ASSESSING THE CLAIMED BENEFITS OF THE TRANSATLANTIC TRADE AND INVESTMENT PARTNERSHIP[1]

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Abstract:

In the public debate on TTIP, a few studies have set the tone, suggesting that economic effects are positive on both sides of the Atlantic. The studies are from Ecorys (2009), CEPR (2013), CEPII (2013) and Bertelsmann/ifo (2013). In this paper, we critically assess these findings and their underlying methodologies. In addition, we discuss some issues which are frequently neglected by trade impact assessments, but are nevertheless important from our point of view. These are the macroeconomic adjustment costs, the social costs of regulatory change and compensation payments under investor-to-state-arbitration. We provide a rough estimate of macroeconomic adjustment costs in the order of € 33 – 60 billion over a ten year transition period, and conclude that the social cost of regulatory change might be substantial, though very difficult to measure.

JEL Codes: F13, F14, F17

I.   INTRODUCTION

Since July 2013, the United States (US) and the European Union (EU) are negotiating a free trade agreement: the *Trans-Atlantic Trade and Investment Partnership* (TTIP). This is the latest agreement in a series of bilateral trade negotiations, the European Union has engaged in during the last years. It is nonetheless an agreement that stands out both in terms of its economic importance and with regard to its scope. It is indeed very comprehensive and includes a plethora of topics and issues, including services & investment liberalization, public procurement, and cooperation in all matters of trade-related regulations with a view to dismantle so-called unnecessary regulation or harmonize diverging regulations between the EU and US. The latter involves many sensitive areas like consumer protection, social and environmental regulations.

Trade liberalization in the conventional meaning of the term is however only a minor issue, with average tariff rates between the EU and US already standing at a very low 3%. In other words both trade and investment between the two economic areas are already very open. Nonetheless major proponents such as the European Commission nevertheless argue that TTIP would give a boost to economic growth in the EU and US. Based on a commissioned study, the European Commission estimates the potential economic stimulus because of TTIP at €120 billion for the EU economy, €90 billion for the US economy and €100 billion for the rest of the world.[2] But how are these benefits of TTIP derived?

One commonly applied method to calculate costs and benefits of trade liberalization is a *computable general equilibrium* (CGE) model. A CGE model falls within the general category of empirical economy-

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wide models. It is based on a Social Accounting Matrix (SAM), which depicts detailed data on relations of production and distribution between the main socio-economic agents in an economy. The model adds behavioral relationships to the accounting; econometric evidence is applied to calibrate relevant parameters. The complete model can then be used to calculate counterfactuals in response to assumed shocks and policies—for example, tariff removal.

In the case of trade between the US and EU, most tariffs are already very low. Removing remaining tariffs is expected to have very limited effects. Therefore the focus of negotiating and modeling efforts is on *non-tariff measures* (NTMs), or non-tariff barriers. These are procedures, laws and regulations other than tariffs or quotas that impede trade in goods and services between two countries. In order to apply NTMs to a CGE model, these barriers need to be estimated, including what share of them is practically removable (or *actionable*). A different (and much less common) method to calculate potential benefits is to *assume* that TTIP will create a certain increase in trade between the United States and European Union. A general equilibrium model of the world economy can then be used to calculate the necessary NTM removal to produce such gains.

This paper has two aims. *Firstly*, it presents a critical assessment of four key studies on the projected economic benefits of TTIP: Ecorys (2009), CEPR (2013), CEPII (2013), [3] as well as Bertelsmann/ifo (2013).[4] Three of the four studies reviewed here follow the standard procedure. (Table 1 presents a quick overview.) These are Ecorys (2009), CEPR (2013) and CEPII (2013). All three build on the same set of NTM estimates provided in Ecorys (2009), feeding these into a CGE model. Ecorys and CEPR employ the same model, which is based on the popular GTAP model. The CEPII model, called MIRAGE, differs in the details, but rests on the same conceptual foundations. The fourth study, Bertelsmann/ifo (2013), i.e. financed by Bertelsmann Foundation and conducted by the ifo institute, estimates a *gravity trade* model, and employs a quite different simulation strategy. Thus, the procedures to estimate gains differ, but all four models have important similarities, which ensure that adjustments to liberalization work their way through the economy via price changes. *Secondly*, we take a closer look at those aspects, which while crucial for every policy-maker, are deliberately excluded from the assessments or dealt with in a biased way. These include in particular macroeconomic adjustment costs and the social costs of regulatory change.

In the next section, we begin with a rough overview of the projected benefits of TTIP by the four most influential studies (Section II). This is followed by an analysis on potential macroeconomic adjustment costs (Section III), the social costs of regulatory change (Section IV), and a short discussion of other neglected costs (Section V). A final section concludes with some policy recommendations.

II.   MAIN FINDINGS OF STUDIES ON TTIP

The message is clear in the influential empirical studies on TTIP: all EU member states and the USA will benefit from TTIP. Consistently the studies by Ecorys, CEPR, CEPII and Bertelsmann/ifo that are reviewed in this paper predict such a positive economic impact on real income and trade for both sides of the Atlantic.

