SRU German Advisory Council on the Environment

Environment and Free Trade:

Environmentally Sound Design of TTIP

Statement

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1 Introduction

1. Since June 2013 the EU and the USA have been engaged in negotiations on a free-trade and investment agreement. The transatlantic trade and investment partnership (TTIP) has – largely unexpected by politicians (HUMMER 2015, p. 22) – sparked off a broad discussion in society about the advantages and disadvantages of (transatlantic) free trade (cf. the position paper by 79 German NGOs: Forum Umwelt und Entwicklung et al. 2014). The situation is much the same in the USA (CIEL 2014), where the Transpacific Trade Partnership (TPP), which was concluded at the beginning of October 2015, has also given rise to public discussions.

2. In this statement, the German Advisory Council on the Environment (SRU) investigates (as far as is possible on the basis of the negotiating positions published to date) the impacts that the planned TTIP agreement could have on German and European environmental protection standards. Its expert opinion includes the negotiating positions published up to mid-December 2015. The present public debate about TTIP shows that the general public is now becoming aware of the tensions between trade liberalisation and environmental protection that have long been under discussion in expert circles.

3. TTIP is a continuation of the intergovernmental cooperation between the EU and the USA over the past 25 years. Thus the cooperation between the parties on regulatory affairs (referred to in the agreement as "regulatory cooperation") is not an innovation introduced by TTIP. The recommendation to negotiate a free-trade agreement was made by the "High-Level Forum for Regulatory Cooperation" in the context of the Transatlantic Economic Council (TEC) that has existed since 2007. This is a body of high-ranking government representatives of the USA and the EU which meets once a year under the chairmanship of the EU Commissioner for Trade and a security advisor of the USA (Deputy National Security Advisor for International Economic Affairs) (overview in ALEMANNO 2014, p. 25-40; MEUWESE 2009; AHEARN 2009, p 15-19; 20-23).

Through this agreement, the two parties are seeking to achieve not only general objectives like reducing tariffs and administrative obstacles to customs clearance and public procurement, but above all a "profound integration". The intention is to go far beyond the abolition of customs tariffs, and in particular reduce non-tariff trade barriers (STOLL et al. 2014, p. 388). These trade barriers involve a large number of widely differing requirements for products and services. They may, for example, affect production processes, composition, quality, properties, approved use and handling. They also include statutory legislation and secondary regulations, non-governmental standards and technical rules. Such regulations frequently serve the interests of protecting health, consumers and the environment. Under TTIP, trade is also to be facilitated by reciprocal recognition or harmonisation of such regulations.

The agreement is also to contain rules for the protection of investments and a mechanism for resolving disputes between state and investor in cases of violation of these rules. The USA is seeking to complete the negotiations before the end of President Obama's term of office, in other words by 1 January 2017 (USTR 2013). At present, however, the completion date is still open. The negotiations will be followed by ratification by the European Parliament and – where appropriate – the national parliaments (cf. Fig. 5).

4. Advocates of the agreement stress the expected economic benefits (BDI 2014b; DIHK 2015; TREIER and WERNICKE 2015). TTIP would bring together the world's two largest economic groups (MILDNER and SCHMUCKER 2013, p. 2). They output nearly 50 % of global gross domestic product (GDP 2014, provisional figures), and their trade amounts on average to one third of worldwide trade in goods and services (UNCTAD 2015; WTO 2015b). More than 60 % of existing foreign direct investment is due to the EU and the USA (Outward, 2014; UNCTAD 2015). In addition, at the end of 2011 the member states of the EU held nearly 1.6 billion USD of investments in the USA, while US direct investments in the EU came to nearly 2.1 billion USD (FEDERAL FOREIGN OFFICE 2014).

Since these are the world's two largest economies, the reduction in non-tariff trade barriers through regulatory cooperation is expected to benefit both economic growth and employment. Eighty per cent of the gains in prosperity are to be achieved by reducing non-tariff trade barriers (BARKER and WORKMAN 2013). Advocates stress the fact that it is also a matter of establishing high standards of protection for global trade. In this respect TTIP is to acquire a role model character for the whole world (TREIER and WERNICKE 2015).

