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## World Trade and Regional Trade Orientation in the Context of Forthcoming Transatlantic Trade and Investment Partnership

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## **World Trade and Regional Trade Orientation in the Context of Forthcoming Transatlantic Trade and Investment Partnership\*\***

**JEL Classification:** *F14; F15*

**Keywords:** *international trade; European Union; United States; TTIP*

**Abstract:** *We analyse potential consequences of the forthcoming Trade and Investment Partnership between the European Union and the United States (TTIP) for trade orientation of both partners. We do so along with the short analysis of the characteristics of the third wave of regionalism and the TTIP position in this process as well as the dominant role of the EU and the U.S. in the world economy – especially – in the world trade. Next, we study trade orientation of the hypothetical region created in result of TTIP. We use regional trade introversion index (RTII) to analyze trade between the EU and the U.S. that has taken place until now to get familiar with the potential changes caused by liberalization of trade between both partners. We analyze RTII for mutual trade of the EU and the U.S. Then, we apply disaggregated data to analyze and compare selected partial RTII (e.g. for trade in final and intermediate goods as well as goods produced in the main sectors of economy like agriculture or manufacturing).*

*The analysis of the TTIP region's orientation of trade based on the historical data from the period 1999-2012 revealed several conclusions. Nowadays, the trade*

*between the EU and the U.S. is constrained by the protection applied by both partners. Trade liberalization constituting one necessary part of TTIP will surely help to intensify this trade. The factor of special concern is trade of agricultural products which is most constrained and will hardly be fully liberalized even within a framework of TTIP. Simultaneously, both parties are even now trading relatively intensively with intermediaries, which are often less protected than the average of the economy for the sake of development of final goods' production. The manufactured goods are traded relatively often as well, mainly in consequence of their poor protection after many successful liberalization steps in the framework of GATT/WTO. Consequently, we point out that in many respects the TTIP will be important not only for its participants, but for the whole world economy as well. TTIP appears to be an economic and political project with serious consequences for the world economy and politics.*

## Introduction

We analyse the potential consequences of the forthcoming Trade and Investment Partnership between the European Union and the United States (TTIP) for trade orientation of the region containing both partners<sup>1</sup>. On one hand, TTIP can be treated as a typical regional trading agreement (RTA) representing the third wave of regionalism (two geographically distant parties located on the different continents, the expected scope of the agreement going far beyond liberalisation of trade in goods). On the other hand, we acknowledge the parties' particular characteristics (both are among the strongest actors in the world economy and politics; both are centers). TTIP appears to be as the first approach of leading developed countries to cope with the growing economic and political power of developing countries (especially China, in this paper presented via APTA as China belongs to this RTA). We see TTIP as well as an initial agreement on the way of constructing RTA connecting the EU and NAFTA.

In this paper, we analyse all RTAs with the constant number of members (number for year 2012). Consequently, APTA is treated as containing China over all analysed period. Moreover, we analyse the EU with 27 Member States. It is named without giving the number of participants and we are aware of the fact that the EU did not consist of members over the whole period of the analysis<sup>2</sup>. However, 1999 (the starting year of this

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<sup>1</sup> More about potential consequences of TTIP see e.g. Felbermayr *et. al.* (2013, 2015), Fontagne *et. al.* (2014), Francois *et. al.* (2013) and Pelkmans *et. al.* (2014).

<sup>2</sup> In the first years of analysis the EU consisted in 15 Member States. The next 10 states (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and

analysis and the year of the Euro Zone (EZ) establishment) all 27 states were tied at least with free trade area agreements (FTA). In some cases trade liberalization didn't cover "substantially all trade" as GATT/WTO stipulated. For example, in many cases agricultural products and other sensitive goods (such as textiles, chemicals) were at least partly excluded from free trade. Even if these facts are taken into account, these 27 states started process of institutionalized integration long before they became members of the EU. It justifies the beginning of the empirical analysis in the time before their EU-membership.

The aim of this paper is to analyse the TTIP impact on international trade in the whole world as well as in both trading partners. We do it with the short analysis of the dominant role of both partners in the world economics and politics as well as of the characteristics of the third wave of regionalism and TTIP position in this process. We implement openness indexes of both trading partners to prove their involvement in international trade. Then we study trade orientation of the hypothetical region created in the result of TTIP. We use regional trade introversion index (RTII) to describe trade between the EU and the U.S. that has taken place until now and to get familiar with the potential changes caused by liberalization of trade between both partners in bilateral as well as in global trade streams. We analyze RTII for the whole mutual trade between the EU and the U.S. and we also apply disaggregated data to analyze and compare selected partial RTII (e.g. for trade in final and intermediate goods as in the BEC classification as well as in agricultural, manufactured and mineral products according to the SIC nomenclature). Our empirical analysis covers the period 1999–2012. For all analyses the current prices are applied. We point out that TTIP will be important not only for its participants but for the whole world economy.

Apart from the methodological paragraph, the rest of the paper is organized as follows. Firstly, we analyse TTIP in the world economy as a part of the current (third) wave of regionalism. Secondly, we study the economic potential and wealth of the EU, and – for comparison reason – of NAFTA and the selected other RTAs as well as of the U.S. to prove impact of TTIP on the further international economic co-operation. Thirdly, we analyze the openness of both TTIP participants and regional trade orientation of the region created by the EU and the U.S. Conclusions complete our study.

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Slovenia) accessed the EU in May 2004. Bulgaria and Romania followed in 2007 completing the EU-27.