Given the similar data base (GTAP 7 and 8) and the closely related methodological approaches, it is not surprising that Ecorys (2009), CEPR (2013) and CEPII (2013) report gains in real income and trade flows within a similar range for all participating countries. The variations in the quantified effects can be

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attributed to variations in the approach to calculate tariffs equivalents of NTMs and modifications of the CGE model, for instance, the inclusion of spill-over effects to the rest of the world in the CEPR model. In contrast, the Bertelsmann/ifo findings mark the most pronounced benefits also due to larger bilateral trade effects of TTIP, higher implied trade costs and the assumption that trade costs are resource consuming.[5] Despite diverging assumptions and differences in the set-ups of the general equilibrium models, all analyzed reports follow the fundamental question: How does a reduction of trade costs between the EU and the US work through the two economies?

Table 1: Overview on basic assumptions and findings of pro-TTIP studies

	Ecorys (2009)*	CEPII (2013)	CEPR (2013)	Bertelsmann/ifo (2013)
Basic Assumptions				
CGE	GTAP	MIRAGE	GTAP	Simulation of gravity model
Data	GTAP 7	GTAP	GTAP 8	not specified
Non-tariff measures (NTM)	Ecorys	CEPII	Ecorys	ifo
Forecast period	2008-2018	2015-2025	2017 - 2027	10-20 years
No. Of Scenarios	7	5	5	3
Tariffs reduction	100 % of goods 75 % of services	100 %	98 - 100 %	100 %
NTM reduction in reference scenario	25 %	25 %	25 %	Reduction corresponding to trade creation effect
Main Findings (different scenarios, percentage changes compared to baseline scenario within forecasting period)				
EU GDP	0.35 - 0.72	0.0 - 0.5	0.02 - 0.48	0.52 - 1.31[++]
US GDP	0.14 - 0.31	0.0 - 0.5	0.01 - 0.39	0.35 - 4.82[++]
EU bilateral exports	not specified	49.0[+]	0.69 - 28.0	5.7 – 68.8[++]
EU total exports	0.91-2.07	7.6[+]	0.16 - 5.91 (extra-EU only)	not specified
EU real wages	0.34-0.78	N/A	0.29 - 0.51	not specified
Unemployment rate in EU-OECD countries (average)	unchanged (assumption)	unchanged (assumption)	unchanged (assumption)	- 0.42 (deep liberalization)

Source: Ecorys (2009), CEPII (2013), CEPR (2013), Bertelsmann/ifo (2013)

* Findings for ambitious and limited scenarios only;

[+] Reference scenario only; [++] Derived from BMWT/ifo (2013), aggregated to EU-27 level

All studies simulate various scenarios by comparing policy changes to a baseline calibration. The forecast periods are set by researchers individually and typically a period of 10 years is assumed until the full effect of TTIP is reached. We consider the "limited scenario" in Ecorys (2009), the "ambitious

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[5] As mentioned above, the Bertelsmann/ifo report is based on a study performed by Felbermayr et.al. (2013), also referred to as *BMWT/ifo* in the main text, on behalf of the German Federal Ministry for Economic Affairs and Technology (BMWT). The comprehensive BMWT/ifo findings are only partially included in the Bertelsmann/ifo report. For a comparison of all studies, results of Chapter II and III of the BMWT/ifo study are partially used. We aggregate these results to a trade- and GDP-weighted EU-27 average, if possible.

experiment" in CEPR (2013) and the "reference scenario" in CEPII (2013) as major scenarios. In all of these scenarios, a cut in trade costs of roughly 25 % is assumed. In the Bertelsmann/ifo study, the "comprehensive liberalization scenario" is regarded as the most important simulation. This experiment is also comparable to the "NTB-scenario" in BMWT/ifo in which trade costs are also cut by 25 % (p92). The basic similarities allow for a comparison of the results with regard to changes in real GDP, trade flows and distribution among sectors in the two economic areas. In addition, the implications for real wage and employment can be summarized. Table 1 provides an overview with additional details on the assumptions and specifications and a summary of the main findings. Although the modelers involved have certainly done their best to demonstrate the benefits of trade, it should be stressed that the estimated numbers are positive, but small. GDP and real wage increases are estimated by most studies to range from 0.3 to 1.3 %. Unemployment will either remain unchanged (by assumption), or in one case will be reduced by 124.000, i.e. 0.05 % of the employed labor force in the EU. EU exports will increase by 5 – 10 %. All of these changes are long-term, i.e. will accrue only over a transition period of 10 to 20 years. In other words, annual effects during the transition period will be a fraction of these reported numbers.

III.   MACROECONOMIC ADJUSTMENT COSTS

Trade agreements entail many changes to the public sector, the private sector as well as households. These changes are both positive and negative, and the adaptation to them confers benefits as well as costs upon society and particular social groups, respectively. Both benefits and costs may be of a transitory or more permanent nature. In the former case, these costs are usually labelled as adjustment costs. These transitory adjustment costs are to some extent recognized by conventional impact assessments, while it is generally assumed by the former that trade agreements do not entail long term costs for society.

In the following, we intend to focus our attention on types of adjustment costs that were either underestimated by the four scrutinized TTIP studies, or were neglected outright. A class of adjustment costs refers to macroeconomic variables, which are crucial to economic policy in any advanced country. These are (i) the current account balance, (ii) the public budget balance, and (iii) the level of unemployment. In addition, we provide a rough estimate of the likely magnitude of these costs.

