And tonight, I am announcing that we will launch talks on a comprehensive Transatlantic Trade and Investment Partnership with the European Union – because trade that is free and fair across the Atlantic supports millions of good-paying American jobs".*

State of the Union Address, President Obama, 12 February 2013.

The High-Level Working Group *"recommends to US and EU Leaders that the United States and the EU launch … negotiations on a comprehensive, ambitious agreement that addresses a broad range of bilateral trade and investment issues, including regulatory issues, and contributes to the development of global rules".*

Final Report, High Level Working Group on Jobs and Growth, 11 February 2013.

**The logic of trade liberalization 2.0**

The logic for free trade between the United States and the EU, regions with strong trade and investment links, has always been compelling. One important initiative for a transatlantic trade deal was pushed by the then Foreign Minister Kinkel in 1995 (The Economist 2012). Towards the end of the 1990s, this initiative was followed up by Leon Brittan, former European Commissioner for Trade, who advanced plans for a *'New Transatlantic Agreement'*. However, at the time the idea did not gain traction. Brittan's successor as Commissioner for Trade, Peter Mandelson, revived the idea in 2007, and signed the *'Framework for Advancing Transatlantic Economic Integration'*. Since then, proposals have multiplied under various headings (e.g. Transatlantic Market Place (TRAMP), Transatlantic Free Trade Agreement (TAFTA)), and several studies have offered detailed analysis on the topic (e.g. Ecorys 2009). Some bilateral initiatives, mostly with a very narrow focus, have also been successfully concluded. For example, both parties have agreed to mutually recognize standards for bio food. Nonetheless, no major formal agreement has been struck.

For several reasons, the chances are better than ever that the EU and the United States will come to an understanding this time. Why? Firstly, both regions have experienced anemic growth since the financial crisis of 2008. With little room to loosen fiscal and monetary policies further, they are turning to structural reforms. Unlike domestic labour or product market reforms, trade liberalization promises substantial benefits at relatively low political costs.[3] Secondly, the Doha-round multilateral trade talks orchestrated by the World Trade Organization (WTO) have not been successful, despite 12 years of negotiations. Trade issues have become increasingly complex and have moved away from simple tariff reduction scenarios to much more complicated problems related to regulation. There is substantial doubt as to whether the WTO as we know it can deliver on what one may call 'trade liberalization 2.0'. Thirdly, leaders in both Europe and the United States see the reduction of trade frictions between their regions as an important means of regaining some of the competitiveness that they lost relative to emerging countries like China and India.

Trade liberalization 2.0, i.e. the elimination of non-tariff barriers (NTBs) to trade, poses a number of distinct and novel problems. One usually defines

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[3] In Europe, trade agreements are concluded by the European Commission and do not require ratification by national parliaments.

NTBs as measures that amount to discriminatory regulatory barriers to market access. Rather frequently, however, the discrimination of foreign suppliers is not the only, or not even the primary objective of the measure; instead the policies are meant to protect consumer or worker health, or the environment. They may be in place to ensure the technical compatibility of complementary goods, or to enforce minimum quality standards. NTBs also include rules that directly discriminate against foreigners, e.g. by excluding them from participating in public procurement programs, or by denying specific tax advantages. Most of the literature, including our own work, has tended to treat NTBs as cost shifters that increase the marginal or fixed costs of production. They put foreign suppliers at a cost disadvantage relative to domestic firms without generating any advantages for, say, consumers or the environment. The adequate modeling of NTBs and their relation to conventional trade policy tools such as tariffs or subsidies in the context of general equilibrium models is the subject of an ongoing debate (see e.g. Felbermayr, Jung and Larch 2013).

The second challenge regarding NTBs concerns their measurement. The literature has developed direct measures as well as measurement methods based on residuals of gravity equations (see for a good survey Anderson and van Wincoop 2004). In other words, NTBs are understood as unobserved determinants of trade volumes. We view this as problematic, because residuals not only reflect unmeasured regulatory trade costs, but also other unobserved components of bilateral trade flows. These examples also seem problematic, as they are all country-related and, therefore, easily controllable by country-fixed effects! Moreover, residuals are naturally centered around zero, so that inferred NTBs can also boost bilateral trade volumes. A separate problem with this method is that the researcher has to quantify those portions of NTBs that are 'actionable', i.e. that can be reduced by a trade policy agreement between two countries.

