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Economic Implications of the Transatlantic Trade and Investment Partnership

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Cover photo: Håkan Olsén

"Mats Elfsberg, CEO of the Swedish manufacturing company Sepson, is one of many business owners and entrepreneurs who would be more interested in investing in the US market as a result of a successful trade agreement. Sepson develops, manufactures, and sells vehicle-mounted winches, with approximately 85 percent of its sales coming from overseas."

The vision of the Confederation of Swedish Enterprise (Svenskt Näringsliv) is: "Enterprising people and competitive companies working together lead to a more prosperous Sweden".

The Confederation of Swedish Enterprise is Sweden's largest and most influential business organization, representing 50 member organizations and 60,000 member companies with over 1.6 million employees. The organization is headquartered in Stockholm, with 21 regional offices across Sweden and an office in Brussels.

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Fabian Wallen, December 2015

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Summary

Negotiations on the Transatlantic Trade and Investment Partnership (TTIP) were initiated in July 2013, aiming to promote the economic integration between the EU and the United States. TTIP is expected to result in the elimination of most tariffs, the reduction of non-tariff barriers to trade, and a facilitation of cross-border investment. Taking into consideration that the two regions account for almost half of the global economy, combined with the fact that their economies are already deeply integrated, the forthcoming agreement is expected to have a significant impact. The United States is the single largest trading partner of the EU, accounting for nearly a fifth of extra-EU exports. Almost a third of the direct investment assets of the EU are found in the United States, and EU-based companies with subsidiaries in the United States employ more than three million Americans.

There are good reasons to believe that TTIP will have a positive economic impact on the EU, including Sweden, and the United States. Firstly, a large body of empirical research shows that increased openness and trade liberalization tend to have a positive effect on economic growth. According to a recent study, for instance, Swedish GDP per capita may have increased by up to 15-20 percent as a result of Sweden joining the EU combined with the increased trade openness of recent decades. Secondly, a vast majority of the studies that have been published on the economic effects of the forthcoming transatlantic agreement, often using so-called CGE models, find the expected effects to be significantly positive.

In a groundbreaking study published by the Dutch research institute Ecorys in 2009, EU GDP is expected to increase by up to 0.7 percent as a direct result of a trade and investment agreement between the EU and the United States. The positive effects are mainly due to a reduction in non-tariff barriers to trade, such as increased harmonization of regulations and technical standards. This is equivalent to an additional income of 12,300 euros per household over a working lifetime. The British research institute CEPR reports similar results in a study published on behalf of the European Commission in 2013. With somewhat more prudent assumptions regarding the reductions in non-tariff barriers to trade, the researchers estimate EU GDP to increase by up to 0.5 percent as a result of TTIP.

According to a study by the French research institute CEPII and a study by the Swedish National Board of trade, published in 2013 and 2012 respectively, the economic effects of TTIP are expected to be slightly lower, but still significantly positive. In the CEPII study, EU GDP is expected to increase by about 0.3 percent, and in the Swedish National Board of Trade study EU GDP is estimated to increase by 0.2 percent as a result of TTIP.

According to the Swedish National Board of Trade study, Swedish GDP is expected to increase by up to 0.2 percent, which is equivalent to approximately seven billion Swedish kronor (based on the 2014 GDP level).

The most optimistic estimate of the economic effects of TTIP can be found in a study by the Munich-based IFO Institute, in cooperation with the German think-tank Bertelsmann Stiftung, which was published in 2013. The methodology of the Bertelsmann/IFO study differs somewhat from the methodologies of the other studies. Instead of making an assumption on how much non-tariff barriers to trade will be reduced, the researchers use a so-called gravity model to estimate the trade effects of earlier trade agreements (such as EU and NAFTA). According to the Bertelsmann/IFO study, GDP per capita is expected to increase by almost five percent in the EU. Sweden's GDP per capita is estimated to increase by just over seven percent, which is equivalent to an income gain of over 29,000 Swedish kronor (based on the 2014 GDP level).

In contrast to the aforementioned studies, the Bertelsmann/IFO study makes an attempt to estimate the labor market effects of TTIP, by allowing the model to take account of the fact that incentives to taking a job differ between countries. The researchers expect employment to increase by 0.6 percent and the unemployment rate to fall by about 0.6 percentage points in the average EU country, as a result of TTIP. The labor market effects are expected to be slightly larger in Sweden, with employment increasing by 0.7 percent and the unemployment rate falling by 0.7 percentage points.

The only study that finds negative economic effects of TTIP is authored by Jeronim Capaldo, who is a research fellow at the Global Development and Environment Institute (GDEI) at Tufts University. Unlike the other studies, Capaldo does not use a traditional CGE model, instead relying on a model that assumes that economic growth to a greater extent is driven by aggregate demand. GDP is expected to decline by between 0.1 and 0.5 percent in the various EU-countries, mainly due to a decrease in net exports and a falling wage share. The study has, however, been criticized from a methodological perspective. Among other things, Capaldo does not give any deeper explanation as to why the net exports of the EU are expected to decrease. The Swedish economist Maria Persson, who is an associate professor at Lund University, argues that the study fails to meet the standards that could be expected of a serious scientific study.

The Austrian Foundation for Development Research, ÖFSE, published an evaluation of previous studies on the economic impact of TTIP in 2014, on behalf of the Confederal Group of the European United Left/Nordic Green Left in the European Parliament. The study does not include any original projections of the economic impact of TTIP, but is instead focused on critically examining the methodology and assumptions of some of the previous studies. The researchers argue that earlier studies neglect to take into account the risk that reductions of non-tariff barriers to trade entail both short term adjustment costs and long term social costs. For instance, harmonization of regulations

and standards might threaten important public policy goals, which in turn may result in a welfare loss to society.

The criticism, however, ignores the fact that the European Commission repeatedly has assured that TTIP will not affect EU legislation that protects consumers, human life and health, animal health and welfare, or the environment.

Furthermore, the harmonization of regulations and standards does not necessarily imply that the political ambitions with regard to factors such as safety, health and the environment are reduced. For example, the EU and the United States require different models of crash test dummies for auto safety tests, even though the dummies are more or less of the same size and ultimately achieve the same goal. When European car models are launched in the United States, the car manufacturers have to do the same test twice, which adds significantly to the cost of the cars. One study shows that the average cost per car could be reduced by about seven percent as a result of the mutual recognition of standards in the automotive industry.

Two Swedish think tanks, Cogito and Katalys, published a report analyzing the political debate and the research on the impact of TTIP in the spring of 2015. Similarly to the ÖFSE study, The Cogito/Katalys study emphasizes the risks that may be associated with a harmonization of regulations and standards, without clearly highlighting the positive aspects, such as an expected increase in transatlantic trade.

Furthermore, the Cogito/Katalys study critically examines so-called investor-state dispute settlement (ISDS) provisions, which are often included in trade and investment agreements in order to protect foreign investors from discrimination or unfair treatment by governments. The authors argue that ISDS may impair the ability of states to legislate in the public interest (regulatory chill).

The theory of regulatory chill is, however, not supported by studies that have systematically analyzed the political impact of ISDS-clauses in earlier trade and investment agreements. There is reason to believe that an increased legal certainty, and a more stable framework for investments, will have a positive effect on the investment flows between countries.

In conclusion, empirical research shows that the forthcoming TTIP agreement can be expected to have a positive impact on economic growth in both the EU, including Sweden, and the United States – and a similar conclusion can be drawn with regard to trade and investment liberalizations vis-à-vis other countries. The harmonization of regulations and standards between the EU and the United States is also likely to contribute to spill-over effects, not least since many third countries can be expected to adopt some of the common standards agreed between the EU and the United States.

1. Introduction

The modern economic history of Sweden has to a large extent been shaped by the prevalence of international trade. The radical trade liberalization of the 1850's and 1860's resulted in exports, as a share of GDP, increasing from about 10 percent by the middle of the 19th century to about 25 percent at the outbreak of the first world war. In a similar fashion, more recent trade liberalization efforts have also been followed by a rapid increase in exports. Since the year before Sweden joined the EU, 20 years ago, the export share has risen from about 34 percent to the current level of about 45 percent.