(i)   The current account balance

Trade agreements by their very purpose lead to changes in trade as well as capital flows. If for instance, imports rise disproportionately vis-à-vis exports immediately after trade liberalization, a trade deficit might emerge. A large trade deficit might eventually require a devaluation of the national currency, with negative repercussions on the domestic price level or on local businesses with outstanding debts in foreign currency. Similarly, if a country receives substantial amounts of foreign direct investment after trade liberalization, a certain fraction of the profits of that FDI will be repatriated by the parent companies, thus creating a constant drain of resources in the current account. Countries that attract FDI by low tax rates are particularly prone to these kind of practices. Ireland is the classic case in point here.[6] If not handled with care, further investment liberalization due to TTIP might aggravate such problems, particularly for smaller and less competitive EU countries, which receive large amounts of US FDI. If the trade agreement also

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[6]   While the trade surplus stood at €32,5 billion in 2009, Ireland had a current of account deficit of €3,7 billon, which was mainly caused by a large deficit in the net income from abroad, in the order of € 28 billion. Though in the meantime the current account deficit in Ireland has vanished because of the economic crisis, the large deficit in net income from abroad has not significantly changed. (see Irish Central Statistics Office, http://www.cso.ie/multiquicktables/quickTables.aspx?id=bpca2_n1103, see also M. Burke "Who benefits from Ireland's (im)balance of payments?", http://www.progressive-economy.ie/2010/08/who-benefits-from-irelands-imbalance-of.html (last accessed 03/26/2014))

includes portfolio investment in its definition of investment, as is the case with the more recent EU trade agreements (e.g. CETA), the structural vulnerability vis-à-vis short term and speculation-driven capital movements might become even more relevant. All of the four studies do explicitly deal with these issues. While we would consider it plausible to assume that liberalized trade flows under TTIP will not lead to a substantial change in the bilateral trade balance, which currently stands at an EU surplus of nearly €100 billion (2012, goods and services),[7] the issue of capital movements has not been dealt with systematically in the TTIP studies. Given the experiences with the financial crisis since 2008, and the recurrent fluctuations of short term capital flows, as for instance recently into and out of emerging economies, it would seem to us that the effects of TTIP on the capital account merit considerably more attention.

(ii) The public budget balance

Public budgets are impacted by trade liberalization both on the income and expenditure side. We will here focus on the income side, and take up the expenditure side when discussing labour market adjustment costs in the next section.

A straightforward consequence of trade agreements is the reduction, if not elimination of tariffs. The latter, however, form part of public revenues. Thus, all other things equal, trade liberalisation will reduce public revenues and hence increase the government deficit. While tariffs still account for up to 40 % of public income in many LDCs, public revenue from tariffs in the EU and US is rather small. However, tariff revenues are an important income source for the EU budget. In 2012, roughly 12 % of the EU budget was financed via tariff revenues. In 2012, according to the European Commission (2013a, p55), tariffs levied on US imports amount to €2.6 billion, or 12 % of total EU tariff revenue. Depending on the simulation scenario, CEPR (2013, p54) reports reduced tariff income between €5.4 – 7.3 billion on a yearly basis by 2027, i.e. after the full implementation of TTIP. Thus, if we conservatively estimate the long-term or structural loss of tariff income to the EU to be in the range of € 5 billion per year, of which 75 % (€3.75 billion) go into the EU budget as traditional own resources, that amounts to a permanent annual revenue loss of at least 2.7 % for the EU budget in its current magnitude. Though it is plausible that an increase of EU exports and thus output because of TTIP will also lead to an increase of GNI own resources for the EU budget, which will at least partially compensate for the lost tariff income, we would argue that in the short to medium term, a net loss to the EU budget will be likely. This owes to the fact that tariff revenue losses will happen immediately, while EU exports will only gradually increase over time. Thus, we would expect a need to adjust the EU financial framework over the short and medium term, after TTIP eventually enters into force. Though the European Commission in its impact assessment report does not expect any problem in compensating tariff losses by other funds (European Commission 2013a, p55), we would argue that although 2.5 % seem to be a manageable amount, in the prevailing austerity environment the political will of member states to give more money to the EU budget might be limited.

(iii) The level of unemployment

As shown before, the potential benefits from TTIP can only be generated by a sectoral reallocation of the production factors labor and capital. This long-term process necessarily involves job displacements in the short to medium run as sectors facing strong import-competition after liberalization have to reduce output and employment. It is widely recognized that adjustment costs are distributed unequally as certain individuals or groups, for instance older and less skilled workers in manufacturing bear a substantial burden of trade-related adjustments (OECD 2005). It is also likely that some output is foregone until all

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[7]   Data from European Commission/DG Trade website, http://ec.europa.eu/trade/policy/countries-and-regions/countries/united-states/ (last accessed 03/26/2014)

production factors will adjust to the new equilibrium which in consequence will lead to less employment, income and tax revenues for some period of time.

In general, trade related adjustment costs include private costs for labor such as unemployment, retraining costs or obsolescence of skills as well as adjustment costs for capital, for instance investments to become an exporter. In addition, increased spending for unemployment benefits, retraining and social security programs, as well as and lower tax revenues are likely to constrain the government budget (see also Laird and de Córdoba, 2006, for more details). The inclusion of potential adjustment costs into an assessment of trade agreements is essential as it reveals possible winners and losers from trade liberalization beyond average welfare gains as well as the uneven distribution of possible benefits and costs within and between economies in a trade agreement.[8] In addition, economic shocks during the long term adjustment process (10-20 years) might increase the cost of adjustment and potentially reduce or eliminate gains from trade agreements.