As we argue in more detail below, we use a different approach. Roughly, our exercise can be understood as follows. In a first step, we use an empirical gravity model based on observed bilateral trade data for the year 2005 to estimate the effect of existing free trade agreements on trade flows. To obtain consistent and unbiased estimates, one must deal with the fact that the occurrence of trade agreements in the data is clearly non-random. In a second step, we use external information on trade elasticity to back out the total effect of free trade agreements on trade costs. The total effect must be brought about by a reduction in both tariff and non-tariff measures. So, since the former barriers are observed, in a third step, we can quantify the amount by which real-world free trade agreements have lowered NTBs. Our preferred transatlantic trade liberalization scenario uses this *ex post* estimate as the most plausible *ex ante* scenario. Our strategy has the advantage that we avoid the pain-staking task of calculating a full trade cost matrix that includes NTBs. This allows us to work with an extremely large country sample (126 nations), for which it would be totally illusory to come up with NTB estimates. We also do not need to speculate about what share of measured total NTBs is actionable and by how much NTBs would be reduced in the transatlantic agreement. The way we define our scenario is one of the key differences to other studies that have been completed in recent months.[4]

This paper summarizes the key findings of our study. We find that a comprehensive free trade agreement, which lowers non-tariff barriers (NTBs) significantly, increases German exports to the United States. This is driven by a substantial boost to sales of medium-sized firms. Trade liberalization increases the average real wage by about 1.6 percent, while it leads to a marginally lower unemployment rate. The study does not expect a lasting negative impact on the international trading regime.

## Overview of the transatlantic trade and investment relationship

### *Existing free trade agreements*

Both the EU and the United States maintain a number of free trade agreements, which typically cover trade in both goods and services. According to data published by the WTO, the United States maintains 14 bilateral agreements, some of which involve several countries (NAFTA, which includes the United States, Canada and Mexico; CAFTA, which involves a number of Caribbean States). The EU has a total of 35 bilateral agreements. Korea, Mexico, Canada, Singapore (not yet in force), Israel, and Chile all have bilateral agreements with both the EU and with the United States.

[4] See Kommerskollegium (2013) for Sweden, Francois and Pindyuk (2013) for Austria, Fontagne and Gourdon (2013) for France and Francois et al. (2013) for a study focusing on the EU.

However, an agreement between the EU and the United States would be unprecedented in terms of its sheer dimension. It would create a free trade area representing nearly 50 percent of global economic output, with only 11.8 percent of the world population.

**Table 1**

**Composition of German exports to the United States, 2010**

| | Million US dollars | % of bilateral trade |
|---|---|---|
| Industrial goods | 87,043 | 80.3 |
| Services | 19,732 | 18.2 |
| Agricultural goods | 1,581 | 1.5 |
| Total | 108,372 | |

Source: UNCTAD.

The following synthesis of the Ifo study begins by outlining the relevant defining features of the transatlantic trade relationship. This includes a brief discussion of the existing tariff and non-tariff barriers. It subsequently presents the most important results of a survey of German trade associations. This helps to understand the views of German companies on the Transatlantic Trade and Investment Partnership (TTIP) and serves as external validation of the simulation exercises. Thereafter, the main empirical results of the Ifo study are presented, emphasizing trade creation, trade diversion and welfare effects of TTIP.

*Special features of the EU-US relationship*

The United States is Germany's second largest export market (after France). Despite the dynamic development of China, the Ifo Institute's medium range forecasts predict that this ranking will remain roughly stable. The United States is the third most important source for imports behind the EU and China for Germany.

Germany and the United States differ significantly in their export shares. The German share stands at 50.5 percent of GDP, while the United States comes in at 13.9 percent of GDP.[5] This clearly highlights the different economic orientations: Germany is strongly orientated towards exports, while domestic consumption dominates in the United States.

Bearing these facts in mind, it is not surprising that Germany generated a goods trade surplus of 208,252 million US dollars with the rest of the world in 2010. Conversely, the United States had a deficit of 645,123 million US dollars with the rest of the world. In 2010, 8.2 percent of total German exports went to the United States, valued at 108,372 million US dollars (see Table 1), while imports from the United States accounted for 6.6 percent of all German imports (76,898 million US dollars). As far as industrial goods are concerned, Germany had a surplus of 26,908 million US dollars in 2010. In total, over 80 percent of all German exports to the United Sates are industrial goods. Trade in machinery and the automotive sector alone account for over 50 percent of total exports, while exports in agricultural products and services together represent less than 20 percent. It is clear that, from a German perspective, manufactured goods dominate transatlantic trade with the United States.

However, when looking at trade in services, a different picture emerges. While Germany was the second largest exporter of services in 2010 in nominal terms, with services exports relative to GDP at 7.4 percent, Germany had an overall deficit of 24,192 million US dollars with the world. In contrast, the United States had a surplus of 145,827 million US dollars by services exports of 3.8 percent relative to GDP. This difference is also reflected in bilateral trade in services between these two countries, where Germany recorded a deficit of 1,025 million US dollars in 2010.[6]

This divergence in trade in goods and services suggests that the United States has a comparative advantage in services exports, while Germany has an advantage in manufacturing industries. This relationship also holds for the nominal trade volume. Nonetheless it must be noted that Germany's deficit in services trade has declined substantially in recent years, during which the German services industry has rapidly caught up.

Turning to the agricultural sector, the United States exports larger volumes to Germany than it imports. However, in general, trade in agricultural commodities commands much lower volumes relative to output than the other sectors.

[5] Source: UNCTAD.

[6] Source: OECD, Destatis, and own calculations.