Sweden's favorable export development has contributed to increased incomes and employment, and the competitive pressure from imports has contributed to improved product quality and lower consumer prices – not least benefitting Swedish consumers. This is also supported by the empirical research on the economic effects of international trade. An increase in openness to the outside world, in terms of both trade and investment, tends to affect economic growth positively. Paul Stephen Segerstrom, professor of international economics at the Stockholm School of Economics, for example, draws the following conclusion in a comprehensive research overview of the link between trade and economic growth:

"Countries experience significantly higher growth rates after opening up to international trade."[1]

Over the past couple of decades, politicians and business organizations on both sides of the Atlantic have been discussing the need for a transatlantic trade agreement. Already by the mid-1990s, a number of influential politicians – such as Newt Gingrich (former Speaker of the U.S. House of Representatives), Klaus Kinkel (former Minister for Foreign Affairs in Germany), and Leon Brittan (former European Commissioner for Trade) – tried to initiate negotiations for a comprehensive trade agreement between the EU and the United States (TAFTA).[2]

However, it was not until the end of the 2000s that the discussions intensified. In part this was due to the fact that both American and European politicians, in the wake of the financial crisis of 2007-2008, became more interested in finding ways to strengthen the conditions for economic growth. In addition, there was a growing discontent about

[1] Segerstrom (2011).
[2] Steffenson (2005).

the negotiating process within the framework of the WTO, which meant that the possibility of bilateral trade agreements increasingly came to be seen as an attractive option.[3]

At the EU-US Summit in November 2011, a High-Level Working Group on Jobs and Growth was established, led by European Commissioner for Trade Karel De Gucht and U.S. Trade Representative Ron Kirk, with the goal of identifying policies and measures that would enhance trade and investment between the two parties. In its final report, published in February 2013, the working group recommended that negotiations on a free trade agreement between the EU and the United States should begin. Four months later, in July 2013, the negotiations on the Transatlantic Trade and Investment Partnership (TTIP) were finally initiated.[4]

The goal of TTIP is to promote the economic integration between the EU and the United States, by reducing/removing duties and non-tariff barriers (for instance through harmonization of regulations and standards on health, safety, and the environment). In addition, the agreement seeks to simplify rules and regulations for trade in services and cross-border investment.

Since the negotiations began, a large number of research studies estimating the economic effects of the forthcoming trade agreement have been published, using different assumptions and methodologies. The primary purpose of this report is to give an account of the research studies that have received the most attention in recent years. This is presented in Chapter 4.

In order to give a background to these studies, however, we will first give a brief overview of the economic relations between the EU and the United States, and to some extent between Sweden and the United States. Data on trade, direct investment, and activities related to multinational companies with headquarters in one region and subsidiaries in the other region will be presented in Chapter 2. In Chapter 3, we will present a concise overview of the empirical research on the relationship between international trade and economic growth. In the report's concluding chapter, Chapter 5, we present our conclusions as well as a short policy discussion.

[3] Josling and Crombez (2013).

[4] Confederation of Swedish Enterprise (2014).

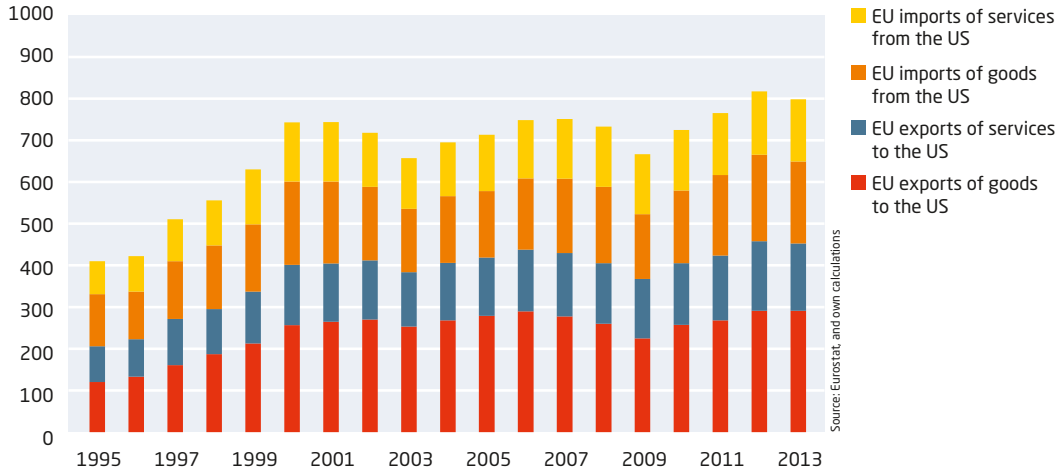
2. Economic relations between the EU and the United States

The trade and investment agreement between the EU and the United States is of a larger magnitude than any previous trade agreement, possibly with the exception of the so-called Uruguay Round which included 123 participating countries and resulted in the creation of the WTO. All in all, the EU and the United States represent almost half (just over 45 percent) of global GDP in current prices and about one-third (33 percent) of global GDP adjusted for purchasing power.[5]

Since the mid-1990s, the value of trade between the EU and the United States has increased from about 400 billion euros, in 2013 prices, to around 800 billion euros (see Figure 1 below). In other words, trade between the two regions has doubled in less than 20 years.[6]

Figure 1. Trade of goods and services between the EU and the US, 1995-2013*

2013 prices, bn euros



*Data refers to EU-15 for 1995-2003, EU-27 for 2004-2009, and EU-28 for 2010-2013.
The trade data is deflated using price indices for exports and imports of goods and services.

[5] 2014 data. Source: IMF World Economic Outlook Database, October 2014.

[6] Only a marginal share of the increase can be explained by the fact that the number of EU countries has grown from 15 to 28 during the period. The EU-15, i.e. the 15 countries that were members in 1995, was responsible for approximately 95 percent of total EU exports of goods and services to the United States in 2013.

As a share of extra-EU exports, i.e. exports to countries outside the EU, exports to the United States decreased slightly during the period, from about 22 percent in 1995 to about 19 percent in 2013. This decrease is mainly due to the fact that EU exports to many other regions, in particular Asia and China, has grown very strongly over the same time period. The United States is still the EU's biggest export market, both with regards to goods as well as services (see table 1 below). The second largest recipient of EU exports is Switzerland, which accounts for about eleven percent, followed by China, which accounts for a little over seven percent of EU exports.

Table 1. Extra-EU Exports, 2013

Ten largest trading partners

	Exports of goods (bn euro)	Exports of services (bn euro)	Total exports (bn euro)	Share of extra-EU exports (percent)
1. USA	289.5	180.7	470.2	19.2
2. Switzerland	169.1	99.5	268.6	11.0
3. China	148.2	29.0	177.2	7.2
4. Russia	119.5	30.7	150.2	6.1
5. Turkey	77.6	10.5	88.1	3.6
6. Japan	54.0	24.7	78.7	3.2
7. Norway	50.1	25.7	75.8	3.1
8. United Arab Emirates	44.6	11.3	55.9	2.3
9. Brazil	39.9	14.8	54.7	2.2
10. Australia	32.1	18.8	50.9	2.1
Other countries	712.0	264.0	976.0	39.9
Total	1736.6	709.7	2446.3	100.0

Source: Eurostat

The fact that EU's trade with a number of fast-growing countries, such as China, has grown faster than trade with the United States does not mean, however, that trade with the United States has become less important for Europe's economic development. On the contrary, it could be argued that the trade relationship between the EU and the United States has grown in importance from an economic perspective since the mid-1990s; EU exports to the United States, as a share of EU GDP, has increased from about two percent in 1995 to about three percent in 2013.

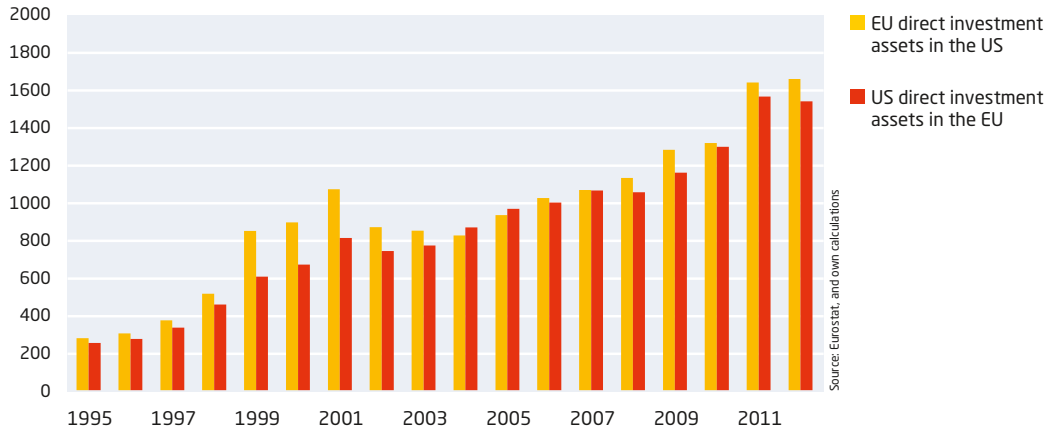
The US export market is of significant importance to many individual member countries of the EU as well. For instance, the value of Swedish exports of goods to the United States amounted to about 68 billion Swedish kronor in 2013, while the value of Swedish exports of services amounted to approximately 43 billion Swedish kronor. Sweden's total exports to the United States amounted to approximately 111 billion Swedish kronor or about three percent of GDP.[7]

Investment flows between the EU and the United States

The investment flows between the EU and the United States has grown significantly since the mid-1990s. One interesting indicator of this can be found in the statistics on direct investment assets.[8] The value of EU direct investment assets in the United States has increased from about 280 billion euros in 1995 to nearly 1,700 billion euros in 2012. Similarly, the value of US direct investment assets in the EU increased from approximately 250 billion euros in 1995 to just over 1,500 billion euros in 2012, as illustrated in Figure 2 below.