## Methodology of the Research

In the paper we use simple analysis of statistics and indexes concerning openness and regional trade orientation. Firstly, sum of export and import divided by GDP and is trade openness index. Secondly, we use the regional trade introversion index (RTII) first proposed by Iapadre (2006). This index allows measuring the relative intensity of regional trading versus trading with the outsiders. The RTII can range from  $-1$  to  $1$ , and it is independent of the region's size, as it applies relative values. Moreover, RTII is sensitive to the differences among the partners in one RTA. The relatively high values of this index are expected in the RTAs containing countries with the similar economic potential. If potential of the member states differs, the small partners can't reach trade intensity expected for the big ones and pull the index down. The index rises (or falls) only if the intensity of intraregional trade grows more (or less) rapidly than that of extraregional trade. If the index is equal to zero, then the region's trade is geographically neutral (it grows similarly in the intraregional as well as in extraregional terms). If the index is a positive number, the region's trade has an intraregional bias (if  $RTII = 1$ , all region's trade is intraregional). If RTII is less than zero, then the region's trade has an extraregional bias (if  $RTII = -1$ , all trade of the analyzed region is extraregional). The formula for the regional trade introversion index is:

$$RTII_i = (HI_i - HE_i) / (HI_i + HE_i)$$

$$HI_i = (T_{ii}/T_i) / (T_{oi}/T_o)$$

$$HE_i = (1 - (T_{ii}/T_i)) / (1 - (T_{oi}/T_o))$$

where:

$T_{ii}$ = exports of region  $i$  to region  $i$  plus imports of region  $i$  from region  $i$ ,

$T_i$ = total exports of region  $i$  to the world plus total imports of region  $i$  from the world,

$T_{oi}$ = exports of region  $i$  to outsiders plus imports of region  $i$  from outsiders,

$T_o$ = total exports of outsiders plus total imports of outsiders.

## TTIP in the Third Wave of Regionalism

TTIP is to be seen against the background of the progress of discriminatory liberalization of economic cooperation and the deadlock in the non-discriminatory negotiations within the World Trade Organization (WTO).

Nowadays, multilateral negotiations under the auspices of WTO are more complex than in the past. The reason is the growing number of negotiations' participants. Moreover, the negotiations cover a broad range of subjects, including not only trade liberalization, but also issues such as environment and intellectual property protection. They are accompanied by the conviction that, due to the expected benefits, the developed countries are predominantly interested in the adoption of further agreements, while the developing ones will suffer losses after their conclusion, at least in the form of the lack of potential profits. These objections became particularly loud after the successful conclusion of the Uruguay Round of GATT in 1995.

As the prospects for global cooperation and success of the following round of multilateral negotiations are unclear, many countries and groups of countries are looking for alternative forms of international cooperation. The result is enhancement of regional integration allowing its participants to strengthen ties with their closest economic partners, and to benefit without bearing the costs of multicultural worldwide cooperation. Homogeneity of collective subjects of international relations (e.g. EU or NAFTA) helps to reduce internal transaction costs. Regional economic integration begins often in form of preferential (discriminatory) trade agreements concluded by the countries and groups of countries (more see Czarny *et. al.*, 2010, pp. 126-128). All gains of economic integration are expected after the conclusion of TTIP as well.

The process of regional integration is called regionalism. It is defined as a process of uniting economic potentials of at least two countries/regions in order to maximise the intensity of economic cooperation. The main symptom of regionalism is establishing regional groups of states and international organizations (within their competences). Members of these groups enjoy free internal trade as well as – eventually – free internal movement of production factors and economic policy coordination.

The factor of special interest are regional groups with participation of the WTO members. WTO member states are obliged to obey Organization's *acquis* (primary and secondary laws), including prohibition of discrimination as the foundation of multilateral trade system specified by the Most Favored Nation (MFN) and National Treatment (NT) clauses<sup>3</sup>. The basic rules of regional trading agreements are not compatible to the MFN

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<sup>3</sup> Rules regarding MFN (for trade in goods as well as in services and copyrights) are covered by GATT Article I, GATS Article II and TRIPS Article IV. NT clause is regulated by GATT Article III, GATS Article XVII and TRIPS Article III.

and NT clauses. Preferences granted to the RTA's members are different from those enjoyed by the third parties<sup>4</sup>.

The first modern regional agreements were established within the normative scope of GATT Article XXIV already in the 1940's. RTAs have been booming during the current wave of regionalism started in 1995<sup>5</sup> and lasting till today. Nowadays there are hundreds of valid binding bi- and multi-lateral RTAs<sup>6</sup>. As of 15 June 2014, some 585 notifications of RTAs (counting goods, services and accessions separately) had been received by the GATT/WTO. Out of these, 379 were in force (see WTO, [www.wto.org/english/tratop\\_e/region\\_e/region\\_e.htm](http://www.wto.org/english/tratop_e/region_e/region_e.htm) accessed on 03.08.2014).

Initially, regional agreements were of multilateral character. Currently, bilateral agreements gain importance. They accounted for the majority all RTAs notified, in force and under negotiations (for the historical data see:

<sup>4</sup> Deviation from WTO general rules is permitted by GATT Article XXIV, agreements on interpretation of GATT Article XXIV, Enabling clause and GATS Article V. Article XXIV of GATT provides for free trade area (FTA) and customs union (CU) principles and regulates discriminatory liberalization of trade in goods. GATS Article V regulates international trade in services. The Enabling clause allows developed countries to enter RTAs and confer preferences in trade with developing countries. This clause makes it possible for developing countries to conclude agreements for intensification of their mutual trade.

<sup>5</sup> Regional integration process taking place since the GATT establishment is referred to as the first wave of regionalism. In the second half of the 1980's started the second wave of regionalism (one of its main characteristics is participation of the U.S. in the process). The starting point of the third wave is the end of the Uruguay Round of GATT and the creation of the World Trade Organization in 1995.

