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Transatlantic Trade and Investment Partnership

The Economic Analysis Explained



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Summary

The Commission's assessment of the likely benefits of the Transatlantic Trade and Investment Partnership (TTIP) is based on analysis carried out by the Centre for Economic Policy Research, a leading independent pan-European economic research organization. Given the significance of TTIP, this analysis has been widely discussed in policy debates, in the press, on social media. The material provided in this document attempts to answer some of the questions that have been raised in those contexts.

The following are some of the most important points:

The overall impact of TTIP

The CEPR study predicts that an ambitious TTIP deal would increase the size of the EU economy around €120 billion (or 0.5% of GDP) and the US by €95 billion (or 0.4% of GDP). This would be a permanent increase in the amount of wealth that the European and American economies can produce every year.

Specific Impacts

The study provides some assessments of the sectors that are likely to benefit most from TTIP, which include metal products (exports up 12%), processed foods (+9%), chemicals (+9%), other manufactured goods (+6%), other transport equipment (+6%), and especially motor vehicles (40%).

Overall output in agriculture, forestry and fisheries taken together is expected to increase by 0.06%, though there may be limited negative impact in certain subsectors. Further specific studies would be welcomed on this question.

The standard models that economists use to analyse these type of agreements cannot quantify the number of jobs created. Therefore the study does not assess the overall impact a potential agreement on jobs. However, it does say that wages for both skilled and less skilled workers are likely to rise as a result of the agreement, by roughly 0.5% for both skilled and less skilled workers alike.

The study predicts that as a result of the TTIP jobs will indeed move out of some sectors and into others. However this movement (predicted to be about 7 jobs in every 1000 over 10 years) is much smaller than the natural movement that happens between sectors as a result of normal changes in the economy (currently about 37 jobs per 1000 every year).

Based on the Commission's own rough calculations the TTIP may result in an increase by several million of the number of jobs dependent on exports in the EU.

Consumers will also benefit from cheaper products. The study estimates that in total the average European household of four will see its disposable income increase by something in the region of €500 per year, as a result of the combined effect of wage increases and price reductions.

According to CEPR's researchers, TTIP will be beneficial not only for the US and the EU but also for their trading partners around the world, to the tune of €99 billion. This is because economic growth in the US and EU means more purchases by consumers and business of other countries' products. It is also because any common regulatory approaches between the EU and the US will reduce costs for exporters from and to those markets – so-called positive spillover effects.

A recent study carried out by the IFO Institute and published by Bertelsmann that points to negative consequences for third countries uses a different methodology to the CEPR study and other studies produced to date. Its results are very different also, partially because its approach ignores spillover effects.

How accurate is the CEPR study?

The CEPR study is uses a computable general equilibrium (CGE) model to simulate the impact of TTIP. These are standard tools for trade economists that create a computerised simulation of the world economy and model what happens when changes are introduced.

The CGE model used by CEPR is state-of-the-art. It needs to make assumptions about the economy in order to work but these are as reasonable as possible to make it as close to the real world as possible.

For instance, it is able to account for the effects of economies of scale, different skill-levels of employees, imperfect competition between companies and many other features of the real world economy.

The study also makes reasonable assumptions about the content of a likely agreement. The ambitious scenario – which gives the overall figures quoted above – would involve tariff barriers being reduced to zero, non-tariff barriers in goods and services being reduced by 25% and public procurement barriers being reduced by 50%. This is realistic: Both sides have already announced the goal to eliminate the vast majority of tariffs and, while the work on regulatory cooperation is only beginning, there is already a consensus between the EU and the US that the agreement should go further than any other existing agreements in this area.

It is also likely that the study underestimates, rather than overestimates the gains from a potential agreement. This is because the model is not able to take all effects on productivity into account, for example. The same goes for the positive effects on foreign investment by multinational firms, which is very significant for international trade in services in particular.

Nonetheless it is important to understand that CGE models have limitations. The figures are best understood as a “ballpark” indication of the economic effects rather than precise predictions of exactly what will happen.

With that caveat, it is important to note that the CEPR study is at the mid-range of most other studies carried out on TTIP. The outlier of studies produced to date remains the Bertelsmann/IFO study, which predicts much greater impacts (positive for the EU and US and negative for their trading partners.)

The Commission believes in a conservative approach to analysis of policy changes as complex as TTIP. It is essential that other researchers experiment with new methods for the sake of advancing the state of the art. However, the Commission is reluctant to put forward over-optimistic results that may not withstand scrutiny. Alternatives to the CGE approach may have their merits but none has yet proven to be sufficiently reliable for an ex-ante analysis of economy-wide effects of trade policy changes.

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Introduction

The European Commission has grounded its reflection on the economic effects of a potential Transatlantic Trade and Investment Partnership (TTIP) on an in-depth study that was conducted by an international team of researchers, led by Professor Joseph Francois, from the Centre for Economic Policy Research (CEPR)¹. CEPR is a leading independent pan-European economic research organization with long experience in public policy evaluation². The study was funded by the European Commission but the analysis and conclusions are the researchers' own.