5. By contrast, critics fear that the agreement will pave the way for a reduced protection of the environment, health and working conditions, both in the EU and in the USA (AKHTAR and JONES 2014, p. 10). They assume that the level of protection in the environmental and health sectors could be reduced, or that it will be difficult or no longer possible to enforce planned regulations in this sector. They also have fears that arbitration of disputes could be used by companies to combat such public-interest legislation.

6. The report examines these concerns. Chapter 2 starts by giving an introductory overview of the planned agreement. It then presents the economic studies that assess the economic effects of TTIP (Section 2.1). It goes on to explain the aspects under which the planned agreement could be relevant to the environment (Section 2.2). There follows a brief description of how the bilateral trade agreement would fit into the international architecture of world trade (Section 2.3). The report then takes a closer look at two particularly

controversial negotiating areas of the agreement from an environmental point of view: regulatory cooperation (Chapter 3) and the investment protection provisions, and the state arbitration mechanisms that are based on them (Chapter 4). Chapter 5 makes recommendations for the design of TTIP that take account of environmental concerns. Finally, Chapter 6 focuses attention on the political perspectives of TTIP that the SRU feels should be developed. These ideas are based on the negotiating positions published by the European Commission. The US bases its negotiations on its existing free-trade agreements (USTR, no year) and the model investment protection agreement (U.S. DEPARTMENT OF STATE 2012), which are publicly available. However, the USA does not make its negotiating positions public. Critical discussion of TTIP is in progress on the other side of the Atlantic as well, but for space reasons it can only be mentioned briefly here.

2 Overview of TTIP

7. Free-trade agreements serve to facilitate trade between two countries. Whereas the focus was initially on customs duties when GATT (General Agreement on Tariffs and Trade) started to liberalise the international trade system, other trade barriers received increasing attention as the years went on.

The planned free-trade agreement between the USA and the EU is to deal with three key areas: market access, regulatory cooperation and general rules. The first area, "market access", mainly comprises tariffs and trade facilitation, the regulation of services (e.g. financial services) and placement of public-sector contracts. Customs tariffs between the USA and the EU are already very low in many areas: in 2007 the weighted average duty between the countries came to only 2.8% (FELBERMAYR et al. 2013b, p. 3). One exception is the agricultural sector, parts of which are still heavily protected on both sides. Imports of agricultural products into the EU are subject to an average customs duty of 13%, with peak duties for individual product groups such as dairy products averaging over 50% (RUDLOFF 2014, p. 1). The market in other individual sectors is also protected by peak duties. This applies to vehicles, textiles, clothing, and leather and footwear.

The second part of the agreement will be concerned with regulatory cooperation and currently envisages twelve sub-chapters. This area is the main focus of the negotiations, because transatlantic trade is to be facilitated largely by reducing what are known as non-tariff measures (FELBERMAYR et al. 2013b; BARKER and WORKMAN 2013).