<sup>6</sup> In the real world RTAs have different forms. They vary from the least integrated PSAs to economic union. PSA (*Partial Scope Agreement*) can be concluded only by the developing countries. It provides only a partial elimination or decrease of tariffs, without obligation to full liberalization of trade in goods. FTA (*Free Trade Area*) consists in elimination of tariffs in trade with goods among the RTA members and keeping national tariffs of the member states against the third countries intact. In the framework of CU (*Customs Union*) tariffs among the members are eliminated as in a FTA and – additionally – a common tariff in trade with the third countries is introduced. In the WTO framework international trade in services is called “economic integration” (and this aspect of regional agreement is called *Economic Integration Agreement* – EIA). This name is justified with necessity of deeper integration in case of trade with services than of trade with goods. E.g. trade with services enforces presence of the foreign providers in the country and incorporates elements of international movement of production factors. Nevertheless the WTO meaning of “economic integration” is not a synonym of the full economic integration in the economic theory (see Balassa, 1961). EIA always accompanies FTA or CU. The next form of a RTA is *Common Market* (CM, the form of RTA not notified by the WTO). A CM has features of a CU supplemented by a free movement of production factors. More integrated economic union is a CM containing a harmonization and coordination of economic policies of the member states (if capital markets are liberalized, currencies of the member states are convertible and their exchange rates are fixed, there are conditions fulfilled for a monetary union, MU).

Fiorentino *et. al.*, 2009). In 2010 more than a half of RTAs in force (about 160 out of ca. 290) were bilateral (World Trade Report, 2011, p. 60). The basic reasons for the smaller popularity of the multilateral agreements are difficulties with their implementation arising from earlier political obligations of potential members who already accessed one or more RTAs.

In the past, mainly countries of the same geographical region (neighboring countries) were those cooperating the most intensely, which was sanctioned in MFN clause. Gradually, regional agreements have become the most important deviation from MFN. However, due to the exhaustion of the further possibility of the establishment of RTAs, during the first decade of XXI c. interregional forms of trade liberalization start to dominate. In 2010 about one half of RTAs in force (about 145 out of ca. 290) were not strictly “regional” and include countries from outside of the regions compatible with the geographical definitions commonly employed in the WTO context (World Trade Report, 2011, p. 60). Technological progress (especially in information transfer and exchange) supports the process of economic integration. Interregional groups help to further relax trade barriers and intensify international trade. Interregional agreements change the world trade pattern, which in the recent decades were primarily determined by intraregional exchange.

Transatlantic Trade and Investment Partnership is for some reasons a typical RTA of the third wave of regionalism. It will be concluded by two geographically distant parties located on different continents (one of them – the EU – is a collective entity). As in the case of other RTAs, there are many economic and non-economic reasons of negotiating this agreement. The expected scope of this agreement will be going far beyond liberalisation of trade in goods. It will probably also cover trade of services, movements of production factors (especially rules regulating flows of foreign investments and migrations), as well as environment and intellectual property protection.

Aware of typical characteristics of TTIP in the current wave of regionalism, we acknowledge its specificity derived from the parties’ particular characteristics. The EU as well as the U.S. are namely among the strongest actors in the world economy and politics. Both can be seen as the centers (and not – as very often in RTAs – one as a centre and another as a periphery). This is why, in the case of TTIP conclusion, the standard Viner’s trade creation and trade diversion effects are expected, as well as the terms of trade effect.

TTIP is aimed at deepening the economic ties between the EU and the U.S. It is an agreement that will significantly change the global balance of power. This agreement is seen to go far beyond a free trade area, which is

most probably going to come into being by its notification by WTO. It will include free trade in services (EIA). Since it requires i.e. the presence of the service provider on the partner's market and free movement of purchasers and producers of services, implementation of EIA entails deeper connections of partners' economies than in the case of a FTA.

The working name for the forthcoming EU – U.S. agreement, Transatlantic Trade and Investment Partnership is indicating its broader range than this of a FTA as well. Moreover, judging by already finished negotiations on the RTAs created by the EU and Canada, as well as by other selected RTAs concluded by the EU and the U.S. (particularly those with developed countries), one can assume that TTIP will cover not only principles of liberalization of trade with goods. In addition to the reduction of tariffs, the TTIP will regulate: elimination of non-tariff barriers to trade, free trade in services and rules for foreign investment regime, public procurement, protection of intellectual property rights, and ways of dispute settlement. TTIP will presumably be a model for subsequent RTAs. It is especially feasible in the area of technical standards applying to products. It can also significantly affect the fate of multilateral liberalization negotiations under WTO bringing about either some ready-made solutions or at least an incentive for discussion.

TTIP negotiations are underway<sup>7</sup>. The first round was concluded in July 2013. It was aimed at defining the full range of topics that EU and the U.S. intend to cover in the TTIP. In November 2013 during the second round of negotiations liberalization of trade in services, energy and natural resources, and protection of foreign investments were discussed<sup>8</sup>.

On 20 December 2013 the third round of TTIP negotiations in Washington was finished. The talks concerning the parties' expectations as to the access to services markets and systems of mutual protection of foreign investments were continued. An American model of a bilateral agreement on mutual protection of investments (BIT, *Bilateral Investment Treaty*)<sup>9</sup> was

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<sup>7</sup> For details, see Czarny *et. al.* (2014).

<sup>8</sup> The second round of negotiations took place with a delay due to the fiscal paralysis the U.S. administration. This demonstrates the sensitivity of the negotiations to the internal problems of the parties. At the same time, the deterioration of the U.S.-Germany (and partly even U.S.-the rest of Europe) relations as the consequence of the phone hacking scandal didn't change the negotiations agenda.