The study takes a detailed look at current US-EU bilateral trade and investment flows and existing barriers to them, and uses state-of-the-art economic modelling to quantify the potential impact of several policy scenarios - with differing levels of ambition - for the outcome of the negotiations.

This document is an attempt to explain further the conclusions and methods of the study and the Commission's economic rationale for the TTIP more generally. The first three sections focus on the conclusions, looking at impacts on the economy overall and on specific issues like employment. The final section focuses on the methodology used in the study, how it works and why it was chosen. This part is therefore more technical in nature.

1. The Overall Impact of the TTIP

1.1. What does the CEPR study say about the potential gains from this agreement?

The study estimates that an ambitious and comprehensive TTIP could bring significant economic gains for the EU (€120 billion) and the US (€95 billion), once the agreement is fully implemented and the economies fully adjust. These economic gains would represent a 0.5 % and 0.4% increase in EU and US GDP respectively by 2027 relative to their levels without the TTIP in place. In other words, by 2027 we could expect the European Union's economy to be around €120 billion larger and the US economy to be €95 billion larger than they would be without TTIP.

To be clear, this does not mean that the result of the agreement will be just a single, one-off GDP bonus of €214 billion in 2027. The gains it predicts are much greater because they in fact represent a permanent increase in the amount of wealth that the European and American economies can produce every year, as a result of the more open markets and more aligned regulatory systems agreed under the TTIP. These improvements to the transatlantic economy are expected to build up gra-

dually until the agreement is fully implemented. This means that there will be increasing gains every year from the moment the agreement enters into force, until they reach their full level by 2027.

These gains can also be translated into household disposable income. One of the most widely quoted figures from the CEPR study is its estimation that a European family of four would see their annual disposable income increase by an average of €545 per year as a result of the agreement. This figure takes account not only of increases in wages and other household income but also price reductions.

The other important lesson from this study is that reducing non-tariff barriers (NTBs) is a crucial driver of these gains. According to the analysis as much as 80% of the total potential gains could come from cutting costs imposed by duplicative bureaucracy. This is a key message to bear in mind at the start of the negotiations.

It is important to note that these figures are the output of simulations based on a model of the economy that is simplified – even if it is state-of-the-art (see section 4. below). As such they are not precise predictions but rather good indicators of the rough size of the impact of the TTIP.

¹ The study is available at : <http://www.cepr.org/content/independent-study-outlines-benefits-eu-us-trade-agreement>

² <http://www.cepr.org/about-cepr>

1.2 What is the expected impact on trade flows?

The income gains generated by the TTIP are the result of increased trade and increased efficiency. According to the analysis in the study, EU exports to the US would go up by 28%, equivalent to an additional €187 billion worth of exports of EU goods and services. The EU imports from the US will also increase by €159 billion.

That is not all however. In addition, EU and US exports to the rest of the world would increase by over €33 billion and €80 billion respectively, mainly reflecting the fact that at least part of the cost savings achieved by the reduction of NTBs (notably those associated with the streamlining of EU-US regulations and the convergence of EU-US standards) will not be restricted to EU-US bilateral trade flows. This is due to the so-called spillover effects (for a definition see section 3.2 below).

Overall, total exports would increase by 6% and 8% in the EU and in the US respectively. This would mean an additional €220 billion and €240 billion worth of sales of goods and services for EU and US based producers, respectively. Total imports will increase by 5% in the EU and US, or €226 billion and €200 billion respectively.

1.3 Are these new exports or are they simply redirected exports that would otherwise have been sold, for example, within the European Union's Single Market?

It is true that lowering barriers to trade – and therefore the cost of trade – with the US would likely divert some EU trade towards the US and away from existing partners including other EU Member States. The study quantifies this effect (trade diversion, in technical terms) at €72 billion under the most ambitious TTIP scenario. While not negligible, this reduction in trade within the EU is minor when compared to the boost in total EU trade activity that the TTIP will prompt, which could be as much as €445 billion.

In any case, the deep sharing of production processes across Europe means that any economic and social adjustment cost that this might entail – that is not already compensated for by new trade with the US – will be relatively evenly distributed across the whole EU, and can therefore be expected to be smoother. Today, many European goods are produced in multiple stages that take place in different countries (including several Member

States), along what are known as value chains.

It is interesting to note that EU exports to countries that are outside the EU – besides the US – are expected to increase by 33 billion euros under TTIP. Although there are trade diversion effects similar to trade within the EU, the phenomenon of spillovers (for a definition see section 3.2 below) will likely lower costs for EU exporters in these countries. EU imports from the rest of the world excluding the US are expected to increase by 66.9 billion euros.

2. Specific Impacts: Sectors and Jobs

2.1 Do all industries gain as a result of TTIP?

According to the CEPR study EU exports would increase in almost all sectors as a result of the TTIP, but the boost in total EU exports outside the Single Market would be particularly significant in metal products (+12%), processed foods (+9%), chemicals (+9%), other manufactured goods (+6%), other transport equipment (+6%), and especially in motor vehicles (41%).