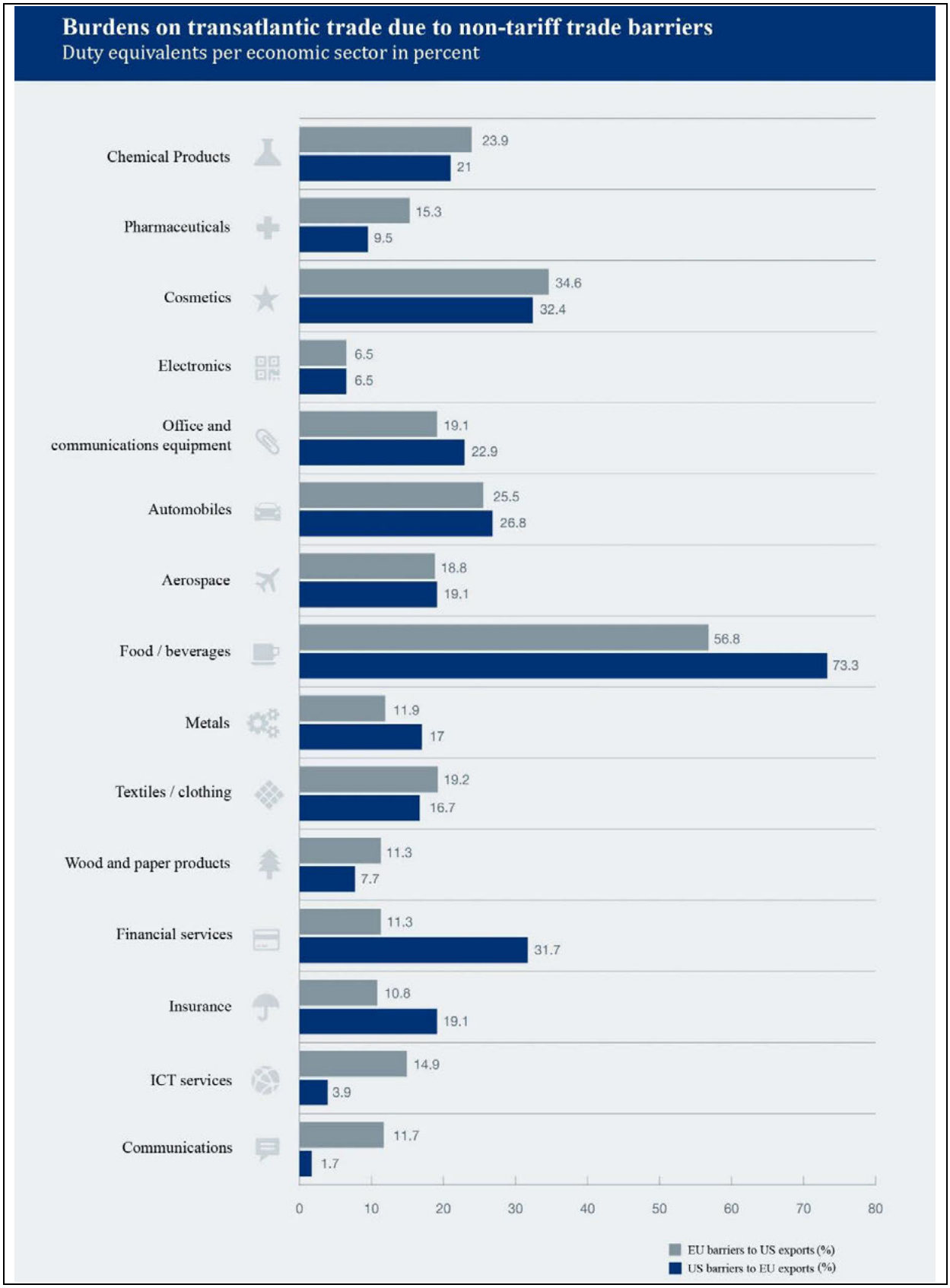
In addition to the overriding chapter on regulatory cooperation, the negotiations will be concerned with technical barriers to trade, sanitary and phytosanitary measures (i.e. measures affecting the health of humans, animals and plants) and individual branches of industry (chemicals, cosmetics, mechanical engineering, medical technology, pesticides, information and communication technology, pharmaceuticals, textiles and automobiles). The United Nations Conference on Trade and Development distinguishes 115 categories of non-tariff measures (UNCTAD 2013a). Examples include limit values, labelling and packaging regulations, hygiene requirements, provisions on the production, testing and processing of products, and licensing and certification arrangements. In other words they are frequently requirements which form the content of statutory regulations (practical examples from: LESTER and BARBEE 2013). Figure 1 shows the estimates by BERDEN et al. (2009b) regarding the economic impacts on trade of variously designed regulations in individual sectors. They are based on a survey of trade experts. From the point of view of industry, high trading costs reflect high non-tariff trade barriers. These may result (though not necessarily and not exclusively) from the fact that these sectors are subject to different forms of regulation. Thus the figure also shows indirectly the areas where approximation of the regulations may be particularly profitable from the point of view of industry, but also problematical from the consumer's point of view. One example is the chemicals sector, where there are very considerable differences between the regulations.

Unlike in many other agreements, regulatory cooperation is to be supported by committees, and especially by an institutionalised "Regulatory Cooperation Body". This serves the interests of extensive exchange of information about planned regulations (see Chapter 2.3) and represents a development of the Transatlantic Economic Council.