Table 2

**Comparison of weighted average customs duties 2007 (%)**

| | US imports from EU | EU imports from US |
|---|---|---|
| Agricultural goods | 2.62 | 3.89 |
| Industrial goods | 2.82 | 2.79 |

Source: TRAINS Data from WITS.

Across all sectors, trade between the United States and Germany (or, more broadly, the EU) has a strong *intra-industry* nature (Grubel-Lloyd indices of 0.73 to 0.90). Additionally, *intra-firm* trade (i.e. international transactions within the same firm) is quantitatively very important and accounts for 80 percent of German exports in the automotive industry, 76 percent in the chemicals sector and 61 percent in machinery. Interestingly, however, the share of intra-firm trade in imports from the United States to Germany is higher than in German exports to the United States. This marked asymmetry is related to the structure of foreign investment between the two countries. Furthermore, the share of *intra-firm* trade exceeds 30 percent in 12 of 32 sectors, measured either as German exports to the United States or as German imports from the United States. In almost all sectors, a significant fraction of German imports from the United States, and of exports to the United States, takes place within firms. This demonstrates the high degree of cross-linkages between the two countries.

*Low average tariff duties, high industry variation*

Tariff barriers between the United States and EU are low on average. In 2007, for the manufacturing sector, the trade weighted average tariff rate was approximately 2.8 percent in both countries. However, this low average masks extreme sectorial peaks (for example, in textiles or motor vehicles). Furthermore, the agricultural sector is generally regulated far more heavily.

Peak tariff rates may reach 350 percent in the United States and 74.9 percent in the EU. The EU median is 3.5, while the United States features a median of 2.5; the arithmetic mean is more than a percentage point higher than the median. This latter fact testifies to a substantial amount of skewness in the distribution of tariffs across products, as illustrated by Figure 1.

In both, the United States and the EU, at least 25 percent of all product lines are not subject to import duties. However, it is also true that 25 percent of product lines are subject to tariff rates higher than 6.5 percent (EU) and 5.5 percent (US). This is relevant for welfare: economic theory shows, that in addition to the average rate, the distribution of tariffs matters.

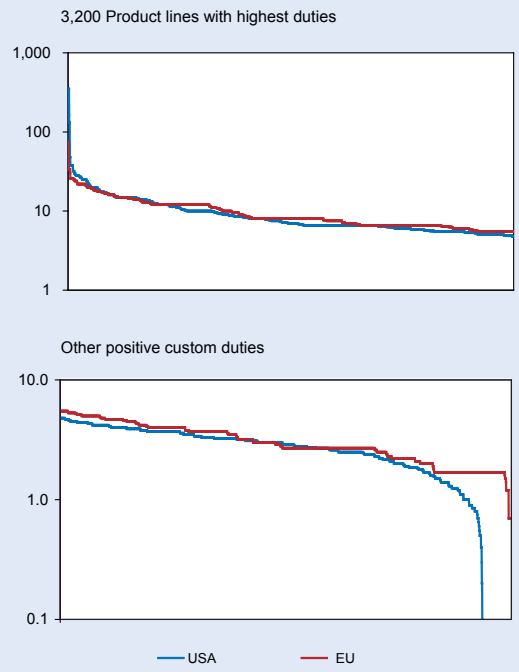
Figure 1 shows that some industries clearly have the potential to benefit greatly from tariff liberalization. Nonetheless, in comparison to other countries, the average tariff rates between the EU and the United States are at very low levels. It is therefore unlikely that the elimination of these relatively low tariffs will lead to strong trade and welfare effects in the aggregate.

*Non-tariff trade barriers (NTBs)*

Identifying and quantifying statistically robust non-tariff barriers (NTBs) at the industry level is a particularly challenging task. There is not yet any well-established methodology that can be used to estimate NTBs consistently across countries and sectors in a harmonized way, so that the results could be safely used in model simulations.

Figure 1

**Customs duties at product level**
in descending order (logarithmic scales)

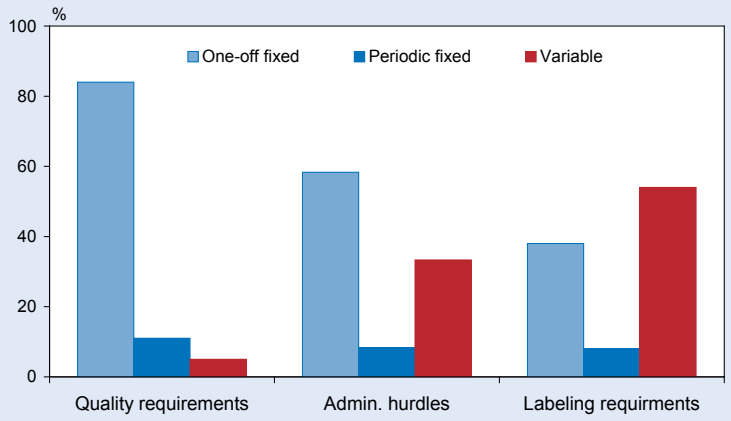



Sources: World Trade Organization, Trade Analysis Online, HS 2007 Rev. 4, Data for 2007; MFN statutory duty; Authors' own calculation.