In most sectors this would be also accompanied by an increase in imports. This happens with any trade deal, as it is trade opening in both directions that most promotes economic efficiency. This is because, on top of new sales from exports, imports are also good for an economy. Consumers have more choice and pay lower prices for the products they want to buy. Likewise, companies benefit from more variety and lower prices for the parts, components and services that they use in their business. As a result they are better able to compete on the EU market and around the world.

This helps them deal with another effect of imports – more competition. The benefit of increased competitive pressure is that companies have to work harder to stay efficient, which means the whole European economy will become more productive, increasing its capacity to grow and create jobs. The drawback is that the least efficient companies will find it hard to compete. The whole process will be tougher for the sectors that bear the brunt of the adjustment process. In the case of the TTIP, according to the CEPR analysis the “electrical machinery” and “other transport equipment” (i.e. not cars) will be among those sectors in the EU. In the US it will be the “electrical machinery” and “motor vehicles” sectors. However, according to the

CEPR study the changes in output are expected to be small (and less pronounced than the changes in import and export flows) in all sectors, which suggests that overall the adjustment process will be manageable.

Nonetheless, the EU and national governments will need to be prepared support people who need to move between sectors (see section 2.2. for information about employment.)

2.2 What does the CEPR study say about the impact of the TTIP on jobs?

The study looks at two ways that the TTIP could affect the labour market: the changes in the wages that people are paid, and the reallocation of jobs across the economy in response to the restructuring triggered by the agreement.

2.2.1 Wages

The CEPR study finds that the TTIP would have a positive impact both on skilled and less skilled workers' wages, raising each by close to the same amount, roughly 0.5%.

2.2.2 Jobs moving between different sectors

The study makes an assessment of how jobs would be reallocated among the different sectors of the economy. The idea is that the industries that will grow the most as result of TTIP will pull away workers from other sectors by offering higher wages.

The simulation suggests that these movements will be relatively limited. In the EU, less than 0.7% of the labour force could be expected to move between sectors over ten years. This means that fewer than 7 workers in every 1000 would end up moving to another sector by 2027 due to the TTIP.

To understand the implication of this figure, it is important to bear in mind that a reshuffling of jobs between different sectors happens all the time anyway, and at a much faster rate than this. The average annual change in EU manufacturing employment before the crisis (2001-2007) was 2.1% every year. Since 2008 it has risen to 3.7% (or 37 jobs per 1000). Thus, any labour movement between sectors prompted by TTIP ought to be easily absorbed by these normal processes of adjustment. However, where necessary, Member States may need to assist workers in making the

transition to new sectors through lifelong learning and other labour market flexibility programmes. If needed, the European Union's Globalisation Adjustment Fund may also be able to provide support³.

2.2.3 Can anything be said about the impact of the TTIP on job creation overall?

The CEPR study does not look at this issue (see why in section 4.9 below). However, according to the Commission's own recent estimates, every billion euros of trade in goods or services supports around 15 000 jobs in the EU. Based on this figure and the expected increase in EU exports from the CEPR simulation exercise, the most ambitious TTIP scenario considered in that study could be expected to increase by several million the number of jobs dependent on exports in the EU. This figure, it is important to note, is a relatively crude extrapolation that assumes, among other things, that labour productivity remains constant over time.

In addition, it would be safe to say that an ambitious TTIP would mean that more of Europe's jobs would be in firms that are capable of exporting successfully, and that are by extension well equipped to deal with strong competition from global markets. This will contribute to a more sustainable employment base.

2.3 To what extent is agriculture a special case?

2.3.1 How will the TTIP impact agriculture, according to the study?

The CEPR study assesses agriculture together with forestry and fisheries and predicts a small increase in output of 0.06% in Europe for all three, although there might be limited negative impact in certain individual sectors.

For example in agriculture, some short-run impacts of an EU-US trade initiative could be a decrease in EU output, in particular for certain meat producing sectors. These effects will most likely be followed by adjustment dynamics. An initial shock in most affected sectors is expected to lead to restructuring of the sectors concerned. However, the expected efficiency gains due to productivity growth account for the positive aggregate results predicted by the model in the longer term. For processed foods the study predicts a much larger 0.57% increase in output in the EU.

³ <http://ec.europa.eu/social/main.jsp?catId=326&langId=en>

2.3.2 Given that agriculture is distinct from other sectors shouldn't it be analysed differently?

Agriculture is different from other sectors, in large part because its output depends so much on unforeseen factors like the weather or natural disasters. The model used in the CEPR study works with average yields of agricultural products and does not try to capture the effects of one-off events.

The question is: does this make its results irrelevant or, phrased differently, if the uncertainty of agricultural production could be incorporated in such an analysis would that change the conclusions?

The answer is no. If trade integration is found to increase welfare under the assumption of stable yields, there is no reason to assume it would decrease welfare under the assumption of yield variation.

2.3.3 Won't the TTIP increase volatility of food prices?

Given the size of the project, including in the agricultural area, some have argued that the agreement could have an impact on the volatility of food prices.