<sup>9</sup> In view of the absence of more universal regulations, the protection of foreign investments is regulated by bilateral agreements (BITs). There are usually two model solutions accepted, which originate from different principles, although they bring forth identical practice. In the first case, the state authorities of a country concluding a BIT commit themselves to promote the tendency of investors from the partner country to invest in its territory. In the second model, the state authorities leave the contracting parties the right to specify the terms

analyzed, which was applied in the agreement constituting the NAFTA, as well as the experience pertaining to the mechanism of dispute settlement within it (though as to the questions concerning the ISDS (*Investor-State Dispute Settlement*) the EU position is constantly changing). The regulatory problems had also been studied, including the EU model of technical barriers to trade. Progress in the talks on the automotive sector was achieved. Contentious issues were: equal access of European firms to public procurement in various states in the U.S., and regulations on agriculture in the part of the U.S. In this latter case the disparities arise mainly from the different nature of agricultural production in the EU and the U.S., as well as from different approaches to genetically modified products (GMO, *Genetically Modified Organisms*). During the fourth round, taking place in March 2014, the negotiations concerning three main issues (market access, regulations and rules) were continued. The fifth round of negotiations (May 2014) focused mainly on technical barriers of trade, access to the market for agricultural products and rules of origin. During the sixth round of negotiations (July 2014) the U.S. and the EU leaders have set a timetable for completing an agreement for TTIP by late 2014 (what seems not to be realistic).

### **Economic Potential and Wealth of the EU, the U.S., NAFTA and Other Selected RTAs**

The empirical analysis on TTIP is started by comparing GDP and GDP *per capita* (GDP *pc*) of the EU and the U.S. as well as NAFTA and two other RTAs selected as the best in the year 2012 among the multilateral RTAs (the sample excludes the EU and NAFTA)<sup>10</sup> – Tables 1 and 2 (the same criterion is applied in Table 3).

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of the contract, unless they violate the law. For more information see Czarny& Menkes, (2008).

<sup>10</sup> The RTAs analyzed in Tables 1-3 names are (if the name does not reveal the location of the RTA or gives it not precisely we add this information – according to WTO – in brackets): AFTA (ASEAN Free Trade Area located in East Asia), ANZCERTA (Australia New Zealand Closer Economic Relations Trade Agreement), APTA (Asia-Pacific Trade Agreement, East and West Asia), EFTA (European Free Trade Association), EU (European Union), GCC (Gulf Cooperation Council, Middle East), LAIA (Latin American Integration Association, Nord and South America, The Caribbean), NAFTA (North American Free Trade Agreement)

**Table 1.** Gross Domestic Product of the EU, NAFTA, the U.S, APTA and LAIA in the years 1999–2012 (current prices and exchange rates, trillions USD)

Year	EU	NAFTA	US	APTA	LAIA	World
1999	9.15	10.55	9.37	2.08	1.82	31.95
2000	8.48	11.33	9.97	2.26	2.01	32.86
2001	8.58	11.70	10.31	2.37	1.95	32.67
2002	9.36	12.11	10.67	2.60	1.73	33.99
2003	11.41	12.73	11.17	2.96	1.80	38.16
2004	13.17	13.63	11.88	3.46	2.09	42.95
2005	13.77	14.63	12.65	4.05	2.54	46.51
2006	14.68	15.63	13.40	4.78	3.00	50.38
2007	16.99	16.51	14.06	5.85	3.55	56.67
2008	18.27	16.91	14.31	6.88	4.14	62.10
2009	16.33	16.21	14.00	7.37	3.88	58.94
2010	16.28	17.13	14.52	8.80	4.82	64.40
2011	17.60	17.98	15.10	10.39	5.42	71.21
2012	16.57	18.65	15.70	11.29	5.40	72.68

Source: own study based on UNCTAD database, <http://unctadstat.unctad.org/> (03.08.2014).

Among all RTAs NAFTA and the EU have the biggest economic potential, although they experienced relatively low growth rates of GDP (ca. 1.8 times during the period 1999–2012). NAFTA's economy is bigger than the EU economy in all analyzed years apart from the years 2007–2009 (the last economic crisis)<sup>11</sup>. Till 2003 even the U.S. economy was bigger than the economy of the EU as a sum of 27 Member States. Since then, both economies have had a similar size with a small prevalence of the EU.

The dominant position of the EU and the U.S. economy is shown by the comparison with two RTAs positioned in the ranking just behind the leaders (APTA and LAIA). In 1999 APTA's GDP was ca. 5.1 times smaller than NAFTA's GDP and 4.4 times smaller than GDP of the EU. In 2012 this difference was equal – respectively – to 1.65 and ca. 1.5 times. These figures are an appropriate measure of the progress made by the APTA's

<sup>11</sup> The economic crisis becoming global in the autumn 2008 has started in the U.S. economy earlier, what had considerably affected the NAFTA's economy.

economy. For LAIA, the respective figures are ca. 5.8 and 5 times in 1999, and 3.45 and 3.1 in 2012.

Despite the rapid increase in GDP of APTA (more than 5.4 times during 14 analyzed years), its huge population makes it still poor. Because of the relatively low GDP *pc*, it is similar rather to the RTAs concerning developing countries (for example other Asian or African RTAs), than to any developed group. In 1999 the richest among RTAs was the population of EFTA with GDP *pc* almost 2 times higher than the EU (the 3. position in the ranking) and 1.5 times higher than the 2. in the ranking NAFTA (Table 2).

**Table 2.** Gross Domestic Product *per capita* of the EU, NAFTA, the U.S, EFTA and ANZCERTA in the years 1999-2012 (current prices and exchange rates, thousands USD)

Year	EU	NAFTA	U.S.	EFTA	ANZCERTA	World
1999	18.98	25.60	33.06	37.27	21.29	5.28
2000	17.55	27.17	34.80	36.37	20.05	5.36
2001	17.70	27.75	35.60	36.88	18.98	5.27
2002	19.24	28.41	36.48	40.47	20.99	5.41
2003	23.36	29.57	37.83	47.05	26.72	6.00
2004	26.86	31.33	39.87	53.03	32.05	6.68
2005	27.96	33.29	42.07	57.30	35.43	7.14
2006	29.69	35.21	44.17	61.40	36.95	7.64
2007	34.20	36.83	45.91	69.06	43.93	8.50
2008	36.63	37.34	46.35	78.76	45.55	9.20
2009	32.63	35.46	44.92	70.34	42.77	8.63
2010	32.40	37.10	46.20	76.40	53.28	9.31
2011	34.92	38.59	47.62	89.81	61.80	10.18
2012	32.81	39.63	49.11	87.97	63.11	10.27

Source: own study based on UNCTAD database, <http://unctadstat.unctad.org/> (03.08.2014).