In the analyzed studies on TTIP such negative effects on labor markets are understated with a commonly used argument: unemployment is a temporary phenomenon during an adjustment process that is overcompensated by higher income streams in the long run. The CEPR does not model long run unemployment at all in order to "… gather clearer insights on what would be the impact of the agreement on labor markets in the long-run" (European Commission 2013b, p15), meaning that the fixed labor supply will be fully employed after a transition period of 10 years. The BMWT/ifo report suggests that all adjustment processes are completed within five to eight quarters (p14). BMWT/ifo also refers to Trefler (2004) for the speed of adjustment. Trefler (2004), who analyzed adjustment processes in Canada after the free trade agreement (FTA) with the US in 1988, found evidence for likely aggregate welfare gains but reported substantial job losses associated with the FTA – 12 % for the import-competing industries and 5 % for manufacturing. And the author suggests, "… albeit not conclusively, that the transition costs were short run in the sense that within ten years the lost employment was made up for by employment gains in other parts of manufacturing" (p879). Evidence from changes in labor markets after NAFTA also raises questions whether trade-related negative impacts are only transitory or not

In 2005, the OECD evaluated trade-adjustment costs in the labor market of its member states with interesting findings: Firstly, adjustment costs for trade-displaced workers are moderately higher than for other job losers due to slower re-employment (EU) and lower wages in new jobs (US). Secondly, displacements in EU manufacturing hits older, less skilled workers more likely, a characteristic which makes re-employment more difficult. However, differences to other displaced workers are limited. Finally, many displaced workers find a new job again in the same industry, but with slightly lower wages. Workers that switch industries even faced substantially lower earnings, in particular in the US. Also Francois et.al. (2011) refer to this study and emphasize that labor bears the bulk of adjustment costs und that "…trade reform can add significantly to job displacement if undertaken when the job market is already under stress, such as situations of economic recession or major structural change" (p224).

Regarding potential adjustment costs under TTIP, only rough estimations and suggestions based on CEPR (2013) and Bertelsmann/ifo (2013) findings on employment effects are possible. As fixed labor supply is assumed, CEPR reports only net reallocations among sectors in the EU and US. A displacement index shows how many workers have to move across sectors in order to regain balanced job markets. In the case of less skilled workers in the EU only less than 7 workers per 1,000 have to switch to another sector, in the US it is less than 5 workers out of 1,000. This is no surprise, given the limited changes in output and the different relevance of goods in EU-US trade and labor markets. In 2012, trade in goods amounted to 75 % of total EU trade volume but less than 30 % of the workforce was employed in the related sectors (Eurostat). Still, when putting the displacement number into perspective, within the EU between 0.43 and 1.1 million workers would be affected by such a transition. Although CGE models foresee an

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[8] This would also have important implications on who should be part of FTA negotiations

improvement for people due to a switch from low to more productive sectors with higher wages, the empirical evidence shows that a switch to another industry typically includes a loss in income (OECD 2005). CEPR also argues that a displacement index around 0.6 % is relatively small compared to normal labor turnover in the EU of more than 3.7 % since the crisis in 2008 (p78). However, the displacement index does not capture all relevant changes in labor markets "…as displacement across firms is widely ignored in this literature [on adjustment costs in CGE models]" (Francois et.al. 2011, p226).

CEPR publishes only sectoral net employment changes which are the outcome of larger gross job flows within a sector. Given heterogeneity of firms, reallocation of jobs mainly happens within sectors (OECD 2005, p36). This is also true for less competitive sectors that loose in terms of average productivity, output and real wages. Taking into account the high risk of long-term unemployment faced by older and less skilled workers in manufacturing once displaced (OECD 2005), and the reality of increasing long-term unemployment in OECD countries, a substantial part of the displaced workforce might be worse off with TTIP, even if average real wages as a whole are expected to increase. Furthermore, the assumption of no long-term unemployment in the case of the EU also implies sufficient labor mobility across EU member states. Given the diverging wage levels within the EU, labor movements from higher to lower wage countries are however most unlikely (see also EuroMemo Group 2014).

The Bertelsmann/ifo and the related BMWT/ifo studies try to overcome some of the conceptual limit of the other CGE models by modeling labor markets explicitly. The authors include search unemployment and heterogeneity of firms. Thus, productivity gains are translated into aggregate employment *and* wage effects (flexible labor supply). In addition, gross job flows are shown, at least for Germany (BMWT/ifo, p103). The employment effect in the BMWT/ifo study is relatively small with a decline in the unemployment rate of around 0.05 % in the EU and the US given the preferred NTB-Scenario, also due to rigid labor market institutions (p105).[9] In absolute terms, the net increase in employment, and therefore the decline in unemployment, amounts to 124,000 new jobs of which 25,000 would be in Germany. In more detail, this would result from a loss of more than 22,000 jobs in Germany but the loss would be overcompensated by more than 47,000 new jobs due to TTIP (p103). BMWT/ifo sees job displacements mainly in small, labor intensive companies while new jobs occur in mid-size companies that become new exporters.[10] Somewhat surprisingly, 90 % of total job creation should emerge in new companies (without giving any further details on this issue), even though the total number of companies in Germany is expected to decrease by more than 3.4 % as smaller, less productive firms will be eliminated.

Overall, it has to be stated that none of the studies provides an exact estimation of possible adjustment costs in labor markets. However, such an assessment would be crucial. A simple hint towards positive long-term effects understates the need for policy measures to mitigate the risk of welfare and employment losses for specific groups and individuals. In particular, the distressed situation in several European labor markets increases the need for the assessment of potential adjustment costs of TTIP even more.