This however seems unlikely. In the recent past, we have seen increased volatility in agricultural prices. Some identify the surge in trading volume of agricultural futures and other financial instruments as a key reason for this. Some go further and suggest that by reducing barriers to agricultural trade we would encourage this trend.

This view is mistaken however, for two reasons:

First, reducing barriers to the physical trade in agricultural goods is not at all the same as deregulating the trade of financial instruments, which TTIP would not do.

Second, liberalizing agricultural trade has been shown in the past to soften price volatility. Events which trigger price volatility, like droughts or bumper harvests, have a much stronger effect on economies that are more cut off from world markets than they do on countries that can increase imports in case of a sudden shortfall in domestic production or increase exports in case of a sudden surge. We have seen in recent years how market closing policies like the recent export bans by major commodity producing countries have severely exacerbated existing volatility on the world market.

2.3.4 Are computable general equilibrium (CGE) models appropriate for understanding agriculture?

CGE models (see section 4 for an explanation) have often been criticized for not simulating the impact on the agricultural sectors reliably. It is true that for commodities for which there is limited (or no) trade to start with due to the high trade barriers in place, CGE models might underestimate the impact of trade liberalisation. This might be an issue for some specific agricultural commodities. However, given their limited weight in the more aggregate sectors that were used in this analysis, this should not play a huge impact on the quantification of the overall macro-economic impact of the TTIP, which is the objective of the study. Moreover, the negative impact of trade liberalisation on the EU agricultural sectors should not be exaggerated by overlooking the fact that CAP reforms in the past have enabled EU producers of many commodities to successfully compete with US farmers in export markets.

The methodological approach that was adopted in the CEPR study is sound and robust and is in line with the most sophisticated means to evaluate the macroeconomic impact of a trade agreement.

However, it does not claim to answer all questions. The debate on TTIP would benefit from studies exploring further the aspects that CGE cannot. For instance, the effects on very specific products, notably agricultural commodities, could be analysed using other methods such as partial equilibrium simulations. However, these other types of analysis are also fraught with shortcomings, albeit of a different nature. For example they will not capture the income effects generated by the economy-wide hike in efficiency as a result of the trade liberalisation shock, thus overlooking one of the main reasons why we are pursuing this initiative in the first place.

3. Specific Impacts: TTIP and the Rest of the World

3.1 What about the impact on the rest of the world?

The TTIP should not only boost trade and income in the EU and US but also in the rest of the world. The CEPR study finds that the agreement would increase GDP in our trading partners by almost €100 billion.

More specifically, the GDPs of high income OECD economies (minus the US and EU) are found to gain collectively as much as €36 billion (or +0.19%) in an ambitious TTIP scenario. The same goes – though to a lesser extent – for the low income countries, would see GDP gains of some €2.4 billion.

These expected gains suggest that the benefits to the EU and the US will not be achieved at the expense of the rest of the world.

3.2 Why do other countries gain from an agreement between the EU and the US?

3.2.1 More income in EU & US means more imports from other countries

An overall increase in GDP and in income for households in the EU and the US means that people will have more money to spend in general. That implies higher demand, not only for goods and services produced in the EU and the US but also from elsewhere in the world. Given that the EU and the US together make up 46% of the world economy and that our economies are some of the most open, this will have a noticeable impact on demand for exports from other countries around the world.

3.2.2 More growth for EU & US companies means more orders for their suppliers in other countries

The world economy is increasingly interdependent given the ever greater complexity of global value chains. Increased demand for products made by American or European companies will also increase demand for components and services from their suppliers in other countries.

3.2.3 The benefits of removing regulatory barriers to trade will directly spill over to exporters around the world.

Eliminating or reducing regulatory barriers will also allow for improved market access for producers from other countries. For example, the many companies around the world that export to both Europe and the United States currently have to comply with two sets of standards and regulations, often requiring separate production processes. The improvement in regulatory compatibility between the US and EU that is planned under TTIP should have a direct positive impact on these companies.

This was the reality of what happened after the creation of the European Union's Single Market. A unified set of European rules benefitted not only EU firms but also American and Japanese exporters. The same can happen – though likely to a lesser extent – if rules across the Atlantic are made more compatible.

The CEPR study takes account of this effect (known as a direct spill-over effect) in the simulations of the impacts of TTIP that it carried out (see section 4 for an explanation of the model). In the model that it used there is the possibility that some regulatory barriers are reduced not only for bilateral trade between the TTIP partners but also for any exporter to the EU or the US or both. After examining a list of existing regulatory barriers to transatlantic trade the researchers concluded that it was realistic to assume that 20% of the cost reductions due to the removal of NTBs would benefit third countries, while 80% would only benefit the US and the EU.

3.2.4 New transatlantic standards and regulations may be adopted by other governments, meaning further indirect economic benefits for other economies

Finally, the model used in the CEPR simulations also accounts for the possibility of an indirect spill-over effect of TTIP on other countries. That is because the large economic size of the EU and the US means that partner countries will themselves have an incentive to move towards any new transatlantic standards that the TTIP creates. This would improve market access between the EU, US and those countries, and may also reduce trade

barriers between those countries themselves.