In 2012 NAFTA became the third richest RTA after the ANZCERTA's GDP *pc* jumped to the level 1.6 times higher than this of NAFTA. In the period 1999-2012 ANZCERTA experienced increase of GDP *pc* ca. 3 times. During the analyzed period the U.S. population was richer than the people in the EU (as well as in NAFTA).

An analysis of GDP and GDP *pc* revealed that the EU and NAFTA dominate among the RTAs, as well as in the world economy. The same can be said about the U.S. being the leading economy in NAFTA (in 1999 the U.S. economy produced almost 90% of the NAFTA's GDP; in 2012 it was still equal to ca. 84%). RTA containing the EU and the U.S.<sup>12</sup> will create a new superpower in the world economy. In 1999, the U.S. and the EU joint production was equal to almost 60% of the world GDP. Their export exceeded 53% of the global export. At the beginning of the second decade of the XXI c., the position of both partners in the global economy is worse than at the end of the XX c. In 2012, the common share of the EU and the U.S. in the world GDP amounted to 44.5%, whereas the export of both partners does not exceed 40% of the world export<sup>13</sup> (see UNCTAD, <http://unctadstat.unctad.org/>).

### **Openness and Trade Orientation**

Both TTIP partners differ in intensity of their trade with the outside world as well as with the member countries of the RTAs they belong to (intra EU-trade and intra-NAFTA trade). We measure the intensity of trade as a sum of export and import divided by GDP and treat the calculated numbers as trade openness index (Table 3).

During 1999–2012 an increase in openness of all analyzed RTAs but AFTA is noticeable. Two Asian blocs (AFTA and GCC) have an openness index bigger than 1. It means that their shares in the world trade are bigger than their shares in the global GDP. In case of AFTA trade has outstripped its GDP nonstop since 1998 (see Czarny & Folfas, 2014). For GCC it holds in the last two years and in 2008. The EU achieved considerably higher values of the trade openness indexes than NAFTA: in 2012 – respectively – 0.7 and 0.3 (the difference between both indexes is increasing in time), though we can observe increasing openness of both of them. The relatively low openness indexes of NAFTA are understandable as this RTA contains two big economies concentrating on supplying their own internal markets (we can see this comparing the NAFTA openness index with the one of the U.S.).

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<sup>12</sup> In the further part of this paper we refer to the hypothetical region created after the conclusion of the TTIP and containing the EU and the U.S. as to „the TTIP region”.

<sup>13</sup> If TTIP was introduction to FTA between the EU and NAFTA, the new bloc EU plus NAFTA would account for 48.5% of global GDP (2012) and for 44.5% of world exports (2012).

**Table 3.** Trade openness indexes of the EU, NAFTA and the U.S. as well as of selected other RTAs in the years 1999–2012

Year	EU	NAFTA	U.S.	AFTA	GCC
1999	0.50	0.24	0.19	1.15	0.63
2000	0.57	0.26	0.20	1.31	0.69
2001	0.56	0.23	0.19	1.23	0.68
2002	0.55	0.22	0.18	1.16	0.69
2003	0.54	0.23	0.18	1.19	0.76
2004	0.56	0.24	0.20	1.30	0.83
2005	0.59	0.26	0.21	1.35	0.87
2006	0.64	0.27	0.22	1.31	0.88
2007	0.64	0.27	0.23	1.23	0.94
2008	0.66	0.29	0.24	1.25	1.03
2009	0.56	0.23	0.19	1.01	0.93
2010	0.64	0.27	0.22	1.05	0.94
2011	0.69	0.30	0.25	1.09	1.00
2012	0.70	0.30	0.25	1.06	1.05

Source: own study based on UNCTAD database, <http://unctadstat.unctad.org/> (03.08.2014).

In this paper we compare the RTII indexes of the region created by the EU and the U.S. after conclusion of the TTIP agreement (TTIP region) with the respective indexes of the EU (containing 27 Member States) and NAFTA. This analysis covers the years 1999–2012. Firstly, we analyze the regional trade introversion index for trade in all commodities (Table 4).

**Table 4.** Regional trade introversion index for trade in all commodities in the years 1999–2012

Year	EU	NAFTA	TTIP region*	TTIP region **
1999	0.71	0.65	0.10	-0.28
2000	0.72	0.64	0.13	-0.28
2001	0.70	0.65	0.13	-0.26
2002	0.71	0.66	0.18	-0.25
2003	0.72	0.68	0.25	-0.23
2004	0.71	0.68	0.26	-0.26
2005	0.71	0.67	0.25	-0.29

Table 4 continued

Year	EU	NAFTA	TTIP region*	TTIP region **
2006	0.71	0.67	0.27	-0.29
2007	0.70	0.68	0.30	-0.29
2008	0.69	0.68	0.31	-0.32
2009	0.70	0.67	0.34	-0.28
2010	0.71	0.68	0.34	-0.32
2011	0.70	0.69	0.35	-0.33
2012	0.69	0.68	0.31	-0.35

\* including intra-EU27 trade

\*\* excluding intra-EU27 trade

Source: own calculations based on WITS-COMTRADE database, <http://witsworldbank.org> (4.07. 2014).

Secondly, we discuss the RTIIs calculated for the disaggregated groups of goods. We start with the division into the final (Table 5) and the intermediate goods (Table 6) compatible with the BEC nomenclature. Further we proceed to RTII calculation for the main sectors of the economy (SIC nomenclature<sup>14</sup>). We begin with the RTII for trade in agriculture, forestry and fishery products (Table 7), because the first part of this category is important for export of the TTIP partners and is heavily protected by both of them. Then we analyze the RTII of the manufactured goods, which are very important in trade between developed countries. This sector is divided into two subsectors: the first one consists of defined manufactures (Table 8) and the second one of manufactures not defined by kind (Table 9). We continue analyzing RTII in trade with mineral products (Table 10). For sake of completeness of the analysis we add (though not extensively comment) the data on the RTII for trade in other commodities (Table 11). We use data extracted from WITS-COMTRADE database.