(iv)   Potential macroeconomic adjustment costs – a rough calculation

After discussing the different types of macroeconomic adjustment costs, that are relevant for the TTIP negotiations, we would like to illustrate the likely magnitude of these costs by offering a rough calculation. The calculation includes loss of public revenue and the costs of unemployment. It is our objective (i) to provide a conservative estimate and (ii) to provide a plausible number that indicates the order of magnitude we will likely have to tackle with. The loss of public tariff revenue is estimated on the

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[9]   Real wage effects, +1.63 % in the EU and +2.15 % in the US, are more relevant than changes in employment (BMWT/ifo 2013, p100)
[10]   BMWT/ifo is even more precise: new jobs will only be created in companies with 50-250 employees which were responsible for only 8 % of total employment in 2007

basis of the reported number on tariff income from US imports in 2012 (European Commission 2013a), representing the lower bound, and the estimated tariff income loss in 2027 from the most ambitious liberalization scenario of the CEPR study, thereby assuming that over a 10 year period annual losses would reach the upper bound of € 5.4 billion in 2027. Unemployment numbers were also taken from labour displacement estimates of the CEPR study, and assumed to be in the range of 430.000 – 1.100.000. Compared to the reported US job losses due to NAFTA (see section IV), we consider these numbers to be plausible. However, given the difficult labour market situation in many EU member states and the evidence from the empirical literature (see discussion above), we assume that 10 % of the displaced persons will not find another (full-time) employment and will thus become long-term unemployed. We assume that the average length of their unemployment is five years during the ten year implementation period of TTIP. In accordance with most national unemployment benefit schemes, we further assume that during the first year workers will receive a higher net replacement rate (66 %) than for the following four years (41 %). For annual wages and replacement rates we use averages derived from OECD statistics. In contrast, we assume that 90 % of displaced workers will become re-employed after six months on average, without a loss compared to their pre-TTIP income level – again we are on the optimistic side.

We also consider the foregone public income from taxes and social contributions from unemployment. Even if during the transition period, new jobs will be created in the sectors driven by additional exports, we would argue that much of that represents a net loss to the public budget, since exports will react more slowly than imports to TTIP implementation, so that in best of cases net employment will only be at a higher level after the ten year implementation period. Upon that basis, we calculate a lower and an upper bound of cumulative adjustment costs of TTIP during the ten year implementation period. Our lower bound is € 33 billion, our upper bound € 60 billion. On an annual basis that would amount to € 3 billion to € 6 billion. Of these between € 0.5 – 1.4 billion will come from unemployment benefits, and € 0.4 - € 1 billion from foregone income from taxes and social contributions.

Table 2: Macroeconomic adjustment costs – a rough calculation (in €, 2012 prices)

	Lower Bound (p.a.)	Lower Bound (cumulative, 10 year period)	Upper Bound (p.a.)	Upper Bound (cumulative, 10 year period)
1. Loss of Public Tariff Revenue				
Annual Loss of Tariff Revenues of 2.6 bn	2.600.000.000	26.000.000.000		
Annual Loss of Tariff Revenues of (€2.6+€5.4)*0,5			4.000.000.000	40.000.000.000
Adjustment Margin for Phase-Out Periods, and Carve-Outs for sensitive products (10%)	260.000.000	2.600.000.000	400.000.000	4.000.000.000
Sub-Total	*2.340.000.000*	*23.400.000.000*	*3.600.000.000*	*36.000.000.000*
2. Costs of Unemployment				
a. Unemployment Benefits				
43.000 long-term unemployed post-TTIP (Year 1)	681.120.000	681.120.000		
110.000 long-term unemployed post-TTIP (Year 1)			1.742.400.000	1.742.400.000
43.000 long-term unemployed post-TTIP (Year 2 - 5)	423.120.000	1.692.480.000		
110.000 long-term unemployed post-TTIP (Year 2 - 5)			1.082.400.000	4.329.600.000
387.000 short term unemployed post-TTIP (6 months)		3.065.040.000		
990.000 short term unemployed post-TTIP (6 months)				7.840.800.000
Sub-Total		*5.438.640.000*		*13.912.800.000*
b. Foregone Public Income from Taxes & Social Contributions				
43.000 long-term unemployed post-TTIP (Years 1 - 5)		2.039.705.000		
111.000 long-term unemployed post-TTIP (Years 1 - 5)				5.217.850.000
387.000 short-term unemployed post-TTIP (6 months)		1.835.734.500		
990.000 short-term unemployed post TTIP-(6 months)				4.696.065.000
Sub-Total		*3.875.439.500*		*9.913.915.000*
Cumulative Adjustment Costs - TOTAL		32.714.079.500		59.826.715.000

Sources: OECD Employment Statistics, Benefits and wages statistics, www.oecd.org/els/benefitsandwagesstatistics.htm (03/27/2014); Eurostat Labour Market Statistics, CEPR (2013), European Commission (2013a)

Assumptions: Average duration of long-term unemployment during TTIP implementation phase: 5 years; Average duration of short-term unemployment during TTIP implementation phase: 0.5 years; Number of displaced persons post-TTIP: 430.000 (lower bound) - 1.100.000 (upper bound), of which 90 % short-term and 10 % long-term unemployment