In the study the indirect spill-overs were modelled at half of the 20% rate assumed for direct spill-overs. For example, a 5% reduction in the costs of trading between the EU and US would lead to a 1% reduction for partner countries exporting to the US or EU (based on the 20% direct spill-overs), and a further 0.5% reduction to account for the decline of EU and US export costs to third countries, and for trade between third countries (due to the indirect spill-overs).

3.3 What about the analysis carried out by the IFO Institute and published by the Bertelsmann Foundation that says that many other countries will lose out heavily from TTIP?

It is crucial to have as many serious perspectives as possible on this agreement and the economic issues behind it. The decisions to negotiate and ultimately approve TTIP have been and will be very important for the European Union so it is essential that people are fully informed about the potential consequences. A lively academic debate is the best way to help us get to that point.

Nonetheless, the CEPR results – and all other studies the Commission has seen to date – contrast sharply with those found in the TTIP analysis published by the Bertelsmann Foundation and carried out by the IFO Institute⁴ which has received considerable attention in the media. It is therefore important to understand the differences between them, and why the Commission is basing its analysis on the CEPR approach.

There are large differences between the overall gains (the IFO study predicts gains of 5% for the EU and 13.4% for the US while the CEPR study sees GDP gains of 0.48% for the EU and 0.39% for the US).

There are also major differences in the predicted impact on other countries. According to the IFO study for example, the high income OECD economies will face an impact that is almost unprecedented from a trade agreement – especially one

which does not even involve them directly. This is the case for Canada (where the IFO study predicts a GDP decline of 9.5%), Australia (-7.4%), and Japan (-6%) – all as a result of an agreement between the US and the EU.

By contrast the CEPR study predicts a collective gain for the rest of the world in the region of 99 billion euros, 36 billion of which is expected to be for the OECD.

While some differences are to be expected given the differences in methodology, assumptions and estimated NTBs, we find the IFO estimates unrealistically high in general and certainly very different from the typical results found in other recent TTIP studies⁵. Put simply, the study is an outlier.

Simple back of the envelope calculations confirm this:

- US exports account for about 14% of gross US GDP. Currently, about 20% of US exports go to the EU, meaning that only about 3.5% of US GDP is directly affected by trade with the EU. In order to achieve the 13.4% GDP increase in the US estimated by the IFO study, bilateral trade would have to vastly increase, all the more so if, as it is the case in the IFO study, gains in trade with third countries are ruled out.
- The IFO estimates for the impact on other countries also look unrealistic when compared with known figures. For example, the study predicts that the TTIP would have a greater impact on Canada and Australia than the major global economic downturn that followed the recent financial crisis.

There are a number of reasons for this, but the most important issue, when it comes to other countries is that, that the IFO study omits the direct and indirect spillover effects that result from greater regulatory compatibility between the EU and the US (see section 3.2 above). As a result, its assessment of the impact on the rest of the world relates to pure trade diversion, meaning most countries lose out from the EU-US agreement. (For more details on the IFO study see section 4.8)

⁴ Available at: <http://www.bfna.org/sites/default/files/TTIP-GED%20study%2017June%202013.pdf>

⁵ "Potential Effects from an EU-US Free Trade Agreement – Sweden in Focus", downloadable at: <http://www.kommers.se/Documents/In%20English/Reports/Potential%20Effects%20from%20an%20EU-US%20Free%20Trade%20Agreement%20-%20Sweden%20i%20Focus.pdf>; "Estimating the Economic Impact on the UK of a TTIP Agreement between the European Union and the United States", downloadable at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198115/bis-13-869-economic-impact-on-uk-of-transatlantic-trade-and-investment-partnership-between-eu-and-us.pdf

4. How accurate is the CEPR Study?

4.1 How does the study quantify the economic impact of the TTIP?

The CEPR study uses an approach based on a computable general equilibrium (CGE) model to simulate the economic outcome of the market opening expected under TTIP.

CGE models are standard tools in economists' analysis of trade policy. They are particularly useful for quantifying the likely outcomes of particular trade policies before they happen. They help answer «What if...» questions by simulating the price, income and substitution effects of different policy changes and comparing them against predictions about what would happen without a policy change.

The way these models work is by creating a simulated version of the global economy on a computer, based on the most advanced and well established economic theories. These models capture the main links between domestic and international production, consumption and investment across many sectors and economic actors like firms, consumers and the State. They also take account of the fact that the different sectors compete for capital, labour, and land.

However, like all economic models, CGE models are necessarily simplified versions of the real economy, which is obviously impossible to recreate on a computer. But, the CGE model that was specifically used for this CEPR analysis is state-of-the-art, and includes several innovations that bring it as close as possible to the real world. It accounts for economies of scale, monopolistic competition and changes in varieties in certain manufacturing sectors. This means it is better equipped to capture how different firms would adjust to transatlantic trade liberalization.