Figure 2. Direct Investment Assets in the EU and the US, 1995-2012*

2013 prices, bn euro



*Data refers to EU-15 for 1995-2003, and EU-27 for 2004-2012. The data is deflated using the EU GDP-deflator.

[7] The data on Swedish exports of goods and services to the United States comes from Eurostat.

[8] According to OECD, "Direct investment is a category of cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor. The motivation of the direct investor is a strategic long-term relationship with the direct investment enterprise to ensure a significant degree of influence by the direct investor in the management of the direct investment enterprise. The 'lasting interest' is evidenced when the direct investor owns at least 10% of the voting power of the direct investment enterprise." Source: OECD (2008).

EU's total direct investment assets abroad were valued at just over 5,200 billion euros in 2012. United States was the single largest recipient country and accounted for nearly 32 percent of the total value of direct investment assets, followed by Switzerland (13 percent) and Canada (5 percent). A relatively high share of EU's direct investment assets can be found in Asia, and especially in Hong Kong, Singapore and China (see table 2).

Table 2. EU's Direct investment Assets Abroad, 2012*

Ten largest recipients

	Value of direct investment assets (bn euro)	Share of EU's direct investment assets abroad (percent)
1. USA	1655.0	31.8
2. Switzerland	679.0	13.0
3. Canada	258.0	5.0
4. Brazil	246.8	4.7
5. Russia	189.5	3.6
6. Australia	141.6	2.7
7. Hong Kong	132.9	2.6
8. Singapore	118.7	2.3
9. China (excl. Hong Kong)	118.1	2.3
10. Norway	99.8	1.9
Other countries	1567.5	30.1
Total	5206.8	100.0

*EU-27.
Source: Eurostat

Swedish direct investment assets in the United States were valued at about 350 billion Swedish kronor in 2013, representing about 14 percent of Sweden's total direct investment assets abroad. The value of US direct investment assets in Sweden stood at almost 230 billion Swedish kronor the same year, representing a little less than one-tenth of the total direct investment assets in Sweden.[9]

Transatlantic businesses

An important aspect of globalization is that more and more companies expand their operations abroad, i.e. in countries other than that in which their headquarters is situated. This can be measured using data on international investment flows and direct invest-

[9] Statistics Sweden (2014).

ment assets, as illustrated above. Another way to measure corporate activities abroad is to analyze data on multinational companies' employment in affiliates abroad.

Companies based in the EU, for instance, have nearly 15 million employees in subsidiaries in non-EU countries and more than one fifth of these are employed in the United States (see table 3 below). The United States is the single largest country in terms of employment in European subsidiaries outside the EU.

Table 3. Employment in EU Companies with Subsidiaries Abroad, 2012*

Ten contries with the largest number of employees in EU-owned companies

	Number of employees (millions)	Share of total number of employees outside the EU (percent)
1. USA	3.2	22.1
2. China (excl. Hong Kong)	1.4	9.8
3. Brazil	1.3	8.7
4. India	0.9	6.4
5. Russia	0.6	4.2
6. Mexico	0.5	3.4
7. Canada	0.4	2.6
8. Australia	0.4	2.6
9. South Africa	0.4	2.4
10. Turkey	0.3	2.4
Other countries	5.2	35.5
Total	14.7	100.0

*Companies with headquarters in EU-28 and subsidiaries outside the EU.
Source: Eurostat

Swedish companies with operations abroad have almost 200,000 employees in their subsidiaries in the United States, which is more than in any other country in which Swedish companies have subsidiaries.[10] The security company Securitas, for instance, has nearly 90,000 employees in the United States.[11]

[10] For full data on the number of employees in the Swedish companies with subsidiaries abroad, see Tillväxtanalys (2014a).

[11] See http://www.securitas.com/us/en/About-Securitas.

Similarly, many US based companies have a large number of employees in the EU. Almost four million people in the EU are employed in US based companies, which is equivalent to almost two percent of total employment in the EU. In Sweden just over 80,000 people, or almost two percent of total employment, are employed in companies with headquarters in the United States.[12]

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[12] The data on the number of employees in EU- and US based companies with subsidiaries abroad comes from Eurostat. According to the Swedish organization Tillväxtanalys, Growth Analysis, the number of employees of American companies in Sweden was about 72,000 in 2012, which can be compared to about 83,000 persons according to Eurostat. See Tillväxtanalys (2014b).

3. International trade, openness and economic growth

According to both basic economic theory and modern trade theory, reduced barriers to trade will result in an increased trade with the outside world. This in turn brings positive welfare effects, partly as a result of increased specialization, increased economies of scale, improved access to capital and new technology, as well as productivity gains at the aggregate level as high-productivity firms tend to benefit to a greater extent than low-productivity firms from increased export opportunities.[13]

In recent decades, a growing body of empirical research has examined the relationship between different measures of international trade and economic growth. Most researchers tend to find a positive correlation between the two variables, but the strength of the relationship typically depends on the choice of variables, data, methodology, and model specification.

The research literature can be divided into two different categories. The first analyzes the effects on GDP and economic growth of changes in *the trade share*, whereas the second analyzes the economic impact of *openness to trade* or *trade liberalization*.

Positive correlation between the trade share and GDP

The so-called trade share, i.e. exports plus imports as a share of GDP, was a commonly used explanatory variable in econometric studies on the economic impact of international trade until the mid-1990s. A large number of early studies found a significant positive correlation between the trade share and economic growth, and many researchers therefore reached the conclusion that international trade affects economic growth positively.[14]

In recent years, however, several researchers have shown that such regressions often suffer from endogeneity problems, which means that a variable that is not included in the regression affects both the dependent variable (economic growth) as well as the explanatory variable (the trade share). Since the trade share is typically higher in richer countries than in poorer countries, it may be difficult to know to what extent the correlation between trade and economic growth reflects causality between the two variables and to what extent another variable might be affecting both trade as well as economic growth positively.[15]

[13] Westernhagen (2002) and Melitz (2003).

[14] See, for example, Michaely (1977) and Dollar (1992).

[15] An early example of this can be found in Rodrik et al (1995).

The American economists Jeffrey A. Frankel and David Romer offer a potential solution to the endogeneity problem, by taking geographical factors into account. Instead of using official trade share data, the two economists create a so-called instrumental variable using information on different countries' population size and geographical distance to other countries. In a cross-country regression, with data from 150 countries, Frankel and Romer find that international trade has a significant positive effect on GDP per capita. Raising the trade share by one percentage point raises GDP per capita by between one-half and two percent.[16]

However, a high trade share is not necessarily a consequence of an open trade policy. It can also be a result of other variables, such as population size (small countries tend to trade more with the rest of the world) or abundance in natural resources. It may therefore be difficult to draw appropriate policy conclusions solely on the basis of the finding that international trade tends to affect economic growth positively. Instead of analyzing the relationship between international trade and economic growth, a growing number of researchers choose to examine the relationship between how open a country is vis-à-vis the outside world and economic growth. The focus thus changes from actual data of trade volumes and trade shares to various measures on trade policy.

Economic impact of trade liberalization

A common way to measure trade policy is to construct an index, or a dummy variable, that measures how open or restrictive a country is to trade with the outside world, using quantitative data on tariffs and qualitative information on non-tariff barriers to trade.

One such index is the Freedom to Trade Internationally Index, which is updated on an annual basis in the Canadian think-tank the Fraser Institute's report Economic Freedom of the World. This index is estimated using equally weighted data on the following four areas:

[16] Frankel and Romer (1999).