Notes: EU-27 average annual net income (3 family types, 100 % AW, 2012): € 24.000; EU Net Replacement Rate (60 month unemployment, simple average of 4 family types and two earning levels (67 %, 100 % average wage)): 41 %; EU Net Replacement Rate (initial unemployment phase, simple average of 6 family types and three earning levels (67 %, 100 %, 150 % average wage)): 66 %; Implicit tax rate on labour (EU 27, 2011): 35,80%; EU-14 average gross annual income (2011): € 26.500;

If we compare these numbers to the maximum annual budget of the European Globalisation Adjustment Fund and the European Social Fund - € 150 million and € 10 billion respectively, it should be expected that TTIP will be a substantial additional burden on the budget of these facilities. Given the historically high levels of unemployment in many EU member states, many-fold needs to fund employment policies do already exist and will have to compete for funds with TTIP adjustment policies. An increase of financial resources for these funds should thus be seriously considered by EU policy-makers.

IV.   THE SOCIAL COSTS OF REGULATORY CHANGE

A type of adjustment costs conveniently ignored, but particularly relevant in the case of TTIP, refers to the regulatory change resulting from the agreement. This type of cost appears in various forms, depending on the type of regulatory change employed. Firstly, *harmonization* of NTMs, e.g. technical standards, will imply both a short-term adjustment cost for public institutions and for firms required to align their administrative procedures, production processes and products to the new standards. Secondly, *mutual recognition* of regulations and standards between trading partners will *inter alia* increase information costs for consumers, since the latter will be confronted with a more complex and potentially less transparent multiplicity of permissible standards, e.g. on goods and services. Thirdly, the *elimination* of NTMs will result in a potential welfare loss to society, in so far as this elimination threatens public policy goals (e.g. consumer safety, public health, environmental safety), which are not taken care of by some other measure or policy. Though subject to considerable insecurity, these types of adjustment costs might be substantial, and require careful case-by-case analysis. As we will see in the following, although the social costs of regulatory change are of particular relevance for the analysis of TTIP because of its emphasis of regulation issues, they have not been dealt with properly by the four scrutinized TTIP studies.

As already mentioned, around 80% of the estimated economic benefits of TTIP stems from the dismantling of NTMs or their alignment. In their assessment of NTMs, three out of the four scrutinized TTIP studies draw on the work of Ecorys (2009). The fourth study, Bertelsmann/ifo employs a somewhat different methodology, but essentially shares the same underlying philosophy with regard to NTM reduction. NTMs are basically understood as "all non-price and non-quantity restrictions on trade [...]. This includes border measures (customs procedures, etc.) as well as behind-the-border measures flowing from domestic laws, regulations and practices..." (Ecorys, 2009, p xiii). The study focuses on both elimination of NTMs and of regulatory divergence, i.e. the existence of different regulations with the same purpose, e.g. technical standards for turn signals in the EU and US. The latter should be aligned, e.g. by negotiating a common new standard. Mutual recognition of standards is however not explicitly mentioned. These NTMs are understood to hinder the deep economic integration of the EU and US economies. Thus, their elimination or alignment to some common standard becomes desirable, as this would facilitate further economic integration. Ecorys then purports to estimate the quantitative significance of these NTMs by way of an elaborated procedure. Most importantly, in a survey companies and experts were asked to assess the level of restrictiveness of NTMs in bilateral trade.[11] Upon that basis indexes were constructed which were then used to estimate the impact of NTMs on trade and investment flows, or in other words, to calculate trade cost equivalents of existing NTMs. Ecorys (2009: p.23) arrive at an average trade estimates of NTMs across sectors of 17%. This is a multiple of the 3-4% estimates of alternative authoritative

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[11]   We should note that it remains unclear to us, how the survey manages to extract answers from respondents on regulatory divergence given the questions they asked. In our judgement, the latter only allows to establish overall restrictiveness levels (see Question A12a in Box 3.1., (Ecorys 2013, p10)).

studies (for a detailed discussion see Raza et al 2014, pp.32 et seq.). In a further step, again with the help of experts, levels of actionability were established, i.e. assessments with regard to "the degree, to which an NTM or regulatory divergence can potentially be reduced..." (Ecorys 2009, p15). Actionability levels were determined to range from 35 % to 70 %, with the average for the EU at 48 % and 50 % for the US. In a last step, these actionability levels were taken as inputs for the CGE scenario estimations in the three studies by Ecorys (2009), CEPR (2013) and CEPII (2013). In the optimistic scenarios, a reduction of actionable NTMs of 50 % and 25 % were typically assumed.

Not surprisingly, the overall welfare effect, which is computed by the CGE simulations, is very sensitive to the assumed actionability level. The higher actionability of NTMs, the higher the welfare gains. Actionability is defined as "the degree to which an NTM or regulatory divergence can potentially be reduced (through various methods) by 2018, *given that the political will exists to address the divergence identified*" (Ecorys 2009, p15, *emphasis added*). Actionability thus depends on political will, which however is assumed as given. This definition is highly problematic, since the political process is effectively assumed away, and substituted for by an ad-hoc assessment of a sample of mostly business-related experts, which we would suspect exhibit a certain tendency to both overestimate actionability levels and cost savings to companies. Thus, the determination of actionability levels is basically a more or less sophisticated guess of a group of persons with vested interests, and is not grounded on any kind of robust methodology.