The advantage of using these models is that it allows economists to simulate at the same time how all sectors and actors adjust to the changes to costs, prices and/or incentives that a policy change like TTIP would cause. In this study the economic outcomes of each of the alternative scenarios for the TTIP that were considered were quantified and compared against a so-called baseline scenario, which represents what would happen to the economy if no trade agreement with the US was implemented. This comparison is pushed forward to 2027 in order to allow all the necessary adjustments (among and within sectors) triggered by the agreement to unfold.

4.2 Are the assumptions in CEPR's approach too simplistic?

No. To make the model simpler and manageable the researchers do need to make a number of informed assumptions about the European, American and world economies and how they will evolve. However, the assumptions behind the CEPR study are as reasonable as possible in an effort to make it as close to the real world as possible.

First, there are some features of the particular CGE model that the CEPR study uses that make it particularly well-suited to analysing the impact of major policy initiatives like the TTIP. For example, it:

- makes a distinction between skilled and less skilled labour, providing information about the potential social impacts and the likely distribution of economic gains;
- takes into account that there are frictions (and costs) when labour and capital move between different sectors and countries, i.e. that it takes time and (costly) adaptation for this to happen;
- allows for imperfect competition within sectors, taking the possibility of monopolistic competition into account, for example;
- takes into account that goods are not perfectly interchangeable, e.g. due to quality differences or a bias of consumers in favour of goods produced in their own country;
- does not assume that all market participants possess perfect information;
- does not assume that there is no cost for sellers to enter a new market;

Second, the baseline scenario against which the simulations of the impact of the TTIP are compared is as realistic as possible, bearing in mind that we are working with economic projections more than 10 years into the future⁶. These projections factor in the slow economic recovery in the US and the EU in the wake of the financial crisis of 2008, as well as the current and projected future dynamism in the emerging economies, notably China.

The baseline also accounts for all EU and US trade agreements in force at the time of the study as well as the EU free trade agreements with Canada

⁶ CEPR study, Annex 2, page 109. Available at: <http://www.cepr.org/content/independent-study-outlines-benefits-eu-us-trade-agreement>

and Singapore, which are now in their concluding stages. It does not include any new agreements in terms of multilateral trade liberalisation nor larger bilateral initiatives that have not yet been agreed, such as the Transpacific Partnership, for instance.

Third, the model is run with a well-documented set of data that captures the main features of the world economy today. This data set, known as GTAP8⁷, is developed and used extensively by dozens of researchers, governmental agencies and international organizations around the world, which ensures it is systematically checked for any potential errors. The use of GTAP data increases the Commission's confidence in the reliability of the results.

4.3 What other assumptions does the analysis make about the content of the agreement?

The researchers have also had to make assumptions about the eventual content of the TTIP, since the agreement has not been negotiated yet. So the study looks at several scenarios for the outcome of the negotiations.

Each makes different assumptions about how much will be agreed in different areas (e.g. tariffs, NTBs on goods, NTBs on services). The analysis of these scenarios splits up the contribution of the different areas to be more transparent and make comparing the different results easier.

The assumptions in the most ambitious scenario are that tariff barriers would be reduced to zero, that NTBs in goods and services would be reduced by 25% and that public procurement barriers would be reduced by 50%.

In a less ambitious scenario the assumptions are that 98% of tariffs are reduced to zero, that NTBs in goods and services are reduced by 10% and that public procurement barriers would be reduced by only 25%.

Other scenarios considered in the study are agreements that cover only tariffs, only services or only procurement.

All of the scenarios considered in the CEPR study are conservative estimations of the outcome of negotiations, even the most ambitious.

Both sides have already announced the goal to eliminate the vast majority of tariffs and, while the work on regulatory cooperation is only beginning, there is already a consensus between the EU and the US that the agreement should go further than any other existing agreements in this area.

4.4 How did the study measure the barriers that the TTIP is due to reduce?

The different configurations for the reduction of tariffs barriers are based on the tariff data module as reported in the GTAP database, which originates from the work carried out comes by the French public sector institute CEPII together with the International Trade Centre, the Geneva-based United Nations institution.

For the more difficult quantification of the impact of the reduction of NTBs the analysis relies on the information gathered for a previous study - Ecorys (2009)⁸ - which used firm surveys, industry experts on regulation and econometrics to carry out of the most thorough benchmarking to date of the levels of behind-the-border barriers affecting the transatlantic economy. That study was funded by the European Commission but carried out by Ecorys, an independent economic consultancy, who is responsible for the analysis and conclusions.

4.5 Are these gains overestimated or underestimated?

As a starting point, it is important to understand that the figures quoted in the CEPR study should be taken as general indications of the likely economic impact of the TTIP, rather than precise predictions. Trying to capture the impact of the many policy changes that would result from an initiative like the TTIP is very difficult, so any method of analysis will have its shortcomings.

However, the analytical method chosen for this study is well-tested and is firmly grounded in economic theory. The fact that the results obtained are generally in the middle of the range of those put forward by the majority of the studies on TTIP conducted so far, either on behalf of EU Member States⁹ or otherwise, provide additional confidence about the assumptions and parameters used as well as, the policy scenarios considered.