(1) taxes on international trade,

(2) regulatory trade barriers, such as non-tariff barriers to trade,

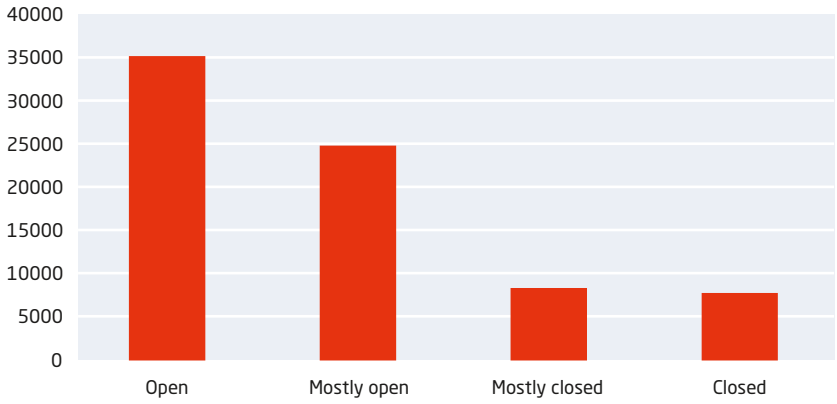
(3) the difference between the official exchange rate and the black-market exchange rate,

(4) controls of the movement of capital and people.[17]

In Figure 3, we have used the Freedom to Trade Internationally Index to organize the 154 countries for which data is available in four groups, in order from the countries that are most open to trade to the countries that are least open. This allows for a comparison of the average GDP per capita level in the four country groups. The average GDP per capita level in the group of countries that are most open to trade amounts to more than 35,000 USD, which is approximately 85 percent higher than the global average. Average GDP per capita in the group of countries that are least open to trade is less than 8,000 USD. As the freedom to trade internationally increases, so does average income.[18] [19]

Figure 3. Trade Openness and GDP per Capita, 154 Countries, 2012*

Average GDP per capita in four country groups according to trade openness (Current USD, PPP)



Sources: Economic Freedom of the World 2014 Annual Report (Fraser Institute). IMF World Economic Outlook Database October 2014, and author's own calculations.

*Trade Openness is measured by the Freedom to Trade Internationally index in the Economic Freedom of the World Report.

[17] Gwartney et al (2014).

[18] A similar picture emerges if we instead order the countries in three or five equal-sized groups.

[19] Purchasing power adjusted GDP per capita. Source: IMF World Economic Outlook Database, October 2014.

> The average GDP per capita level in the group of countries that are most open to trade amounts to more than 35,000 USD, which is approximately 85 percent higher than the global average.

Even though the graph above may be interesting, a simple snap shot of the relationship between two variables does not necessarily tell us anything about causation. However, a growing body of research focuses on analyzing the relationship between trade openness and income levels and, more specifically, the effects of trade liberalization on economic growth.

In one of the most influential research papers in the field, Romain Wacziarg and Karen Horn Welch create a dummy variable for openness to trade, based on data on tariffs, non-tariff barriers to trade, black-market exchange rates, any form of state monopoly on major exports, and the degree of socialism, in 141 countries for the period 1950-1998. The two economists find that countries that liberalized their trade regime during the period experienced an annual economic growth rate that, on average, was about 1.5 percentage points higher compared to the period before trade liberalization.[20]

Wacziarg and Welch find that liberalization raised the trade share by about five percentage points, which means that foreign trade tended to increase faster than GDP. In addition, the investment rate, i.e. gross fixed capital formation as a share of GDP, increased by between 1.5 and 2 percentage points as a result of trade liberalization, which can be an important explanation for the stronger economic growth.[21]

[20] Wacziarg and Welch (2008).
[21] Ibid.

However, the use of indices or dummy variables that measure trade openness may, just as was the case with the trade share, give rise to endogeneity problems, since such variables are likely to be correlated with other factors that are omitted from the regression but are likely to affect economic growth (for instance domestic free-market policies or sound fiscal and monetary policies). Thus, it may be difficult to conclude that trade liberalization actually does affect economic growth if such factors are not controlled for in the regression.[22]

Despite these and similar methodological problems, the main conclusion of recent research is that trade openness does indeed have a positive impact on economic growth. In an influential survey on the empirical literature on the relationship between international trade and economic growth, the IMF economist Jean-Jacques Hallaert concludes:

"More recent empirical studies have focused on cross-country and panel regressions and, although their methods can be criticized, they usually suggest that trade openness strongly enhances economic performance".[23]

> The two economists find that countries that liberalized their trade regime during the period experienced an annual economic growth rate that, on average, was about 1.5 percentage points higher compared to the period before trade liberalization.

[22] Andersen and Babula (2008).

[23] Hallaert (2006).

Lill Andersen and Ronald Babula, at the University of Copenhagen, reach a similar conclusion in a survey of the empirical research on the link between trade openness and economic growth:

"Is there a link between openness and growth? Based on this survey of the more recent empirical and theoretical literature, we believe that the answer is yes. Nearly all the empirical analyses confirm this."[24]

Similarly, in a more recent survey on the empirical research, Tahir et al (2014) find strong academic support for the hypothesis that trade openness affects economic growth positively:

"In this paper, it is concluded that the available literature provides an affirmative answer to the question whether or not there is a positive relationship between trade openness and economic growth."[25]

These conclusions are also supported by Swedish research. According to the economists Daniel Halvarsson, Ari Kokko, and Patrik Gustavsson Tingvall, the Swedish membership of the EU and the increased openness of recent decades have had significant positive effects on the Swedish economy. The three Swedish economists find that Swedish GDP per capita would be at least 3 percent lower without the EU membership and the increased openness, but argue that the effects could be much larger:

"It must be stressed that this is a threshold value, based on empirical models that do not capture the dynamic effects that have been identified in modern economic integration theory. On the basis of previous studies, there is reason to believe that the true underlying effect on per capita income can be as high as 15-20 percent."[26]

Complementary policy reforms

Many researchers emphasize the need for complementary policy reforms in order to maximize the positive effects of trade liberalization on economic growth. This hypothesis is reiterated in all three of the literature surveys mentioned above. Jean-Jacques Hallaert, for instance, argues that "[t]rade liberalization should be undertaken as part of a broader package that ensures macroeconomic stability and includes structural reforms (such as reducing impediments to business), as this will strengthen and make the benefits from trade liberalization more durable".[27]

[24] Andersen and Babula (2008).
[25] Tahir et al (2014).
[26] Halvarsson et al (2014). [Author's translation.]
[27] Hallaert (2006).

A number of recent studies have specifically analyzed how the effect of openness on economic growth may be affected by the extent of labor market regulations. Roberto Chang et al, for instance, examine data from 82 countries over the period 1960-2000, and find that the positive impact of trade liberalization on economic growth tends to be stronger when flexible labor markets make it easier for companies to transform and adjust to changes in global demand.[28]

[28] Chang et al (2009).

4. Economic and social effects of TTIP

Ever since the negotiation process on the Transatlantic Trade and Investment Partnership (TTIP) between the EU and the United States was initiated in the summer of 2013, an increasing number of research studies have been published that try to estimate the economic effects of the forthcoming trade agreement. The studies differ somewhat in methodology and underlying assumptions.

In this section we will describe some of the studies that have received the most attention in recent years. Particular emphasis will be placed on summarizing and comparing the overall results, and (to a lesser extent) discussing the various methodological approaches used in the studies.

Studies that find positive effects of TTIP

Most of the studies that attempt to estimate the economic effects of a trade agreement are based on computable general equilibrium models (CGE models). CGE models are a group of economic models that consist of a large system of simultaneous non-linear equations, based on microeconomic assumptions, and an extensive statistical database that is consistent with the model equations. CGE models are often used to estimate how an economy will react to changes in policy, technology or other external factors.

i. The Ecorys study

In December 2009, the Dutch research and consultancy company Ecorys published a comprehensive study, commissioned by the European Commission, on the potential economic impact of increased trade and investment resulting from reduced costs of non-tariff barriers to trade between the EU and the United States. The study was published over three years prior to the launch of the negotiations on TTIP, and was therefore used as an important background report. The study has also had a significant influence on many of the subsequent studies, particularly with respect to methodology and conceptual foundations.

The researchers estimate the costs of non-tariff barriers to trade using survey responses from about 5,500 companies across 23 sectors in the EU and the United States. Based on advice from over 40 sector experts, more than 100 business organizations, as well as a number of regulatory and legal experts in the field, the researchers reach the conclusion that about half of all non-tariff barriers to trade and regulatory divergence can be affected by a trade and investment agreement between the EU and the United States. However, the degree to which a non-tariff barrier to trade or regulatory divergence can realistically be reduced differs across sectors.

The economic impact of a trade and investment agreement is then estimated using a CGE model in two different scenarios, assuming a time horizon of ten years. In the first (ambitious) scenario, roughly 50 percent of non-tariff barriers to trade and regulatory divergence are eliminated or aligned. In the other (limited) scenario, a 25 percent alignment of non-tariff barriers to trade and regulatory convergence is addressed in the agreement.