This bias in the selection of respondents is clearly visible in the study. The study has primarily asked firms (5.500 in business survey) and business associations in the EU with regard to the restrictiveness of US regulations and vice versa. One should however suppose that firms and business associations have a tendency to overestimate the cost of complying with foreign standards, since they want to lower the cost of doing business abroad, and thus have a vested interest. In order to counter-balance this and increase the robustness of results, at the very least, one should have also asked US firms on their assessment of the cost of complying with US regulations, and EU firms on EU regulations. In addition, one might have asked experts with diverse professional backgrounds, e.g. people representing labor interests, consumers, human rights groups etc. for their assessment.

In terms of the robustness of its results, the study states that it has cross-checked its restrictiveness estimates with other existing measures, in particular the OECD FDI restrictiveness index (Ecorys 2009, p16). However, cross-checking the Ecorys NTM indexes with the OECD FDI restrictiveness index amounts to comparing apples with peaches. The latter focuses on four specific types of discriminatory measures: equity restrictions, screening and approval requirements, restrictions on foreign key personnel, and other operational restrictions – such as limits on purchase of land or on repatriation of profits and capital (Kalinova/Palerm/Thomsen 2010). Though there may be partial overlaps, the two indices essentially refer to different types of measures: while the Ecorys NTM indexes refer mostly to behind the border measures, which typically are not discriminatory, the FDI restrictiveness index refers primarily to specific types of discriminatory measures. In sum, it is questionable, whether the FDI restrictiveness index is a suitable vehicle for a robustness check of Ecorys' NTM indexes.

Also, the magnitude of income effects from NTM reductions in the Ecorys study is inflated by a factor of four for the EU and three for the US, by assuming that NTMs will not be aligned sector by sector, but economy-wide, i.e. reductions of NTMs in all sectors of the EU and US economies will occur simultaneously (Ecorys 2009, p27). This multiplication is justified by Ecorys on the grounds of sector inter-linkages, i.e. cost savings from NTM alignments, which are passed on to other sectors and thus reduce input costs and prices of end products. Similarly, the simultaneous reduction of NTMs across all sectors has a strong effect on output and exports, and investment in the affected sectors is expected to increase. We do not dispute that sector-linkages have a role to play. If, however, one makes the more realistic assumption that as a result of the TTIP negotiations NTM reductions/alignments will occur only

in a subset of sectors – i.e. in some sectors, while not in others, because of e.g. national security or consumer protection reasons – the effects on income, output and exports will shrink substantially.

In addition to the many criticisms we have just outlined on the details of the methodology used to assess the cost savings of regulatory alignment, our principal concern here relates to the methodological approach in more general terms. First and foremost, the Ecorys study implicitly assumes that a substantial dismantling and alignment of NTMs between the EU and the US is possible without a change to the regulatory quality, i.e. the ability of a certain regulation or standard to safeguard a defined public policy goal. Only upon that basis, Ecorys is able to restrict itself to estimating the savings to companies because of NTM removal, while completely neglecting the social costs concomitant with that removal. Consequently, it arrives at in general small, but positive economic gains.

Overall, we think that using such an approach is not warranted, given that the Ecorys study derives very high gains from regulatory alignment in exactly those sectors - e.g. chemicals, cosmetics and pharmaceuticals, or food and beverages -, where substantial and partly incommensurable differences in regulatory approaches and standards between the EU and US exist. Any dismantling must have an effect on regulatory standards and thus infer a cost upon that society, which ends up with a lowered standard. In general, it must be recognized that a change in a standard will always alter the distribution of costs and benefits between social actors, e.g. between firms and consumers. Alternatively, also firms might be unevenly affected by regulatory change, the latter might e.g. favour big companies, while inferring an additional burden on small companies.

Undoubtedly, NTM dismantling will make sense in some cases, e.g. because the dismantled regulation has proven ineffective in serving a particular public policy goal, or continues to exist for purely historical reasons (e.g. differing track gauges between national railway systems). This may be true in individual cases, but must not be assumed as a general rule. Typically, regulations serve a public policy goal. If that regulation is changed – either dismantled or aligned to some other standard, its effectiveness in serving the public policy goal will eventually be affected. This might infer a social benefit, if the new standard is higher than the old one, or a social loss, if the new standard is lower than the old one or has been eliminated without substitution. The latter case is obviously the focus of the Ecorys study. Though without doubt difficult, the study does not make any effort to quantify social losses, but exclusively looks at the benefits of NTM reductions to companies and the economy. Social losses might come in the form of temporary adjustment costs, e.g. for harmonising and implementing legislation, or be of a long-term nature to society, e.g. if standards for poisonous chemicals were relaxed and resulted in higher public health costs because of a higher incidence of allergies amongst the population. This non-consideration of social costs is especially problematic, since the study estimates the trade cost reductions of TTIP to be particularly high in sensitive sectors such as chemicals, pharmaceuticals and cosmetics, food and beverages, or automotives (see Ecorys 2009, Table 4.2, p23). Thus, in order to arrive at its optimistic welfare estimations, strong reductions/alignments of NTMs in precisely those sectors are necessary, where the safeguarding of public policy goals is perhaps most crucial. For instance, above average actionability levels were chosen for the sectors chemicals, cosmetics, food & beverages (see Ecorys 2009, Table 3.3, p16).