Nevertheless, to present estimates of non-tariff barriers at the industry level, we use results from the MIRAGE consortium. This enables statements about the distribution of NTBs across sectors and demonstrates important asymmetries between the United States and the EU. Results show that, while European alcohol and tobacco exporters to the United States face additional costs averaging about 14 percent, the US companies can expect additional costs of over 50 percent on their exports to the EU. Similarly, the chemical industry in Europe has NTBs amounting to additional costs of 112 percent, more than three times as much as in the United States. This compares to the European machinery sector, which appears to impose no additional costs on the US imports, while exports to the United States face NTBs that increase the cost by 46 percent.

**Figure 2**

**Decompositions of NTB induced costs by type**




Source: Own survey amongst selected trade associactions in Germany.

To summarize, compared to tariff duties, NTBs are quantitatively much more important, probably by about one order of magnitude. Thus, they play a much stronger trade-restricting role. Additionally, they take a much more asymmetric shape between the United States and the EU than tariffs.

*Survey amongst German trade associations*

Before we proceed with the estimation and simulation of a general equilibrium model to quantify the effects of a free trade agreement between the EU and the United States, we present the results of a survey amongst leading German trade associations. This allows us to check the plausibility of the results generated by our models and acts as external validation. In addition, the survey captures the firms' attitudes towards the different liberalization scenarios, as well as towards the prospect of a free trade agreement between the EU and the United States in general. The results aid the parameterization of our numerical model, which does allow for imperfect competition and heterogeneous firms.

A total of 60 trade associations were contacted, of which 70 percent responded to our initial contact. 20 percent of associations did not respond at all, while 10 percent were willing, but unable, to be interviewed by December 2012 due to time constraints. We asked the trade associations which types of trade costs were most crucial for their members in terms of exports to the United States. We also asked about the economic role of these costs (variable or fixed costs), what advantages and disadvantages companies expect from a free trade agreement, and how these effects were distributed across businesses by size.

The survey results show that non-tariff barriers (NTBs), and, in particular, quality standards, constitute the main obstacles for German exporters in gaining access to the US market. NTBs are primarily understood as market entry fixed cost (see Figure 2).

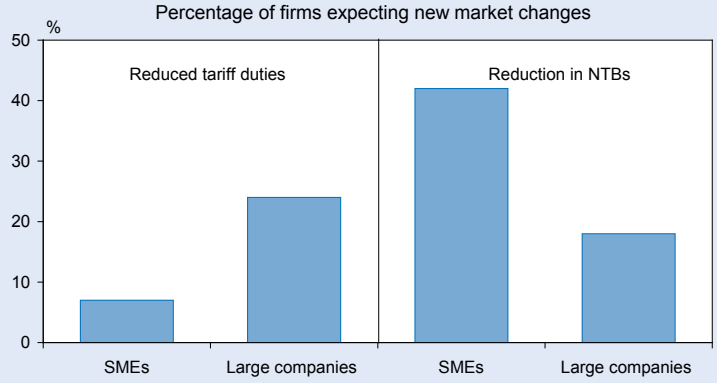
A reduction in NTBs appears to be especially useful for small and medium enterprises (SMEs). Conversely, the benefits of simply eliminating tariffs accrue to larger firms. For most industries, the US market is more important as an export destination, than as a manufacturing base.

In addition, small and medium enterprises see big opportunities and great chances for growth (see Figure 3), particularly in the chemical and agricultural sectors.

Finally, the greatest new market opportunities are seen in the machinery and plant engineering sectors, in metal production and processing, in the chemical and pharmaceutical industries, as well as in agriculture and forestry.

Figure 3

**New market opportunities from lower trade barriers by firm size classes**




Source: Own survey amongst selected trade associactions in Germany.

**Trade creation, trade diversion and welfare effects**

In this section, we discuss trade creation and the diversion effects of different liberalization scenarios, as well as their implications for welfare. Our model focuses primarily on the reallocation effects within industries, i.e. on *intra-industry* trade (Krugman 1980), as opposed to *inter-industry* trade. This is a salient choice because, as we have seen above, trade between the EU and the United States mainly takes place within similar industries.

*Model*

The key idea of our approach in this study is to first econometrically measure the trade effects of existing *preferential trade agreements* (PTAs), and then apply the results to the transatlantic agreement with the help of a model simulation. This has the advantage that, in addition to tariffs barriers, NTBs are automatically taken into account as well. We call this scenario 'comprehensive agreement' and contrast this in a second scenario with only a pure tariff reduction.