Compared to the baseline scenario, i.e. a scenario without an agreement, EU GDP is projected to be between 0.3 and 0.7 percent higher in the two different scenarios. US GDP is expected to increase by between 0.1 and 0.3 percent. The positive economic impact is primarily explained by falling import prices and hence a fall in consumer prices, increased exports and production in sectors with high competitiveness, lower production costs as a result of regulatory reform, as well as increased investment as a result of the harmonized regulatory framework for foreign investment. Import prices are expected to fall more in Europe than in the United States, which is one explanation for the greater GDP impact for the EU in comparison to the United States. The value of exports is expected to increase by more than two percent for the EU and more than six percent for the United States in the ambitious scenario. In addition, imports are expected to increase somewhat less than exports, resulting in an improved trade balance, which, according to the researchers behind the Ecorys study, reflects an increase in global competitiveness of both the EU and the US economy.

The average household income is estimated to rise by between 0.4 and 0.8 percent in the EU and between 0.1 and 0.3 percent in the United States in the study's two scenarios. In the ambitious scenario, this is equivalent to an additional 12,300 euros per household in the EU and 6,400 euros per household in the United States over a working lifetime. As a result of productivity gains due to the elimination and alignment of non-tariff barriers to trade and regulatory convergence, real wages are expected to increase for both low- and high-skilled workers in the EU and the US.[29]

ii. The CEPR study

Perhaps the most frequently cited research study on the economic effects of TTIP – and probably the one that has received the most attention in the media – was published in March 2013 by the British research institute Centre for Economic Policy Research and commissioned by the European Commission. Under the project management of Joseph Francois, who is a professor at the World Trade Institute at the University of Bern in Switzerland, the research group uses a CGE model to analyze the economic effects of a comprehensive TTIP agreement in two different scenarios.[30]

[29] Berden et al (2009).

[30] Joseph Francois was one of five major authors of the Ecorys study.

The first scenario is based on an assumption of a less ambitious TTIP agreement, which includes a 10 percent reduction of trade costs related to non-tariff barriers to trade and the elimination of 98 percent of all tariffs between the EU and the United States. In the second scenario, trade costs of non-tariff barriers to trade are by 25 percent and 100 percent of all tariffs between the parties will be eliminated. In both scenarios more ambition is imposed on reducing procurement-related non-tariff barriers to trade; in the less ambitious scenario such non-tariff barriers are reduced by 25 percent and in the more ambitious scenario they are reduced by 50 percent.

The economic effects are reported with respect to an economic benchmark projected out to the year 2027, which is expected to be approximately 10 years after the agreement is implemented. This means that the model is taking into account the potential long-run effects of the trade agreement.

The economic impact is significantly positive in both scenarios, indicating positive gains for both economies. EU GDP is expected to increase by between 68 and 119 billion euros and US GDP is expected to increase by between 50 and 95 billion euros under the less ambitious and more ambitious scenarios.[31] This represents an increase of between 0.3 and 0.5 percent of EU GDP and an increase of between 0.2 and 0.4 percent of US GDP. For a household consisting of four persons, TTIP is expected to result in a disposable income gain of between 306 and 545 euro per year in the EU and an increase of between 336 and 655 euro per year in the United States.

The most important factor behind the positive economic effects is the significantly increased trade between the two parties, and the reduction of non-tariff barriers to trade is of particular importance. EU exports to the United States is expected to increase by up to 28 percent, whereas US exports to the EU is expected to increase by up to 37 percent. US exports is expected to grow somewhat faster than EU exports as a result of the fact that EU tariffs on motor vehicles and processed foods are currently relatively high. Overall, total exports are expected to increase by up to six and eight percent in the EU and the United States respectively.

In addition, the CEPR researchers assume that a convergence of regulations and standards between the EU and the United States will contribute to a greater degree of regulatory convergence globally, which in turn will reduce trade costs for third markets. Since this positive effect is expected to be greater than the negative effect stemming from trade diversion, i.e. when EU and US companies trade more with each other and less with companies from other countries, the GDP effect is estimated to be positive for third countries as well. The rest of the world's GDP is expected to increase by between 0.05 and 0.1 percent as a result of TTIP.[32]

[31] The results are expressed in 2013 prices.

[32] Francois et al (2013).

iii. The CEPII study

In September 2013, the French research institute Centre d'Études Prospectives et d'Informations Internationales (CEPII) published a study on the economic impact of TTIP. The CEPII study was written by, among others, Lionel Fontagné, professor of economics at the Paris School of Economics. The researchers analyze the economic effects of the forthcoming TTIP agreement in a CGE model, although the underlying assumptions are somewhat different compared to the Ecorys and the CEPR studies.

The CEPII researchers estimate the economic impact of TTIP in a central scenario and four alternative scenarios, with different assumptions on how the non-tariff barriers to trade will change. The projections of these scenarios are compared with a baseline scenario (i.e. no TTIP agreement) for the year 2025, which implies that the model is estimating the long-run effects of TTIP. In the baseline scenario, trade costs are projected to increase due to the expected implementation of a 100 percent scanning requirement in the United States, which means that any container entering US territory must be scanned. Furthermore, an additional 20 percent of the non-tariff barriers to trade within the EU are expected to be eliminated as a result of the completion of the internal European market for services.

In the central scenario of the CEPII study, the researchers assume that European exporters will be exempt from the expected scanning requirement in the United States. Further, all tariffs between the EU and the United States are expected to be phased out with a transition period of up to seven years starting in 2015. The specific transition period for a product or sector depends on how "sensitive" they are for competition. Finally, the trade restrictiveness of non-tariff barriers to trade are expected to be reduced by 25 percent, across-the-board, for both product and service sectors with the exception of public and audiovisual services.[33]

The long-run effects of TTIP are estimated to be significantly positive. EU exports to the United States is expected to be 49 percent greater in the central scenario compared with the baseline scenario, and US exports to the EU is expected to be approximately 53 percent greater. The larger increase in exports for the United States, relative to the EU, is mainly due to slightly stronger export growth of agricultural and industrial products. About 80 percent of the trade expansion seems to be related to reductions in non-tariff barriers to trade.

[33] The first alternative scenario is based on an assumption of tariff reductions, with non-tariff barriers to trade not being covered by the agreement. In the second alternative scenario, the researchers assume that the agreement initially focuses on reducing non-tariff barriers to trade on the industries that are most protected. The third alternative scenario is based on the assumption that non-tariff trade barriers vis-à-vis the rest of the world are reduced by five percent as a result of global convergence (harmonization spillovers). The fourth alternative scenario is based on the same assumptions as the central scenario in terms of reduced trade barriers, but relies on the assumption that the trade costs of the non-tariff barriers to trade is slightly lower. However, we will focus on the study's central scenario.

The impact of TTIP on trade with third countries is very small, since most of the additional trade between the EU and the United States is replacing domestic production rather than diverting trade from third countries. US imports from the rest of the world is expected to decrease somewhat (-2.5 percent), but at the same time EU imports from the rest of the world actually increases marginally (0.2 percent).

In conclusion, both EU and US GDP are projected to grow by 0.3 percent as a result of TTIP. Value added in the EU agricultural sector is expected to be slightly lower in the central scenario compared to the baseline scenario (-0.8 percent), but this effect is smaller than the positive effects on growth in the manufacturing and services sectors in the EU (0.6 and 0.5 percent respectively). In the United States, all three sectors are expected to experience faster growth in the central scenario compared to the baseline scenario.[34]

iv. The Swedish National Board of Trade study

The Swedish National Board of Trade published a study, commissioned by the Swedish Ministry of Foreign Affairs, on the economic effects of a trade agreement between the EU and the United States in 2012.[35] The study is based on a CGE model and also includes a special analysis of the trade agreement's impact on the Swedish economy.

The researchers first assume that all tariffs between the EU and the United States are eliminated, and then move on to analyze two different scenarios with regards to the reduction of non-tariff barriers to trade. In the comprehensive scenario, non-tariff barriers to trade are reduced by 50 percent over a ten year time period, and in the limited scenario only 25 percent of the initial non-tariff barriers to trade are reduced over the same time period. The limited scenario is considered to be the main scenario of the study.

Both EU exports to the United States and US exports to the EU are expected to increase by about 20 percent as a result of the trade agreement. At the same time, exports to the rest of the world from the two regions is expected to be slightly lower (-0.8 percent for the EU and -2.9 percent for the United States). Swedish exports to the United States is expected to increase by almost 17 percent. Swedish exports to the EU and the rest of the world is, however, expected to be somewhat lower (-1.1 percent and -0.9 percent) as a result of the trade agreement. Total exports is expected to increase for all three countries/regions; by 0.4 percent for the EU, by 2.5 percent for the United States, and by 0.3 percent for Sweden. The larger gain in US exports, compared to the EU and Sweden, can be explained by the fact that a greater share of total US trade is directed towards the EU than in the other direction.