By way of conclusion, our discussion of the assessment of the effects of NTM has shown that the scrutinized study estimates the costs of regulation to be extremely high, thus suggesting large cost savings to the economy via regulatory alignment, while it is conveniently assumed that any change to a regulation by way of reduction, elimination or alignment will not have an impact on regulatory quality. The critical academic literature however has shown that things might turn out to be exactly the other way round. Regulatory costs have been shown to be in general very small, even for ambitious projects such as the EU chemicals regulation REACH (Ackerman and Massey 2004), while the benefits of regulation for society

are often very high, though difficult to express in purely monetary terms, or as Ackerman and Heinzerling (2004) have put it, they are in effect "priceless".

V.   OTHER NEGLECTED COSTS

One of the most controversially debated features of TTIP is investor-to-state-dispute settlement (ISDS). While a comprehensive discussion of ISDS is beyond the scope of this study, it should be evident that ISDS, if included in the final TTIP agreement, would eventually lead to litigation cases, which could entail compensation claims against the EU. This indeed seems to be quite likely, given the exceptionally high level of FDI between the EU and the US. The bilateral FDI stock stood at € 2.400 billion in 2011 (European Commission 2013a, p9), annual FDI inflows from the US to the EU amounted to roughly € 80 billion in the same year.

As a matter of fact, a strong increase in ISDS litigation has been observed. Indeed, ISDS has experienced a boom during the last two decades. According to UNCTAD, in 2012 alone 58 new cases were initiated, bringing the total number of known cases (concluded, pending or discontinued) to 514 by the end of 2012 (UNCTAD 2013, p110). 23% or 123 of these were filed by US investors, with EU investors from the Netherland (50 cases), the UK (30) and Germany (27) following (Bizzarri 2013, p25). In some instances, countries have faced claims going into billions of Euro, with the highest award of $ 1.77 billion issued against Ecuador in 2012 (UNCTAD 2013, p.111). According to UNCTAD, host countries - both developed and developing - have experienced that ISDS claims can be used by foreign investors in unanticipated ways. A number of recent cases have challenged measures adopted to act in the public interest, and policymakers in some countries have found that international investment agreements can unduly constrain their domestic regulatory prerogatives.[12]

Given both the high amount of bilateral investment between the US and the EU and the proactive attitude of US and EU investors in using ISDS so far, it seems safe to assume that investors will use ISDS as an opportunity to discipline governments on both sides of the Atlantic. Thus, in case of successful litigation against the EU, compensation payments will have to be made. While it is of course not possible to provide an estimate on the timing and magnitude of such payments, from the experience so far, it should be clear that they can be substantial, and would present an additional burden on public budgets. A further and potentially even more important consequence of an ISDS mechanism in TTIP could come in the form of a threat effect (or regulatory chill effect) to governments. ISDS gives investors an additional and powerful legal remedy, thus improving their bargaining positions vis-a-vis governments on issues of regulation. That might lead governments either to abstain from enacting public regulation outright for fear of being challenged before an international investment arbitration panel. Or alternatively, it might induce governments to accept forms of regulation, which privilege investor interests over the interests of the general public. Preliminary evidence suggests that such regulatory chill effects have become observable in the recent past (see Tienhaara 2011). In any case, any successful regulatory chill would of course imply a welfare loss for society, since compensation payments will have to be come from taxpayers' money.

V.   CONCLUSIONS AND POLICY RECOMMENDATIONS

By way of summarizing, we would posit that the four scrutinized studies have largely neglected a careful analysis of adjustment costs and the social costs of regulatory change. While to some extent this can be explained by the biases of the applied theoretical framework, it must be stressed that in particular

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[12] See UNCTAD website, http://unctad.org/en/pages/DIAE/International%20Investment%20Agreements%20(IIA)/Research-and-Policy-Analysis.aspx (last accessed, 30/03/2014);

adjustment costs relating to the EU budget and labour market policies (retraining, unemployment benefits) will be substantial, and need to be dealt with at the political level. Thus, additional funding of the EU's trade adjustment fund and/or the instruments of the EU regional policy should be seriously contemplated. It should however be clear that the effectiveness of these instruments will be limited. This owes to the nature of the displacements expected to happen. Often, the affected companies will not openly communicate the real reasons for shutting down a factory or relocating it. Thus, a monitoring system needs to be implemented which surveys the regional effects of trade liberalization. In addition, access to funding at the EU facilities is quite onerous, resulting so far in an underutilization of available monies. This calls for reform of the administrative workings of the instruments with a view to making access to funds for affected workers much easier.

The social costs of regulatory change are by their very nature difficult, if not impossible to quantify. Nevertheless, they can be very large and thus require careful analysis, in particular in those areas where they relate to public health & safety, consumer and worker protection, as well as environmental safety. It should also be stressed that a methodological approach for such an impact analysis is needed, that is characterized by inter-disciplinarity and the participation of all affected stakeholders. Conventional cost-benefit approaches have proved inapt to tackle the methodological challenges inherent in such studies (see Ackermann 2008). Instead, they must be complemented by other approaches, for instance multi-criteria analysis, that are able to deal with the problems of incommensurability and fundamental uncertainty that are expected to appear in such an evaluation exercise.

Last but not least, an investor-to-state dispute settlement mechanism, if included in TTIP, could lead to compensation payments by governments and have a disciplining effect on future regulation in the public interest. A qualified public debate on the need for such an arbitration mechanism as currently proposed, and a discussion about alternative forms of international investment arbitration, which is both transparent and equilibrated in its treatment of investors' rights and the prerogatives of public policy, is urgently needed.

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