Building on the work of Egger *et al.* (2011) as well as Egger and Larch (2011), we perform a structural econometric estimation of trade effects, and simulate the counterfactual scenario of a transatlantic free trade agreement. When estimating the effects of existing PTAs, it is absolutely crucial to take into account the non-random occurrence of free trade agreements. This is achieved through the use of an instrumental variables estimator. Furthermore, we carefully model that the start-up of trade relationships between two countries may be subject to other economic laws than the intensification of pre-existing economic relationships. Following the estimation of parameters, the effects of a TTIP agreement were quantified by simulating our model. The total number of 126 countries are considered: all EU countries, the United States, Canada and Mexico (the three NAFTA countries), as well as other large and important emerging markets such as China and India.

*Trade creation effects of a comprehensive liberalization*

Across existing PTAs, our econometric estimates show average long-term trade creation effects of at least 67 percent. Carefully modeling the selection of countries into PTAs increases these effects still further. Trade growth within already existing trade relationships (the so-called intensive margin) turns out to be more important than growth stemming from the inception of new trade relationships (the so-called extensive margin).

Taking into account all relevant general equilibrium effects, trade between EU member states and the United States grows strongly by an average of 79 percent. This trade creation is a multiple of what would be expected from the observed reduction in tariffs duties alone. Compared to other studies, our econometrically sound methods signal greater trade creation effects in all country pairs affected by a transatlantic trade initiative.

*Trade diversion effects of comprehensive bilateral liberalization*

A comprehensive transatlantic trade agreement also increases trade between pairs of countries that are not directly affected: in 56 percent of those pairs, trade increases. Overall, in this group of country pairs, it rises by about 3.4 percent on average. There is, however, a high degree of heterogeneity. Trade between a few small countries can even come to a complete standstill.

Although total German exports increase overall, they fall in over half of Germany's bilateral rela-

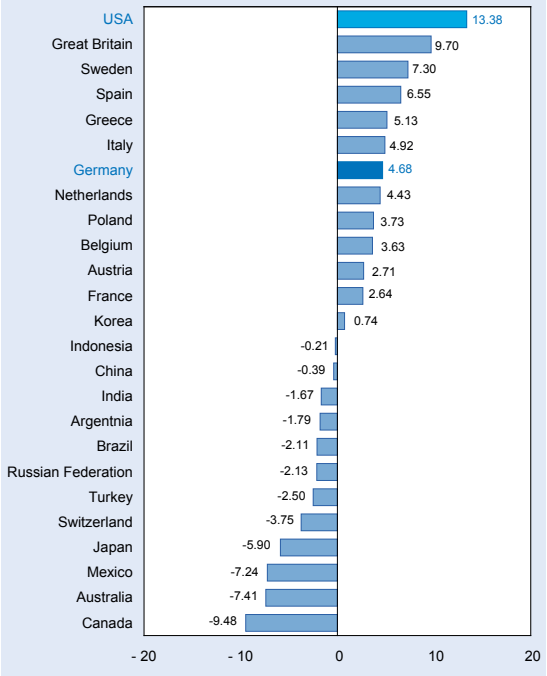
tions. Importantly, however, the decline in most cases is either small or refers to very low trading volumes. The minimum change in bilateral exports is – 40 percent, while the maximum increase is + 94 percent. The changes in bilateral trade for the United States are even more asymmetric. The median number over all bilateral trade relationships indicates a decline of 25 percent, with a minimum at – 36 percent and a maximum trade creation of 109 percent. This shows the considerable heterogeneity in the change in trade flows, which are due to trade diversion effects. However, if one focuses on bilateral trade flows, it becomes clear that German exports to the United States rise by 94 percent, while exports to Canada and Mexico rise a little less (by + 19 and + 10 percent, respectively). Exports to markets with which the EU or the United States have PTAs are considerably reduced, especially trade with some EU countries. This is due to trade diversion effects.

*Welfare effects of comprehensive liberalization*

Figure 4 shows the welfare effects for a selected number of countries. The increase in trade raises average global welfare (real income) in the long run by about 3.3 percent. In *Germany*, welfare increases by about 4.7 percent and in France by 2.6 percent. The United States and Britain are major winners with an increase of 13.4 percent and 9.7 percent, respectively. Countries with which either the EU or the United States already enjoy free trade agreements are the main losers. These include Mexico, Canada, and Chile, as well as countries in North Africa.

**Figure 4**

**Welfare effects of a comprehensive Free Trade Agreement**




Source: Author's own calculation.

It is very clear that a comprehensive free trade agreement has a significant potential for welfare gains in the long run for the TTIP-member countries. Looking at the 27 EU member states and the United States, our results show that all future TTIP member states would achieve an increase in welfare. The spread of welfare gains for the EU lies between 2.6 percent (France) and 9.70 percent (Britain). To put these effects into perspective, it is very important to bear in mind that these calculated welfare gains pertain to the *long-term* effects, and are only generated from a *comprehensive* agreement.