⁷ For details, see: <https://www.gtap.agecon.purdue.edu/databases/v8/>

⁸ http://trade.ec.europa.eu/doclib/docs/2009/december/tradoc_145613.pdf

We can safely say that these are not overestimates. On the contrary, they are closer to a lower bound estimation of the true benefits of the agreement. We have strong reasons to believe that the analysis does not capture some important ways that an initiative with the reach of TTIP can create economic benefits.

First, no productivity effects beyond those associated with the accumulation of capital are taken into account (due to the limitations of any CGE model to capture them.) However, the literature on the economic impact of trade openness points to positive effects on productivity via channels like increased innovation efforts and/or a reinforced presence of foreign firms.

Second, the CGE models also underestimate the potential gains from the liberalisation of services as they only cover the impact on some of business done by services companies (essentially only that strictly cross a border – known as «mode 1» in the language of WTO services agreements¹⁰). Services business that depends on foreign direct investment, which makes up a substantial part of transatlantic services trade is largely outside the scope of the CGE analysis presented in this study (again due to the limitations of the model.)

Third, it is worth remembering the scale of the existing relationship: 2 billion euro a day in trade, and more than 4.5 trillion euro in mutual investment stocks. Even small policy changes are therefore likely to lead to large results.

4.6 Are the gains quantified in the CEPR study static or dynamic?

The CEPR study adopted a dynamic approach to the quantification of the impact of reductions of barriers to trade by incorporating projections of the global economy over a long time horizon into the baseline scenario.

To be more precise the economic outcomes of the several alternative TTIP scenarios were projected until 2027 to capture all the necessary adjustments across and within sectors. These outcomes were then compared against the «baseline» scenario, which captures the likely evolution of the eco-

nomy up until 2027 in the absence of the policy change.

However, the authors have deliberately chosen to adopt a conservative analytical approach, when it comes to the modelling of dynamic gains. They capture this by accounting for the accumulation of capital stocks associated with the induced expansion (or contraction) of the different sectors of the economy following the trade policy shock. But, they do not introduce ad-hoc productivity effects, such as those resulting from process innovations forced by new competition. Given that only limited productivity gains are factored into the CGE models (see section 4.5), the authors decided to refrain from introducing “speculative” effects into the analysis.

4.7 What are the weaknesses of the CEPR study?

The CGE methodology is necessarily a simplified representation of real world relations between companies and consumers. It is fit for capturing and quantifying the economic gains that will emerge from the interlinkages across sectors and countries, following a change in a policy framework (for example trade liberalisation) but it is not the most appropriate to analyse the impact of very specific policy instruments or the impact of a policy change on very specific sectors or economic agents. The aim of this type of model models is rather to provide a “ballpark” indication of the economic effects at stake for policymakers to consider before deciding.

Other types of analysis would have their own merits depending on the objective at hand. For example, partial equilibrium tools could be used to look into the potential impact of changes to market access for very specific products while econometrics-based analysis could be used for evaluating policy changes from an ex-post perspective, making full use of the wealth of accumulated historical data. Still, for now no other technique would give better results than CGE when it comes to a reliable ex-ante analysis of economy-wide effects of trade policy changes. It is the most widely used analytical tool for that purpose.

⁹ “Potential Effects from an EU–US Free Trade Agreement – Sweden in Focus”, downloadable at: <http://www.kommers.se/Documents/In%20English/Reports/Potential%20Effects%20from%20an%20EU-US%20Free%20Trade%20Agreement%20-%20Sweden%20in%20Focus.pdf>; “Estimating the Economic Impact on the UK of a TTIP Agreement between the European Union and the United States”, downloadable at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198115/bis-13-869-economic-impact-on-uk-of-transatlantic-trade-and-investment-partnership-between-eu-and-us.pdf

«Transatlantic Trade: Whither Partnership, Which Economic Consequences?», forthcoming, will be downloadable at www.cepii.fr

¹⁰ For an explanation, see http://www.wto.org/english/tratop_e/serv_e/cbt_course_e/c1s3p1_e.htm

4.8 What do other studies about TTIP say?

CGE results can vary considerably depending on the methodology used, modelling assumptions and the level of barriers to be liberalized. One therefore has to look at the underlying assumptions and not only the results to judge its level of accuracy. Nonetheless, a number of economic studies based on CGE conducted in parallel by various research teams in Europe seem to converge towards a comparable range of results¹¹. The CEPR study is in the middle range of these.

However, a recent study carried out by the IFO Institute published by the Bertelsmann Foundation stands out as it gives results that fall outside the relatively narrow range of results put forward by the others. The study is a very welcome contribution to the debate. However, some of its key results clearly beg greater scrutiny – notably the implausible size of the economic gains for the EU and the US and the strong negative impact on some trading partners.

We believe that caution is needed before jumping to validate these results. This study is based on a rather untested methodology that departs from the standard approach used so far in other similar studies. It is based on a general equilibrium approach combined with other analytical components, including econometrics, rather than on a fully consistent, dynamic CGE model (the standard approach used in the other studies cited above.) One element of that approach is that it uses previous economic integration agreements as a benchmark for future performance.