[34] Fontagné et al (2013).

[35] The Swedish National Board of Trade is the Swedish governmental agency responsible for issues relating to foreign trade, the European internal market, and trade policy.

The rest of the world's exports to EU and Sweden is expected to increase, while its exports to the United States is expected to decrease slightly. The researchers do emphasize, however, that the CGE model does not take into account the positive effects on trade that can be expected to occur as a result of greater regulatory harmonization and convergence on the global level, which means that the impact on the rest of the world's exports is likely to be underestimated.

In conclusion, EU GDP is expected to be 0.1 percent higher in the main scenario compared to a baseline scenario without a trade agreement. For the United States, the GDP gain is expected to be somewhat larger, 0.2 percent, as a result of the relatively stronger export growth.

Sweden's GDP is estimated to increase by 0.1 percent as a result of the trade agreement, with particularly large value added- and export increases in in agriculture, the automotive industry, the metal industry, and insurance services. However, the largest indirect gains for Sweden derive from liberalizations related to the business services sector, which accounts for approximately a third of the gains. The large positive effects stemming from the business services sector can be explained by the sector's importance as an input in other sectors.

In the comprehensive scenario the economic impact is significantly larger. EU GDP is expected to increase by 0.2 percent and US GDP is expected to increase by 0.5 percent as a result of the trade agreement. Sweden's GDP is expected to be 0.2 percent higher in the comprehensive scenario compared to the baseline scenario.[36] Based on the GDP level of 2014, this implies a net gain of a little more than seven billion Swedish kronor.[37]

v. The Bertelsmann/IFO study

In the summer of 2013 three researchers at the Munich-based IFO Institute published a study, in cooperation with the German think-tank Bertelsmann Stiftung, on the long-term economic effects of TTIP. The Bertelsmann/IFO study also use a CGE model, but unlike the aforementioned studies the researchers have chosen to "calibrate" the equations in the model in order to better take into account specific conditions (such as geographical distance) in the bilateral trade between the 126 countries that are included in the model.[38]

The study also differs, in comparison to the previously mentioned studies, regarding the assumptions of the design of the TTIP agreement. While the other studies make explicit assumptions about how much the trade costs of non-tariff barriers to trade will be reduced as a result of a trade agreement, the Bertelsmann/IFO study instead relies on

[36] National Board of trade (2012).

[37] According to Statistics Sweden's National Accounts for 2014, which was published on February 27, 2015.

[38] The researchers are using a so-called gravity model of trade.

econometric estimates of how much trade has increased as a result of already existing trade agreements (such as the EU and NAFTA). Furthermore, the model also takes into account indirect effects of a trade agreement, such as greater public and private investment in trade infrastructure.

The economic impact of TTIP is significantly larger in the Bertelsmann/IFO study compared to the other studies. The bilateral trade between the EU and the United States is projected to increase by about 80 percent in the main scenario.[39] GDP per capita is estimated to be almost five percent higher in the average EU country, and just over 13 percent higher in the United States, as a result of the trade agreement. The countries that gain the most are generally those that already have high trade volumes with the United States, such as for instance the Scandinavian countries, the United Kingdom, and Ireland. Sweden is one of the big winners, with a GDP per capita increase of slightly more than seven percent as a result of TTIP. This is equivalent to a GDP per capita increase of approximately 29,000 Swedish kronor.[40]

Global GDP per capita is estimated to increase by just over three percent, with a negative effect for a number of the traditional trading partners of the EU and the United States (for instance Canada, Mexico, Japan, and Norway). These countries are, however, likely to either imitate the elimination of non-tariff barriers of trade between the EU and the United States, or improve their existing bilateral agreements with the two regions.

In contrast to the other studies, the Bertelsmann/IFO study includes an analysis of the labor market effects of TTIP, in particular with regards to employment, unemployment, and real wages. The researchers calibrate the model by taking into account that the incentives to take a job are different in different countries, for instance due to differences in the wage replacement ratio (average unemployment benefits as a share of average wages). Employment is estimated to increase by approximately 0.8 percent in the United States and by about 0.6 percent in the average EU country in the long run, as a consequence of the trade agreement. In Sweden, employment is projected to increase by around 0.7 percent. Unemployment is expected to decrease by about 0.7 percentage points in the United States, by approximately 0.6 percentage points in the average EU country, and by about 0.7 percentage points in Sweden. Real wages are expected to increase by 3.7 percent in the United States, by 3.0 percent in the EU, and by 3.4 percent in Sweden, as a result of TTIP.[41]

[39] Two different scenarios are analyzed. In the first scenario, the tariff scenario, tariffs between the two regions are reduced to virtually zero percent, but no changes are made with regards to non-tariff barriers to trade. In the second scenario, the comprehensive liberalization scenario, the increase in trade flows corresponds to the econometrically measured trade creation from already existing free-trade agreements. The second scenario is considered the main scenario of the study.

[40] Based on the 2014 annual GDP per capita level, amounting to just over 400,000 Swedish kronor.

[41] Felbermayr et al (2013).

It should be noted that two of the authors of the Bertelsmann/IFO study published a new study on the economic effects of TTIP in the fall of 2014. The more recent study is based on newer data and includes a larger number of countries. According to this study, the economic effects are expected to be slightly lower, in particular for the United States. GDP per capita in the average EU country is expected to increase by 3.9 percent as a result of TTIP. Sweden's GDP per capita is expected to increase by 4.3 percent, and GDP per capita in the United States is expected to increase by 4.9 percent.[42]

[42] Felbermayr et al (2014).

Tariff rates and costs of non-tariff barriers to trade

According to all of the studies that have been discussed thus far, the positive economic effects of the forthcoming TTIP agreement are primarily linked to reductions in non-tariff barriers to trade rather than the elimination of tariffs. This, in turn, is a consequence of the fact that average tariffs between the EU and the United States are already relatively low, while the trade costs that are related to non-tariff barriers to trade are relatively large.

The average US tariff rate on imports from the EU amounts to just over two percent, which is about one percentage point lower than the corresponding rate in the EU. Tariffs are, however, on average significantly higher on agricultural products compared with industrial products in both the EU and the United States (see table 4 below).

Table4. Average Tariff Protection on Bilateral Trade between The EU and the US

Ad valorem equivalents in percent, 2010

	Agriculture	Industry	Average
Tariffs applied by the US on imports from the EU	6.6	1.7	2.2
Tariffs applied by the EU on imports from the US	12.8	2.3	3.3

Source: Fontagné, et al (2013)

The costs of non-tariff barriers to trade are difficult to quantify, especially since different companies might be affected differently by various technical standards, regulations, etc. The costs are often estimated using either quantity-based or price-based methods. Price-based methods are based on comparing the prices in the importing country with the prices of similar products in markets that are more or less free of distortions. This can be done by simple price comparisons, on a case-by-case basis, or with the help of econometric methods. Quantity-based methods, on the other hand, are often based on the use of a gravity equation to estimate by how much a non-tariff barrier to trade tends to reduce trade flows. The estimates can then be used to calculate a fictitious tariff rate, which would reduce imports by just as much as the non-tariff barriers to trade.

One such estimate is presented in table 5, where the costs of non-tariff barriers to trade in different sectors are expressed as a percentage of product prices in order to enable a comparison with the tariff rates from Table 4. The cost of non-tariff barriers on imports of services from the EU to the United States, for instance, are estimated to be equivalent to a tariff rate of around 47 percent, which can be compared to a cost equivalent to a tariff rate of 32 percent on imports of services from the United States to the EU.

Table 5. Estimate of the Costs of Non-Tariff Barriers to Trade between the EU and the US

Expressed as a percentage of the import price (ad valorem equivalent), 2013

	Agriculture	Industry	Services
US imports from the EU	51.3	32.3	47.3
EU imports from the US	48.2	42.8	32.0

Source: Fontagné, et al (2013)

> Sweden is one of the big winners, with a GDP per capita increase of slightly more than seven percent as a result of TTIP. This is equivalent to a GDP per capita increase of approximately 29,000 Swedish kronor.

Studies that find negative effects of TTIP

The vast majority of the studies that have attempted to estimate the economic impact of a trade and investment agreement between the EU and the United States find significant positive effects for both regions. However, there is a small number of studies that either find negative effects of TTIP, or that question the methodology and underlying assumptions of the studies that report positive economic effects. Presented below are three studies that have received significant attention.

i. The GDEI study

Among the studies that are more critical of TTIP, the one that probably has received the most media attention was written by the Italian economist Jeronim Capaldo, who is a research fellow at the Global Development and Environment Institute (GDEI) at Tufts University and a graduate student at the New School for Social Research in New York.