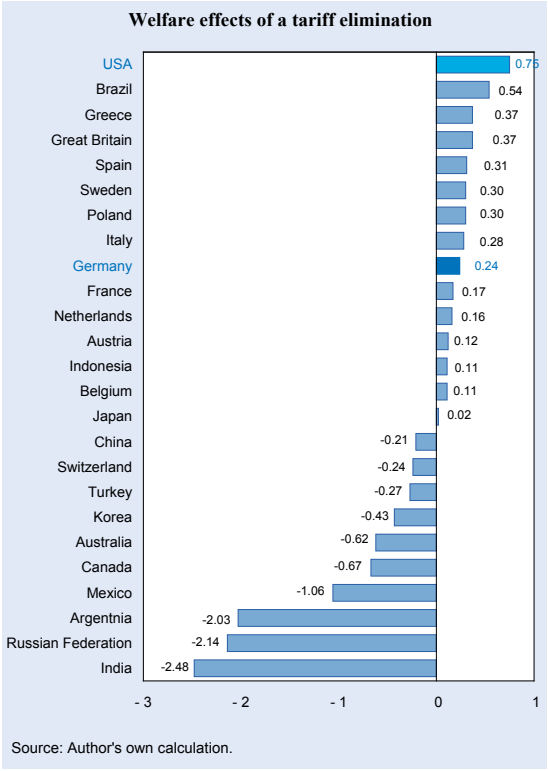
The welfare effects generated by TTIP have two main sources:

1. The introduction of TTIP leads to an increase in the availability of foreign products and possibly to the availability of entirely new products or product varieties; greater product diversity has a positive effect on welfare; and
2. Due to lower trading costs, prices are lower, and consequently the consumer price index falls, leading to an increase in the purchasing power of income. This, too, constitutes an important source of welfare gains.

*Trade creation, trade diversion and welfare effects of a tariff elimination*

As mentioned above, the weighted average tariff on imports from the EU and the United States in 2007 was only 2.8 percent. Thus, it is not surprising that the elimination of these tariffs leads to lower trade creation effects than may be expected by the occasional observer may expect; but, trade creation remains 5.8 percent on average. However, there are now a few TTIP member countries whose trade volumes fall. For countries not participating in TTIP, the trading volumes fall on average by about 0.5 percent. Yet, in around 60 percent of non-participating country pairs, trade is still rising as a consequence of TTIP. Trade diversion is therefore also less pronounced than in a more comprehensive treaty.

**Figure 5**




Source: Author's own calculation.

Figure 5 provides an illustration of the welfare effects of the tariff elimination scenario. In the long run, welfare increases by 0.24 percent in Germany, while America's increases by 0.75 percent. The global average long-run increase is 0.09 percent. Once again, those countries, with which the United States and the EU already maintain FTAs lose; however, losses are now much smaller (for example, Canada – 0.67 percent and Mexico – 1.06 percent).

Germany's reduced welfare gain of only 0.24 percent can be attributed to the already low rate of tariff duties. In comparison, substantial gains from a transatlantic agreement require eliminating NTBs. This is also corroborated by the results of the trade association survey, as well as the stylized empirical facts discussed above.

### Effects on the labour market

For a more detailed analysis of the effects on the labour markets, on productivity growth, and on firm-specific effects, we empirically implement the theoretical model of Felbermayr *et al.* (2011). In doing so, we build on work by Felbermayr *et al.* (2012). The theoretical model incorporates an accurate modeling of the search process on labour markets and differentiates between firms according to their size (employment, turnover) and productivity.

The simulation makes use of the econometric results of the above presented approach. At the same time, the careful modeling of labour markets and the inclusion of firm heterogeneity makes a higher aggregation level of data necessary; this concerns mostly the level of regional detail. We consider five regions: Germany, the United States, the rest of the EU, the rest of NAFTA and the rest of the world.

We examine three scenarios. The 'tariff scenario' assumes, as mentioned above, the complete elimination of all import duties. In the 'NTB scenario' it is assumed that the trade creation between the United States and the EU due to TTIP is, on average, equivalent to what was measured econometrically in the second section for existing agreements. This means that trade barriers from the initially calibrated equilibrium are reduced such that average trade creation predicted by the model is exactly 76 percent. This reduction naturally includes the reduction of all tariffs to zero. The entire reduction of non-tariff barriers is achieved through changes in the variable costs of trading. In the third scenario, 'single market scenario', we assume that the level of total effective bilateral trade barriers between participating TTIP countries fall to the levels that we have calibrated for trade relations within the EU. To reflect the greater geographical distance, we assume an ad valorem surcharge for transportation costs on transatlantic trade of 10 percent.

Table 3 shows that merely eliminating tariffs does not generate any significantly measurable effects on *structural* (meaning equilibrium and not cyclical) unemployment, neither in the United States nor in Germany or the rest of the EU. If the TTIP agreement amounts to substantial reductions in NTBs, then up to 110,000 new jobs in Germany and a total of 400,000 jobs in the EU can be created. Employment growth in the United States is lower. In Canada and Mexico, there are only very small, partially positive effects on employment. The rest of the world loses about 240,000 jobs in this scenario. Relative to the *'Status Quo'* (i.e. 2007), an ambitious reduction of NTBs leads to a pronounced increase in real wages in Germany, in the EU as a whole, and also in the United States. In other regions real wages remain almost unchanged. Liberalization generates new jobs, but above all it leads to better paying jobs.