In any event, some of the results that it delivers are quite unreasonable and inconsistent. In particular the large GDP effects the authors find for the two TTIP partners, as well as for some other countries, do not seem to dovetail neither with any other existing studies nor with basic, intuitive calculations on the basis of their own trade effects. It also predicts that the negative economic effects of TTIP on Canada and Australia – an agreement to which they are not even parties – would be greater than that of the 2008 financial crisis. (See section 3.8 above for more on this study.)

¹¹ "Potential Effects from an EU-US Free Trade Agreement – Sweden in Focus", downloadable at: <http://www.kommers.se/Documents/In%20English/Reports/Potential%20Effects%20from%20an%20EU-US%20Free%20Trade%20Agreement%20-%20Sweden%20i%20Focus.pdf>;

"Estimating the Economic Impact on the UK of a TTIP Agreement between the European Union and the United States", downloadable at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/198115/bis-13-869-economic-impact-on-uk-of-transatlantic-trade-and-investment-partnership-between-eu-and-us.pdf

«Transatlantic Trade: Whither Partnership, Which Economic Consequences?», forthcoming, will be downloadable at www.cepii.fr

4.9 Why doesn't the study look at the overall impact on jobs?

The CEPR study does not include figures on the TTIP's overall impact on job creation because the researchers used what they believe to be the most reliable economic model available for predicting the long-run impact of trade policy changes.

The team responsible for the CEPR study opted for a conservative approach that assumes that the economy has a fixed supply of labour in the long-run, which means that the long-run levels of employment do not change as a result of the agreement. However, it is important to say that the fact that the model builds on a fixed labour supply setting is not the same as saying that the analysis assumes that there is no unemployment in the economy or that there is no impact of the agreement on unemployment in the short or medium-run. The model simply takes as fixed the number of people that are at work to focus on the long-run effects, which are the ones that it is better able to capture.

The model forces the economy to move to a new (post TTIP) long-run equilibrium via changes in wages and reallocation of jobs across sectors, while keeping unchanged the aggregate employment levels relative to the initial situation. This allows the ex-ante analysis to gather clearer insights on what would be the impact of the agreement on labour markets in the long-run (see section 4.1 above).

This is a common approach in models like this. Any model has to simplify the economy in order to analyse it and this simplification makes it possible to examine other effects of TTIP, including labour market effects such as movement of jobs between sectors and wage levels. But it is important to recall that in general, studies grounded on other methodologies geared to ex-post type analyses have found that trade does tend to reduce unemployment¹².

4.10 Could we be more ambitious in how we analyse the employment impact of the TTIP?

Alternative CGE methods to analyse ex-ante the employment impact of trade agreements (notably featuring the quantification of the changes to the number of jobs in the economy) still offer too many technical uncertainties. They also require huge amounts of data, which are seldom readily available.

This is why none of the other recent analyses of the effects of TTIP tried to fully assess the impact on unemployment (with its cyclical and structural components). The IFO Institute study recently published by the Bertelsmann Foundation (see sections 3.8 and 4.9) featured a new and ambitious methodological approach to look into labour market effects. However, even this was restricted to frictional unemployment (i.e. the transitional unemployment associated with the “normal” movement of workers between employers.) The main components of unemployment, those driven by the impact of downturns of the economic cycle and structural inefficiencies of labour and product markets are not dealt with here either for the reasons stated above.

4.11 Why be conservative in choosing a methodology to evaluate the TTIP?

The methodology used in the CEPR study, despite its limitations, is state-of-the art and has proven its reliability in many cases in the past. The Commission is confident that the CGE framework that was used fully accounts for general equilibrium effects and intra- and inter-sectoral linkages to the extent that it is possible to do.

It is essential that other researchers experiment with new methods for the sake of advancing this state of the art. However, unless and until these methodologies have been validated as being reliable tools for ex-ante analysis, the Commission is unwilling to rely upon their results in its policy-making. We are reluctant to put forward over-optimistic results that may not withstand scrutiny. Even if an idea sounds plausible (e.g. the productivity shock used in some studies), we abstain from introducing it in formal quantification exercises that serve as tools for policy assessments of such magnitude until we are fully confident that we master how exactly this should play out in modelling terms.

It is worthwhile noting that we are dealing with a particularly difficult policy evaluation exercise: an ex-ante impact assessment of a policy change that will have important implications across virtually all sectors of the economy. The CGE methodology offers an albeit simplified representation of real world relations between economic variables and actors, which allows us to carry out this type of evaluation. Alternative methodologies may have their merits but none has yet proven to be sufficiently reliable for an ex-ante analysis of economy-wide effects of trade policy changes, or to be a superior substitute for simulating the impact of the largest trade and investment agreement that the world has ever seen.

¹² World Trade Report 2013: Factors shaping the future of world trade, World Trade Organisation, pp. 228-229. http://www.wto.org/english/res_e/booksp_e/world_trade_report13_e.pdf