The third part of the planned agreement is to include "rules". Among other things, it envisages chapters on energy and raw materials, antitrust, intellectual property and designations of geographical origin. This part is also to include a chapter on government-government dispute settlement and one dealing with protection of investments and the highly controversial topic of investor-state arbitration (see Chapter 3). This part of the agreement will also include a chapter on sustainable development (for details see Section 3.7). Most of the free-trade agreements negotiated in the last 20 years include such environmental or sustainability chapters (STOLL et al. 2014). They regularly set out three statements: firstly, that the parties have the right to decide for themselves their level of environmental protection and their development priorities; secondly, that they seek to achieve a high level of protection for the environment and improvements in the relevant provisions, and thirdly, that environmental legislation is to be effectively enforced (references for the individual agreements, see STOLL et al. 2014, footnotes 32-34; BOURGEOIS et al. 2007, p. 59-94). Corresponding provisions and numerous provisions relating to multilateral environmental agreements are also envisaged in the draft of the TTIP sustainability chapter, which the European Commission has made public as a basis for negotiations by the EU side (European Commission 2015f; cf. also European Commission 2014a; LEAL-ARCAS and WILMARTH 2015).

Figure 1

Non-tariff trade barriers in transatlantic trade



Source: BDI 2015, data source: BERDEN et al. 2009b

2.1 Economic assessments of TTIP

8. The economic benefits associated with the trade agreement play an important part in the discussions about TTIP. This section therefore describes the few scientific studies that have examined such potential economic impacts of liberalised trade between the EU and the USA. Among other things, the studies perform ex ante calculations of the possible effects on trade, gross domestic product (GDP) and the labour market.

Two frequently cited studies, FRANCOIS et al. (2013, Centre for Economic Policy Research, referred to below as "CEPR study") and BERDEN et al. (2009b, Study by ECORYS-Institute, referred to below as "ECORYS study") were performed at the request of the European Commission. Like the study by FONTAGNÉ et al. (2013, Study by the Centre d'Etudes Prospectives et d'Informations Internationales, referred to below as "CEPII study") they tend to arrive at positive results, even if these are in some cases very moderate. Calculation of the trade effects due to the planned liberalisation of trade is based here on "general equilibrium models" (CGE models). The IFO study performed for the German Federal Economics Ministry (referred to below as: "IFO/BMWI study") to some extent follows a different methodological approach. Compared with the studies mentioned above, it arrives at much higher results (FELBERMAYR et al. 2013b). The IFO institute has also presented numerous other studies on TTIP, some of which are referred to later. Mention must also be made of a study by CAPALDO (2014) (Tufts University, Medford), which has received some attention, but also considerable criticism (PERSSON 2015; RODRIK 2015; BAUER and ERIXON 2015). Unlike the studies mentioned above, it comes to distinctly unfavourable conclusions about the economic impacts of TTIP (CAPALDO 2014, p. 14). This is explained by the choice of a completely different type of model with different assumptions about economic reaction patterns (BAUER and ERIXON 2015).

9. The approaches followed in the studies and the interpretation and description of the results have given rise to controversy. This is not surprising, because economic models are always an over-simplification and abstract representation of a reality. This is particularly true of studies that describe global macroeconomic relationships, as is the case with the introduction of trade liberalisation under TTIP. The authors of economic studies therefore place considerable restrictions on the information value of their results right from the start (e.g. FELBERMAYR et al. 2013b, p. 14f). Nevertheless, economic analyses of this kind are used for predicting broad tendencies and for comparing the effects of different policies. The conclusions are then used in political discussions to provide scientifically based legitimation for differing positions on TTIP.

Results of liberalisation scenarios

10. As regards the methodology, it is true to say that the model and hence the assumptions about underlying economic interactions and behaviour have a decisive influence on the calculated results. This also explains the differences between the studies. The same is true of the choice of indicators and the way they are calculated. It is not possible, though, to go into details of individual methodological aspects at this point. For a critical appreciation of the analyses and methodological details, see RAZA et al. 2014; MYANT and O'BRIEN 2015, p. 17; STEPHAN 2014).

11. On balance, all studies show that on a long-term view, i.e. after a transitional period of at least ten years, bilateral abolition of tariffs and non-tariff trade barriers would result in an expansion of trade and in welfare gains for the EU as a whole. The IFO/BMWI study and the CEPII study show separate results for Germany and arrive at positive effects on this level as well. All the studies use a variety of scenarios that describe different degrees of liberalisation. As one might expect, the results vary between the different scenarios (see Table 1).