Capaldo criticizes a number of the micro- and macroeconomic assumptions of the CGE models, which are used in most studies of the economic effects of trade agreements. Among other things, he argues that the CGE models are based on incorrect assumptions with regard to the process leading to a new macroeconomic equilibrium after a policy change, such as trade liberalization, has been implemented. Capaldo uses an alternative model, the United Nations Global Policy Model (GPM), which differs from the traditional CGE model in the sense that it is based on the assumptions that "the level of economic activity is driven by aggregate demand rather than productive efficiency" and that the labor market is characterized by a relatively high degree of rigidity. Another

important difference is the fact that the GPM model, unlike many of the CGE models, only contains data for 16 countries and nine country groups.[43]

Since the GPM model does not include any data for tariffs or trade costs from non-tariff barriers to trade, the model cannot be used to estimate the impact on exports and imports of a change in trade policy. Capaldo therefore assumes that bilateral trade between the countries covered by TTIP will develop in line with previous studies, without specifying exactly by how much trade is expected to increase or what other studies this assumption is based on. Furthermore, trade changes for a specific country are not expressed in terms of export- and import volume growth, but rather in terms of changes in the country's share in the import markets of the other countries.

The simulation results indicate a negative effect on net exports for the four EU countries that are included in the model, and also for the two groups of countries representing Northern and Southern Europe, compared to a baseline scenario (i.e. without a TTIP agreement). The fall in net exports is expected to affect GDP growth negatively, with negative effects on employment and labor incomes. The declining wage share affects aggregate demand negatively, which results in a further reduction in GDP growth.

UK GDP is expected to be approximately 0.1 percent lower, Germany's GDP is expected to decrease by about 0.3 percent, France's GDP is expected to decrease by about 0.5 percent, and Italy's GDP is expected to be around 0.03 percent lower as a result of TTIP. Northern Europe and Southern Europe's GDP is projected to decline by 0.5 percent and 0.2 percent respectively. Capaldo estimates that the EU will lose up to 600,000 people by 2025, most of which are in Northern Europe, France and Germany.[44]

Capaldo does, however, not explain the underlying mechanisms that result in a negative effect on net exports for the EU in the simulation, and this may be regarded as a weakness in the study. After all, the consensus view among trade researchers is that reduced barriers to trade generally has a positive effect on both trade volumes and GDP (as was shown in the previous chapter). It may also be worth pointing out that US net exports is expected to be positively affected by TTIP in the GDEI study, resulting in US GDP increasing by approximately 0.4 percent.

Although the study, which was published in the fall of 2014, has received a large amount of attention from non-governmental organizations and policy makers, it has not been very influential in the academic literature. Three exceptions include: an article in Revista Cubana de Economía Internacional, which is a journal that is published by the Center of International Economic Research at the University of Havana; an article in the Roma-

[43] A technical description of the GPM model can be found in Cripps and Izuriet (2014).

[44] Capaldo (2014).

nian Journal of European Affairs; and a report by the European Centre For International Political Economy (ECIPE). The first article uses the negative effects on EU GDP from the GDEI study to illustrate the negative economic impact of TTIP, without mentioning any of the other studies on TTIP. The second article refers to the GDEI study as the "only report outlining potential negative effects of the TTIP", and briefly discusses a number of reasons why the GPM model is not suitable for use in studies on the economic impact of trade agreements such as TTIP. The third exception, i.e. the ECIPE-report, is a critical assessment of the GDEI study, which concludes that "[t]he Capaldo study is associated with such serious flaws that its results should neither be regarded reliable nor realistic."[45]

In addition, the Swedish economist Maria Persson, who is an associate professor at Lund University and an affiliated researcher at the Swedish Research Institute of Industrial Economics, has reviewed the GDEI study in the online journal Lund Business Review. Persson mentions four reasons why the study fails to meet the standards that could be expected of a serious scientific study.[46]

Firstly, Persson points out that the study is not replicable, since Capaldo does not accurately describe the methodological choices made in the study. Secondly, Capaldo does not attempt to estimate the impact on bilateral trade between the EU and the United States that can be expected from TTIP, but instead uses trade estimates from other studies that the author has previously criticized. Thirdly, the reason for the most important result of the simulation, i.e. the weak export development for the EU, is not explained in the study. Fourthly, the study does not take into account any potential effects on investment.[47]

ii. The ÖFSE study

The Austrian Foundation for Development Research, ÖFSE, published an evaluation of previous studies on the economic impact of TTIP in the spring of 2014. The study was commissioned and funded by the Confederal Group of the European United Left/ Nordic Green Left in the European Parliament.

The ÖFSE study does not include any original estimates on the economic impact of TTIP, but is instead focused on critically examining the methodology and assumptions of some of the previous studies that have found positive economic effects of TTIP, such as the Ecorys study, CEPR study, CEPII study, and the Bertelsmann/IFO study. The researchers argue that these studies do not take sufficient account of the macroeconomic adjustment costs that may arise as a result of the trade agreement, more specifically in the

[45] Mazzei (2014), Colibășanu and Grigorescu (2015), Bauer and Erixon (2015).
[46] Persson (2015).
[47] Ibid (2015).

form of changes to the current account balance, losses to public revenues, and changes to the levels of unemployment.

The main criticism of the ÖFSE study, however, is that the impact on GDP growth reported in most of the previous studies can be considered to be relatively small, even though the models are based on "overly optimistic" assumptions of the reduced trade costs associated with the elimination of non-tariff barriers to trade. Furthermore, the researchers argue that the reductions of non-tariff barriers to trade pose a social cost, as these regulations and standards are likely to be welfare-enhancing:

"[…] NTM such as laws, regulations and standards pursue public policy goals. They correct for market failures or safeguard the collective preferences of a society. As such they are themselves welfare-enhancing."[48]

However, the assumption that laws, regulations and standards, by definition, are welfare-enhancing can be called into question. First of all, it is far from obvious that the current level of laws, regulations and standards maximize the welfare of society as a whole. In accordance with public choice theory, legislators and bureaucrats often have an interest in increasing the number of regulations, even if it may result in negative economic effects.[49]

Secondly, a convergence or harmonization of regulations and standards does not necessarily imply that the political ambitions with regard to factors such as safety, health and the environment are reduced. For example, automotive industry standards (such as standards on air-bags, mirrors, direction indicators, and crash test dummies) differ markedly between the EU and the United States. Different types of crash test dummies are, for instance, used when the road safety of new car models is evaluated, resulting in unnecessary costs as crash tests need to be repeated when European car models are launched in the United States. The harmonization of such standards would improve the prospects for the transatlantic trade of cars, without having a negative impact on car safety. One study shows that the average cost per car could be reduced by about seven percent as a result of the mutual recognition of standards in the automotive industry.[50]

Thirdly, the European Commission has repeatedly assured that TTIP will not affect EU legislation that protects consumers, human life and health, animal health and welfare, or environment. The strict EU basic law on genetically modified organisms (GMOs), for example, is not up for negotiation.[51]

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48 Raza et al (2014). NTM (non-tariff measures) refers to non-tariff barriers to trade.

49 See, for example, Niskanen (1971).

50 The Federation of German Industries (2014).

51 The European Commission (2015).

> Different types of crash test dummies are, for instance, used when the road safety of new car models is evaluated, resulting in unnecessary costs as crash tests need to be repeated when European car models are launched in the United States.

iii. The Cogito/Katalys study

Two Swedish think tanks – the green think tank Cogito and Katalys, which is funded by the Swedish Trade Union Confederation – published a report analyzing the political debate and the research on the impact of TTIP in the spring of 2015. The report is authored by Rikard Allvin, who is a policy advisor on TTIP for the Swedish Green Party, and Markus Larsson, who works at the Division of Environmental Strategies Research at the Royal Institute of Technology in Stockholm.

The report consists of three parts: an overview of the research on the economic impact of TTIP; a critical assessment of investor-state dispute settlement (ISDS); an analysis of the risks associated with the harmonization of regulations and standards relating to agriculture, food, and chemicals.

In the overview of the research on the economic impact of TTIP, the authors spend roughly as much space on the studies that find negative effects as on the studies that find positive economic effects of TTIP. In conclusion, the authors argue that it is not very likely that the negotiations on TTIP will even come close to achieving the results that meet the assumptions of those studies that find positive effects of TTIP.[52] This is a somewhat unbalanced conclusion, given the fact that the vast majority of the scientific studies in the field project TTIP to have a positive impact on economic growth and bilateral trade between the EU and the United States. In other words, the studies that report negative effects do not represent the consensus view of trade economists.

[52] Allvin and Larsson (2015). [Author's translation.]