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<sup>14</sup> According to SIC nomenclature the economies are divided into: a) agriculture, forestry and fishery products, b) mineral commodities (metallic ores and concentrates, coal and lignite, crude petroleum and natural gas, nonmetallic minerals, except fuels), c) manufactured commodities (food and kindred products, tobacco manufactures, textile mill products, apparel and related products, lumber and wood products, except furniture, furniture and fixtures, paper and allied products, printing, publishing and allied products, chemicals and allied products, petroleum refining and allied products), d) manufactured commodities not specified by kind (rubber and miscellaneous plastics products, leather and leather products, stone, clay, glass and concrete products, fabricated metal products, except machinery, machinery, except electrical, electrical machinery, equipment and supplies, transportation equipment, scientific and professional instruments, photographic and optical goods, watches and clocks, miscellaneous manufactured products), e) other commodities (scrap and waste, used or second hand merchandise).

**Table 5.** Regional trade introversion index for trade in final goods in the years 1999–2012

Year	EU	NAFTA	TTIP region*	TTIP region**
1999	0.74	0.62	-0.09	-0.36
2000	0.74	0.58	-0.11	-0.41
2001	0.73	0.57	-0.09	-0.36
2002	0.72	0.56	-0.06	-0.31
2003	0.70	0.56	-0.01	-0.27
2004	0.69	0.59	0.01	-0.28
2005	0.70	0.58	0.05	-0.31
2006	0.69	0.57	0.04	-0.33
2007	0.68	0.59	0.10	-0.32
2008	0.67	0.59	0.13	-0.34
2009	0.68	0.59	0.15	-0.35
2010	0.68	0.60	0.16	-0.37
2011	0.67	0.62	0.20	-0.36
2012	0.67	0.59	0.18	-0.36

\* including intra-EU27 trade

\*\* excluding intra-EU27 trade

Source: own calculations based on WITS-COMTRADE database, <http://witsworldbank.org> (4.07. 2014).

The EU's and NAFTA's trade has similar, relatively high intraregional orientation, though in the EU it is decreasing whereas in NAFTA increasing. This result is opposite to the one achieved in the analysis of the TTIP region. Calculating RTII for this region including intra-EU trade brings positive and increasing though relatively low values of the index. They have been permanently lower than 50% of the respective RTIIs for NAFTA and the EU (except for 2011, when it was slightly higher than 50% of NAFTA's RTII). If, however, we take into account that this result is heavily biased because of a very intensive trade among the EU-members, it means, if we acknowledge that the intra-EU trade no longer can be seen as international trade because of the depth of the partners' economic integration, we get strong and growing (in absolute value) extraregional trade (since 2003 the numbers are almost the same as for the TTIP region with intra-EU trade but have opposite sign). At the first glance, this result can be seen as a proof of economic incompatibility of the EU and the U.S. However, it is not surprising and can be seen as a confirmation of the effectiveness of the trade barriers discouraging UE-U.S. trade. One can expect a considerable intensification of the turnover between TTIP-partners resulting from liberalization of their mutual trade. This analysis rather confirms

the necessity to work on trade liberalization, if these partners intend to intensify their trade (it is especially visible in the further part of this analysis concerning trade in agricultural products in Table 7).

More precise approach to trade orientation of the TTIP region is provided with the analysis of partial RTIIs calculated for groups of commodities. In trade with final goods the EU is permanently more intraregional oriented than NAFTA. In the first years of the analysis (till 2002) EU-RTII for trade in final goods was even more intraregional oriented than trade in all commodities. Such high values of the EU-RTII can be explained with the similarity of countries constituting the European Union. They have similar GDP *pc* as well as similar culture, tastes and – to some extent – even climate. In effect, the EU-population has similar consumption pattern, what means that the firms are producing similar goods and demanding similar equipment. As these countries are the developed ones, they produce similar goods (e.g. manufactures) as well. It means, that in both consumption and production goods there is a big potential for the mutual trade among the Member States (this is visible by studying EU-RTII for manufactured goods in Table 8 as well). This result is confirmed, when we compare the EU-RTIIs with the respective RTIIs of NAFTA consisting in very differentiated members and having lower RTIIs. In this context the TTIP region (in all analyzed years for mutual trade without the intra-EU trade and in the years 1999-2003 even for the EU-U.S. trade including the intra-EU trade streams) appears even more extraregionally oriented than in case of trade with all goods. This region has the negative RTII in the years 1999-2003 even after including intra-EU trade. However, its tendency to grow is noticeable. Moreover, the absolute values of the index for the TTIP region without intra-EU trade are bigger than of the RTIIs for all commodities. In this case, intensification of intra-industry trade<sup>15</sup> can be expected. This is the best chance for the competitors from the EU and the U.S. producing similar (especially technologically advanced) products to find segments of markets to be supplied with their products.

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<sup>15</sup> Intra-industry trade is a simultaneous export and import of similar goods produced in the same industry in bilateral turnover.

**Table 6.** Regional trade introversion index for trade in intermediate goods in the years 1999–2012

Year	EU	NAFTA	TTIP region*	TTIP region**
1999	0.72	0.66	0.19	-0.18
2000	0.72	0.65	0.20	-0.20
2001	0.72	0.66	0.25	-0.15
2002	0.73	0.68	0.29	-0.15
2003	0.73	0.70	0.34	-0.15
2004	0.73	0.69	0.36	-0.17
2005	0.73	0.68	0.37	-0.17
2006	0.73	0.67	0.38	-0.18
2007	0.72	0.68	0.40	-0.19
2008	0.72	0.68	0.43	-0.19
2009	0.73	0.68	0.44	-0.19
2010	0.74	0.69	0.44	-0.23
2011	0.74	0.69	0.45	-0.22
2012	0.74	0.68	0.43	-0.23

\* including intra-EU27 trade

\*\* excluding intra-EU27 trade

Source: own calculations based on WITS-COMTRADE database, <http://witsworldbank.org> (4.07.2014).