**Table 3**

**Effects of the free trade initiative on labour markets**

| | Germany | US | EU26 | NAFTA2 |
|---|---|---|---|---|
| [A]Unemployment rate in % | | | | |
| Baseline scenario | 8.70 | 4.60 | 6.90 | 4.90 |
| Tariff scenario | 8.70 | 4.60 | 6.90 | 4.90 |
| NTB scenario | 8.64 | 4.55 | 6.85 | 4.91 |
| Single market scenario | 8.38 | 4.49 | 6.70 | 4.91 |
| [B] Number of unemployed (thousands, absolute change) | | | | |
| Tariff scenario | – 2,10 | – 6,25 | – 9,89 | 0,65 |
| NTB scenario | – 25,22 | – 68,79 | – 98,91 | 6,51 |
| Single market scenario | – 109,30 | – 103,19 | – 280,89 | – 3,91 |
| [C] Real Wage (Change relative to baseline scenario in %) | | | | |
| Tariff scenario | 0.13 | 0.17 | 0.13 | – 0.04 |
| NTB scenario | 1.60 | 2.15 | 1.67 | – 0.46 |
| Single market scenario | 8.32 | 5.25 | 6.18 | – 0.21 |

Source: Authors' own calculation.

**Table 4**

**Change in average labour productivity (relative to baseline scenario) (in %)**

| | Germany | US |
|---|---|---|
| Tariff Scenario | 0.06 | 0.07 |
| NTB-Scenario | 1.14 | 1.14 |
| Comprehensive Scenario | 5.65 | 3.70 |

Source: Authors' own calculation.

**Table 5**

**Gross and net employment effects for Germany**

| | NTB scenario | Single market scenario |
|---|---|---|
| Firm exits | 2,549 | 11,045 |
| Shrinking firms | 19,620 | 85,031 |
| Jobs lost | 22,169 | 96,076 |
| Firm entries | 42,757 | 185,304 |
| Growing firms | 4,631 | 20,072 |
| Jobs gained | 47,389 | 205,376 |
| Net employment effect | 25,220 | 109,300 |

Source: Authors' own calculation.

At an average of 3,311 euros gross monthly wage in Germany, the implementation of the 'single market scenario' increases a worker's wage by 268.75 euros a month.

In our model simulations, the increase in real wages is due to a higher average productivity of labour. This is driven by the fact that trade liberalization leads to a reallocation of employment away from companies with low labour productivity towards companies with high labour productivity. Accordingly, the proportion of these relatively productive firms increases in relation to total employment.

The productivity effect is an important factor in increasing the GDP – see Table 4. It turns out that the productivity-enhancing effect of the agreement is negligible in all regions, as long as one focuses only on the tariff reduction. The 'NTB scenario' results in a productivity effect of about 1 percent, which is already quite pronounced, but in the ambitious 'single market scenario' it increases further to 5.65 percent in Germany, which is more than in other regions. In other markets, the productivity effect can even be negative: by displacing exports a reverse re-allocation effect can ensue. Work is shifted towards non-exporting firms, which are also less productive. However, this productivity-reducing effect is very small in all cases.

The higher productivity of domestic firms leads to a reduction of average prices for domestic consumers. Increased competition due the entry of new foreign companies that serve the domestic market through exports also dampens prices. In fact, the price level falls in all scenarios and in all regions. The decline in third markets follows from the fact that the higher average productivity of American and/or European companies also causes price adjustments downwards in those countries.

*Effects on small and medium-sized enterprises*

Trade liberalization leads to the growth of export-oriented SMEs, which only start operating in the US market following improved market access conditions. Therefore among the medium-sized companies, the smallest stand to benefit to the greatest degree. In contrast, large companies, which are al-

ready exporting to the United States, and account for a larger proportion of total employment, remain largely unaffected by a TTIP agreement. They benefit from falling transaction costs on the one hand; but face stiffer competition both in their home markets and abroad on the other. The entry of more efficient American companies into the German market may lower the competitiveness position of certain non-exporting, small firms. However, on the macroeconomic level, this is compensated for by lower prices due to increased competition, which leads to overall welfare gains for consumers. Generally, a TTIP agreement leads to an increase in the degree of internationalization of firms, especially in the medium-size range.

**Industry-level effects**

For an analysis at the industry level, a computable general equilibrium model of the type MIRAGE (Modeling International Relationships in Applied General Equilibrium) was used. The underlying dataset is based on the GTAP 8 data set for 2007. Since the program allows an aggregation of countries/regions and industries, Germany and the United States were analysed separately for this study. The rest of the countries were grouped into eight regions. The industry level was left as disaggregated as possible.

In the considered scenario, all duties in the agricultural and industrial sectors are lifted, while no NTB reduction is performed. In the services sector, it is assumed that the market access in telecommunications, air transport, postal services, financial services and environmental services will be liberalized based on the GATS (General Agreement on Trade in Services) agreement.