In the second part of the report, Allvin and Larsson critically examine so-called investor-state dispute settlement (ISDS) provisions, which are often included in trade and investment agreements. The purpose of ISDS is to guarantee a level playing field for foreign investors vis-à-vis their domestic counterparts, by setting up a dispute settlement mechanism that can be used between an investor and a state, when an investor believes that (a) the terms of an investment has changed in such a way that they breach the original contract, and (b) the state is responsible for the change in terms. From a theoretical perspective, there is good reason to believe that a greater legal certainty and a more stable framework for investment will have a positive impact on investment flows between countries.[53]

Allvin and Larsson, however, argue that the reasons for including an ISDS clause in TTIP are weak, with inconclusive empirical research on the relationship between ISDS and foreign direct investment, on the one hand, and a theoretical risk that ISDS may impair the ability of states to legislate in the public interest (regulatory chill):

"There is every reason to fear that the inclusion of a comprehensive investment protection and ISDS in the TTIP agreement is associated with great risks."[54]

The authors point out that there are both studies which have found positive effects on investment flows as a result of ISDS, as well as studies which have failed to find any significant relationship between ISDS and investment flows. The empirical research does indeed provide insufficient guidance on the matter, but this is perhaps not very surprising given that this field of research is relatively new, and taking into consideration the methodological difficulties to quantify specific sections and details of a comprehensive investment agreement. Nevertheless, the authors fail to mention that a majority of the research that analyzes the impact of bilateral investment treaties on foreign direct investment, i.e. in a broader sense, tend to find the impact to be positive.[55]

One of the studies that the authors use as an example that there is no scientific support for a significant relationship between ISDS and investment flows, is a Dutch research report that provides a comprehensive analysis of the Dutch experience of ISDS. According to this study, which was conducted on behalf of the Dutch Ministry of Foreign Affairs and published in the summer of 2014, "the risk of 'regulatory chill' or a threat to the Dutch government's policy space is not supported by sufficient empirical evidence". An analysis of ISDS cases under the North American Free Trade Agreement (NAFTA) and the Central America Free Trade Agreement (CAFTA) reaches a similar conclusion.

[53] It should be stressed, however, that the sole purpose of including an ISDS clause in TTIP is not necessarily to increase the flow of investment. It could be argued that the rule of law and stability in the regulatory framework may have an intrinsic value. Correspondingly, the main purpose of the International Tribunal for the Law of the Sea is not to increase the international flow of ships, ferries, and containers.

[54] Allvin and Larsson (2015). [Author's translation.]

[55] See, for example, Abbott et al (2014).

The Dutch study concludes that the risks of ISDS are exaggerated, and that the benefits of a balanced ISDS will outweigh the costs.[56] Surprisingly, this positive conclusion is not mentioned in the Cogito/Katalys study.

In the third part of the Cogito/Katalys study, the authors give a thorough discussion on the risks that may arise as a result of the harmonization of regulations and standards related to agriculture, food, and chemicals. This is a subject that previously has been analyzed from a Swedish perspective by the National Board of Trade and other institutions.[57] As was the case in the ÖFSE study, however, Allvin and Larsson neglect to discuss the positive aspects of greater harmonization of regulations and a mutual recognition of standards, for instance in terms of increased transatlantic trade.

”The Dutch study concludes that the risks of ISDS are exaggerated, and that the benefits of a balanced ISDS will outweigh the costs.

[56] Tietje et al (2014).

[57] It is important to note that the potential risks of regulatory harmonization should not be overstated. According to the Swedish National Board of Trade, for example, neither the European Union, nor the United States, or various industrial organizations have demanded a harmonization of the regulatory framework for chemicals. See Kommerskollegium (2014).

5. Conclusions and policy discussion

Negotiations between the EU and the United States on the Transatlantic Trade and Investment Partnership (TTIP) were initiated in July 2013, aiming to promote the economic integration between the two regions. The forthcoming trade and investment agreement is of a larger magnitude than any previous trade agreement, taking into consideration the fact that the EU and the United States represent almost half of global GDP.

In recent years, a number of studies have attempted to estimate the economic impact of TTIP, which is expected to result in the elimination of most tariffs, the reduction of non-tariff barriers to trade, and a facilitation of cross-border investment. Estimates of the economic effects of a trade and investment agreement that is yet to be implemented should of course be interpreted with caution. Nevertheless, there are several advantages to getting an idea of what the potential effects could be. Among other things, estimates such as these can serve as a basis in the decision-making process, which should make it easier for both policy makers and interest organizations to adopt well-balanced positions. In addition, estimates of the potential effects of TTIP may serve as an important input in economic forecasts, which in turn may be useful in the financial planning process of governments, non-governmental organizations, and companies.

According to the vast majority of the studies, the economic effects of TTIP are expected to be significantly positive for both the EU and the United States. This is not a surprising result, given that both economic theory as well as empirical research show that trade liberalization tends to generate significant positive economic effects.

In this report, we present eight studies that have received a lot of attention over the past years. Six of the studies focus on estimating the economic impact of a trade and investment agreement between the EU and the United States, while the last two studies discuss the potential effects of such an agreement from a qualitative perspective.

In five of the six studies that attempt to project the economic impact of the trade and investment agreement, the economic effects are estimated to be positive for both the EU and the United States. In all studies, the positive effects are primarily due to the expected reductions in non-tariff barriers to trade, since tariff rates between the EU and the United States are already relatively low. GDP effects range from 0.1 percent and five percent for the EU, and between 0.1 percent and 13 percent for the United States. For Sweden, GDP is expected to increase by between 0.1 percent and seven percent as a result of a transatlantic trade and investment agreement. Only one of the six studies finds the economic effects for EU to be negative, although the methodology of this study has received criticism from other researchers. A concise summary of the six studies can be found in table 6.

Table 6. Economic Effects of TTIP

Results from six studies that have estimated the long-run effect on GDP

Study	Model	Reduction of non-tariff barriers to trade	Time period	GDP-effect (percent) EU	USA	Sweden
Ecorys	CGE	25-50%	2008-2018	0.3-0.7	0.1-0.3	-
CEPR	CGE	10-25%	2017-2027	0.3-0.5	0.2-0.4	-
CEPII	CGE	25%	2015-2025	0.3	0.3	-
National Board of Trade	CGE	25-50%	10 years	0.1-0.2	0.2-0.5	0.1-0.2
Bertelsmann/IFO	CGE + gravity model	Implicit assumption*	10-20 years	4.95**	13.4**	7.3**
GDEI	GPM	Implicit assumption***	2015-2025	(-0.1) - (-0.5)****	0.4	-

*Assumption of trade increasing by approximately 80%.
**GDP per capita effect.
***Assumption of trade effects "that have been estimated by previous studies".
****No aggregated estimate for the EU.
Sources: Berden et al (2009), Francois et al (2013), Fontagné et al (2013), Kommerskollegium (2012), Felbermayr et al (2013), and Capaldo (2014).

> According to the vast majority of the studies, the economic effects of TTIP are expected to be significantly positive for both the EU and the United States. This is not a surprising result, given that both economic theory as well as empirical research show that trade liberalization tends to generate significant positive economic effects.

An important criticism that has been raised is the fact that the models used in the above-mentioned studies fail to incorporate economic and political risks. For instance, the reduction of non-tariff barriers to trade, due to an increased harmonization of regulations and technical standards, may impose social costs if it jeopardizes public health, consumer safety, or the environment. According to the European Commission, however, the negotiations on TTIP will not affect basic laws that protect human life and health, animal health and welfare, or environment. Instead, the focus of the TTIP negotiations is to harmonize regulations and to reach mutual recognition of standards for products and industries where large differences tend to cause unnecessary high trade costs.

Another important criticism concerns the protection of cross-border investment, more specifically investor-state dispute settlement (ISDS). In theory, allowing foreign investors the opportunity to bring claims against a host state reduces the ability of the government to legislate in the public interest (regulatory chill). The theory of regulatory chill is, however, not supported by studies that have systematically analyzed the political impact of ISDS-clauses in earlier trade and investment agreements. There is reason to believe that an increased legal certainty, and a more stable framework for investments, will have a positive effect on the investment flows between countries.

In conclusion, the forthcoming TTIP agreement is expected to have a positive impact on the economic development of both the EU, including Sweden, and the United States – and a similar conclusion can be drawn with regard to trade and investment liberalizations

vis-à-vis other countries. The harmonization of regulations and standards between the EU and the United States is also likely to contribute to spillover effects, not least since many third countries can be expected to adopt some of the common standards agreed between the EU and the United States.[58]

[58] See, for instance, Cai et al (2015) for an estimate of how TTIP may affect trade and GDP growth in the BRIC countries.

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