The RTII for trade in the final goods had tendency to fall in both the EU and NAFTA, whereas in the TTIP region with the intra-EU trade these RTIIs were rising (till 2011), though in the first years of the analysis (till 2003) they were extraregionally biased with the weaker and weaker bias. In this case of importance is production of multinational enterprises (MNEs) located by both TTIP parties as well as – more general international production fragmentation. This time as well the TTIP region was strongly influenced by the internal EU-trade. If we exclude the intra-EU trade and calculate the RTII only for the EU-trade with the rest of the world, this orientation stays extraregional and relatively stable.

The impact of MNE's, production fragmentation and supply chains is even more visible if we analyze the regional orientation of intra-TTIP region's trade though regional trade introversion indexes for trade in intermediaries, as well as the concrete figures show the tendency different than these for the final goods. RTII for the intermediaries is higher in the case of the EU than in the case of NAFTA, because the EU participates in more production nets, whereas NAFTA's international production is mainly concentrated on two out of three member states (the U.S. and Mexico). The TTIP region with intra-EU trade has relatively high and growing positive values of RTII (exactly as the one of the EU), what proves its intra-regional

orientation. The values of RTII for trade in intermediaries doubled in the analyzed period though even in 1999 this index was almost two times higher than the RTII for all commodities. For the TTIP region without intra-EU trade RTII was relatively low in absolute terms. This confirms relatively poor protection of intermediaries applied by both TTIP-partners and is compatible with general observation that production of intermediaries is usually less protected than the average of the economy (with the aim of development of the local production of the final goods with the use of imported intermediaries).

**Table 7.** Regional trade introversion index for trade in agriculture, forestry and fishery products in the years 1999–2012

Year	EU	NAFTA	TTIP region*	TTIP region**
1999	0.72	0.57	0.04	-0.61
2000	0.74	0.57	0.06	-0.61
2001	0.74	0.60	0.05	-0.62
2002	0.75	0.62	0.08	-0.61
2003	0.74	0.59	0.08	-0.64
2004	0.76	0.59	0.14	-0.65
2005	0.76	0.62	0.16	-0.66
2006	0.76	0.61	0.14	-0.69
2007	0.75	0.59	0.13	-0.68
2008	0.74	0.58	0.12	-0.70
2009	0.78	0.58	0.18	-0.73
2010	0.79	0.57	0.21	-0.72
2011	0.79	0.58	0.24	-0.72
2012	0.81	0.57	0.26	-0.72

\* including intra-EU27 trade

\*\* excluding intra-EU27 trade

Source: own calculations based on WITS-COMTRADE database, <http://witsworldbank.org> (4.07.2014).

The RTII values for the single groups of products differ between sectors. The effects of protection are especially visible if we analyze trade in agricultural products, which is the most protected part of the EU economy and is strongly protected by the U.S. too (Table 7). The EU, as expected, has much higher RTIIs than NAFTA and the EU's RTII for agricultural products is the highest one in our analysis. In this case, the relatively low NAFTA's RTII values result from the different economic potentials of the U.S. and the other members of this RTA. The huge U.S. production can

hardly be absorbed by the smaller market of Canada and the poorer population of Mexico, which develops its own agricultural production.

As far as TTIP region is concerned, especially without the intra-EU trade, the figures are very high and negative. Trade of the TTIP region appears very extra-regionally oriented. This is mainly the result of the EU-common agricultural policy as well as of the U.S. protection. In this case, however, one cannot expect a very quick and large change even after the signing of the TTIP agreement as some exceptions will surely remain.

**Table 8.** Regional trade introversion index for trade in manufactured commodities in the years 1999–2012

Year	EU	NAFTA	TTIP region*	TTIP region**
1999	0.74	0.72	0.25	-0.17
2000	0.75	0.69	0.26	-0.16
2001	0.74	0.68	0.27	-0.13
2002	0.73	0.68	0.30	-0.09
2003	0.73	0.68	0.33	-0.06
2004	0.73	0.69	0.35	-0.07
2005	0.73	0.69	0.37	-0.08
2006	0.72	0.68	0.37	-0.09
2007	0.71	0.67	0.39	-0.09
2008	0.72	0.67	0.41	-0.11
2009	0.71	0.65	0.42	-0.07
2010	0.73	0.64	0.44	-0.11
2011	0.74	0.67	0.47	-0.12
2012	0.73	0.66	0.44	-0.14

\* including intra-EU27 trade

\*\* excluding intra-EU27 trade

Source: own calculations based on WITS-COMTRADE database, <http://witsworldbank.org> (4.07.2014).

RTII in trade with manufactured goods (Table 8) in the TTIP region with intra-EU trade has high and growing values. In 2012 it made up 0.6 of the EU's RTII and 0.67 of the NAFTA's RTII. In the TTIP region without intra-EU trade, RTII still had negative values, though they are low in absolute terms. This is the result of a poor protection of these goods. It is not only the effect of the EU or the U.S. economic policies, but mainly of the non-discriminatory trade liberalization in the framework of GATT/WTO.

For manufactured goods not identified by kind the RTII figures are lower than in manufactured goods presented in the Table 8 for the EU and the TTIP region with intra-EU trade and higher. It was increasing till 2011 in case of NAFTA (Table 9). For the TTIP region without intra-EU trade the figures are as usually negative and higher (in absolute value) than for the identified manufactures.