The reported results reflect the long-term. They report percentage changes relative to a situation, in which no agreement was reached. The results indicate trends at the sector level; for a macroeconomic analysis please refer to the two previously described analyses.

**Table 6**

**Export growth by sector (in %)**

| | German exports to US | US exports to Germany |
|---|---|---|
| Agriculture | 28.56 | 56.02 |
| Industrial goods | 11.10 | 17.85 |
| Services | 3.78 | 1.44 |

Source: Authors' own calculation.

Looking at the development of the bilateral exports between the United States and Germany, it is evident that export growth is to be expected in all three main sectors of the economy (agriculture, industry, services) – see Table 6. The largest increase in exports is in the agricultural sector, albeit starting from a relatively low level. The largest increases on the German side can be expected in the agricultural sector for dairy products, vegetable oils and fats and sugar. For America the growth is much stronger on average, with especially high increases forecast for meat products.

In the industrial sector, the strongest German gains in export growth take place in the textile and leather branches. The United States is expecting equally strong export growth here. However, quantitatively more welfare relevant effects come from the significant increases in mechanical and automobile engineering exports, both in the United States and Germany. US exports can be expected to grow significantly faster than German exports, especially in automotive engineering.

In the service sector, Germany is able to expand its bilateral exports significantly. Strikingly, double-digit growth in financial services, communications sector, and in business services are the driving force here. In these areas, there is also significant, but lower overall growth, on the American side.

Table 7 shows changes in the aggregate volume of exports for the United States and Germany in percent. Changes in all export sectors were corrected using the GDP deflator.

**Table 7**

**Growth in overall exports (in %)**

| | US exports | German exports |
|---|---|---|
| Agriculture | 0.16 | 3.54 |
| Industrial goods | 0.74 | 3.17 |
| Services | 0.42 | 2.46 |

Source: Authors' own calculation.

At the multilateral industry level, i.e. against all trading partners, all US sectors feature positive export growth, whereas individual sectors in Germany experience a decline in exports. Overall, however, exports increase in all of the three main sectors of the economy in both economic regions.

**Effects on the global trading regime**

Does a regional agreement, like the one between the United States and the EU, reduce the likelihood of a successful reform of the multilateral trade regime under the WTO? Or does it increase its chances? Baldwin and Seghezza (2010) recently demonstrated very convincingly that regional integration efforts are neither a building block for, nor a stumbling block to the progress of multilateral liberalization. On the one hand, they reduce the incentives of the participating countries to make concessions at a multilateral level. On the other hand, they increase the benefits from successful multilateral negotiations for initially uninvolved countries. In particular, the emerging economies could be persuaded to make concessions.

Only a reduction of NTBs, which are not addressed within the existing WTO agreements, can deliver significant additional welfare benefits. Such liberalization appears to be unthinkable in the current WTO framework. In that sense, the multilateral approach does not represent a feasible alternative to deeper regional agreements.

An important objection, which has been frequently made, is that a transatlantic free trade agreement will diminish the value of bilateral agreements with third countries, such as with Turkey, or the signatories of the Cotonou Agreement (post-Lomé), because they would be confronted with increased European competition on the American market. This results in *'TTIP swallowing bilaterals'* (Langhammer 2008, 17).

The results of our study suggest that Canada, for example, should have a vital interest in successfully concluding its negotiations on a free trade deal with the EU. The same applies to all countries that maintain free trade agreements with either the United States or the EU. Countries that are already linked by agreements to either the EU or the United States would have an incentive to form a bilateral agreement with the partner with whom they do not yet have an agreement. This is the core of the building bloc argument. Thus, a deep bilateral agreement between the EU and the United States poses no existential threat to the multilateral trading system.

**Conclusions**

Compared to other free trade agreements, that have been completed in the recent period, or are currently being negotiated, the expected welfare, growth and employment effects of a transatlantic free trade initiative are significantly more substantial, in the United States, in Germany and other EU member states, but also in third countries. This is so because the EU and the United States are each other's main trading partners; the main player on the European side being Germany. This is true for any type of trade liberalization scenario, but it is particularly relevant when considering the important role of non-tariff barriers.

At the same time, the two economic blocs are sufficiently similar in terms of their cost and productivity structures. This makes it very unlikely that an agreement involving comprehensive trade liberalization generates strong competitive effects based on different wage levels.

The facts of very similar economic development levels, strong mutual investment positions, deep political ties (for example, the common defense policy) and high degrees of cultural proximity, suggest that the partners should find it easier to lower non-tariff regulatory barriers to market entry. In many areas, for example in the approval of products, this requires high levels of institutional trust.

The central point of criticism on a comprehensive agreement between the EU and the United States is that such a trade deal would put third countries at a disadvantage. It is (or rather was) often said that this would jeopardize the functioning of the WTO and hinder the successful conclusion of a multilateral agreement (e.g. Doha Round). However, modern empirical research points to the possibility that the conclusion of important bilateral agreements actually increases the incentives of third parties to achieve further liberalization steps at the multilateral level.

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