**Table 9.** Regional trade introversion index for trade in manufactured commodities not identified by kind in the years 1999–2012

Year	EU	NAFTA	TTIP region*	TTIP region**
1999	0.71	0.62	0.04	-0.25
2000	0.71	0.61	0.05	-0.27
2001	0.71	0.61	0.10	-0.22
2002	0.72	0.63	0.14	-0.23
2003	0.71	0.66	0.20	-0.23
2004	0.71	0.66	0.23	-0.25
2005	0.71	0.65	0.24	-0.26
2006	0.71	0.64	0.25	-0.27
2007	0.71	0.66	0.29	-0.27
2008	0.70	0.66	0.31	-0.28
2009	0.70	0.68	0.34	-0.29
2010	0.70	0.69	0.33	-0.33
2011	0.70	0.69	0.35	-0.32
2012	0.71	0.67	0.32	-0.32

\* including intra-EU27 trade

\*\* excluding intra-EU27 trade

Source: own calculations based on WITS-COMTRADE database, <http://witsworldbank.org> (4.07.2014).

Analysis of RTII for trade with mineral products reveals the next difference between the TTIP partners (Table 10). The EU is poor in raw materials' poor, what results in the lowest among all RTIIs calculated for the EU and NAFTA. On the contrary, NAFTA (and its dominant member the U.S.) is abundant in these products. This justifies the fact that the EU is trading with mineral products much more intensively with the rest of the world than NAFTA and is trading less intensively intra-regionally. NAFTA's RTII values for trade in these products are almost two times higher than these of the EU. The raw materials scarcity of the EU decides also about the negative signs of the TTIP's RTIIs (even in the version with intra-EU trade). Intensification of mutual trade with these goods cannot be expected, as the EU is set to import mineral products. The U.S., in turn, is a good candidate for the supplier of raw materials, however it surely exports rather

processed intermediaries (which was visible by the analysis of the TTIP's trade in the intermediaries).

**Table 10.** Regional trade introversion index for trade in mineral commodities in the years 1999–2012

Year	EU	NAFTA	TTIP region*	TTIP region**
1999	0.24	0.76	-0.34	-0.82
2000	0.45	0.73	-0.18	-0.75
2001	0.43	0.75	-0.21	-0.77
2002	0.43	0.78	-0.15	-0.74
2003	0.44	0.78	-0.19	-0.76
2004	0.43	0.75	-0.18	-0.75
2005	0.44	0.74	-0.16	-0.74
2006	0.43	0.74	-0.14	-0.73
2007	0.45	0.74	-0.11	-0.73
2008	0.45	0.76	-0.08	-0.70
2009	0.41	0.78	-0.08	-0.70
2010	0.45	0.79	-0.05	-0.70
2011	0.46	0.79	-0.02	-0.68
2012	0.42	0.79	-0.04	-0.69

\* including intra-EU27 trade

\*\* excluding intra-EU27 trade

Source: own calculations based on WITS-COMTRADE database, <http://witsworldbank.org> (4.07. 2014).

**Table 11.** Regional trade introversion index for trade in other commodities in the years 1999–2012

Year	EU	NAFTA	TTIP region*	TTIP region**
1999	0.36	0.63	-0.06	0.01
2000	0.50	0.66	-0.02	-0.02
2001	0.51	0.68	-0.05	-0.05
2002	0.43	0.65	0.08	0.01
2003	0.53	0.73	0.20	0.03
2004	0.58	0.75	0.29	0.04
2005	0.62	0.76	0.25	-0.06
2006	0.58	0.67	0.09	-0.17
2007	0.55	0.55	0.06	-0.19

Table 11 continued

<b>Year</b>	<b>EU</b>	<b>NAFTA</b>	<b>TTIP region*</b>	<b>TTIP region**</b>
2008	0.61	0.58	0.03	-0.28
2009	0.64	0.48	0.00	-0.37
2010	0.66	0.51	0.11	-0.31
2011	0.68	0.45	0.12	-0.33
2012	0.65	0.52	0.25	-0.20

\* including intra-EU27 trade

\*\* excluding intra-EU27 trade

Source: own calculations based on WITS-COMTRADE database, <http://witsworldbank.org> (4.07.2014).

## Conclusions

We have proven that TTIP will be a typical RTA compatible with the standard of the third wave of regionalism, as it will connect two geographically distant parties located on different continents and its expected scope will go far beyond liberalisation of trade with goods. Simultaneously, we acknowledge the particular characteristics of TTIP parties which make TTIP a very special RTA. The EU and the U.S. are among the strongest actors in the world economy and politics. Both are centers. The result is the importance of the TTIP for the whole global economy.

Analysing the characteristics of both TTIP partners we stated that the EU is much more open than the U.S. It is understandable as the EU is a collective entity consisting of relatively small but rich national economies forced to import for ensuring themselves foreign goods (e.g. raw materials) and to export goods produced with technologies characterized by increasing returns to scale (e.g. manufactures). On the contrary, the U.S. is a large economy concentrated on supplying domestic market.

The analysis of the TTIP region's orientation of trade based on the historical data from the period 1999–2012 revealed several conclusions. Nowadays, the trade between the EU and the U.S. is constrained by the protection applied by both partners. Trade liberalization constituting one necessary part of TTIP will surely help to intensify this trade. A factor of special concern is the trade of agricultural products, which is most constrained and will hardly be fully liberalized even within the framework of TTIP. Simultaneously, both parties are even now trading relatively intensively with intermediaries, which are often less protected than the average of the economy for the sake of development of final goods' production. The manufactured goods are as well relatively often traded, mainly in consequence of

their poor protection after many successful liberalization steps in the framework of GATT/WTO.

The creation of the TTIP region will certainly intensify mutual trade of the EU and the U.S. both inter-industry (e.g. mineral products for manufactures) and intra-industry one (e.g. with manufactures). Consequently, we point out that in many respects the TTIP will be important not only for its participants but for the whole world economy as well. TTIP appears to be an economic and political project with serious consequences for the world economy and politics.

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