The impacts on GDP are very small in the case of the liberalisation scenarios that are confined to reducing tariffs. Here the calculations in the CEPR study do not show any increases in GDP. The CEPII study arrives at an increase of only 0.1% in 2025, compared with a development path without bilateral reduction of tariffs. The IFO/BMWI study also calculates only a very moderate increase. Once the impact had taken full effect, real per capita GDP would be 0.3% higher than without this liberalisation measure.

The maximum scenarios comprise the total abolition of tariffs, each in combination with a scenario of different – and in some cases considerable – reductions in non-tariff barriers. In its "harmonization spill-over" scenario the CEPII study also assumes positive effects for third countries (cf. item 17), which also benefits the parties to the agreement. The results of the maximum scenarios differ considerably. They vary from 0.5% in the maximum scenarios of the CEPR and CEPII studies to 6.2% in the internal market scenario of the IFO/BMWi study. However, even the authors regard the internal market scenario as unrealistic. But even the "non-tariff-barriers-Scenario", which is the main scenario of the IFO/BMWI study, arrives at a much higher gain than the respective scenarios of the other studies mentioned. Thus the range of the results also shows how crucial the question is of whether non-tariff trade barriers will be substantially reduced by TTIP.

The comparison of two scenarios from the CEPII study shows how heavily the model results depend on the assumptions about the level of trade costs resulting from non-tariff trade barriers (see Table 2). Both calculations are based on the study's reference scenario. They differ in the fact that in the first scenario the CEPII uses own calculations of trade costs implied by non-tariff trade barriers. These figures are higher

than ECORYS calculations (FONTAGNÉ et al. 2013, p. 8). As a result, their reduction also leads to considerably greater increases in exports and stronger effects on real income.

12. The CAPALDO study arrives at distinctly negative effects for Germany, if there is extensive liberalisation of trade between the EU and the USA. Thus the results calculated for Germany for 2025 include a lower GDP (- 0.29%), a decrease in jobs (- 134,000) and lower incomes (- 3,400 EUR per employee), compared with a development path without TTIP (CAPALDO 2014, p. 14). However, the author explains that with the model used it is not possible to calculate the reduction in trade costs. Instead he uses figures for trade costs calculated by other authors (CAPALDO 2014, p. 12); the same studies that are referenced in this work. However, he does not explain which concrete scenario he uses from which study.

Table 1

Economic effects of a TTIP - selected scenarios in economic studies

	Tariff scenario	Medium scenario	Maximum scenario
CEPR (percentage difference in GDP in target year 2027, compared with development path without TTIP)	0.10[1]	0.27[2]	0.48[3]
CEPII (percentage difference in GDP in target year 2025, compared with development path without TTIP)	0.00[4]	0.30[5]	0.50[6]
ECORYS 2009 (percentage difference in real income after 10 years implementation period, compared with development path without TTIP)		0.32[7]	0.72[8]
IFO/BMWi (percentage difference in real GDP per capita assuming full effect of TTIP, compared with development path without TTIP)	0.13[9]	1.67[10]	6.18[11]

CEPR: [1]Tariffs only: 98% duty reduction; [2]Less ambitious: 98% duty reduction, 10% of NTMs for goods and services, 25% of NTMs for procurement; [3]Ambitious: 100% duty reduction, 25% of NTMs for goods and services, 50% of NTMs for procurement
CEPII: [4]Tariffs only: 100% duty reduction; [5]Reference scenario: 100% duty reduction; 25% reduction in NTMs for products and services, excluding public procurement and audio-visual services; [6]Harmonization spillovers: i.e. Reference scenario plus reduction in trade costs by 5% for third countries due to NTMs
ECORYS 2009: [7]Limited Scenario (long run): no duty reduction, approx. 50% reduction in all "actionable" NTMs in all sectors; [8]Ambitious Scenario (long run): no duty reduction, Complete abolition of all "actionable" NTMs in all sectors
IFO/BMWi: [9]Tariff scenario: 100% duty reduction; [10]Non-Tariff-Barriers Scenario: 100% duty reduction, reduction of effective total variable trade barriers to the average level in observed free-trade agreements; long-term trade generation gains of at least 67%; [11]Internal market scenario: 100% duty reduction, reduction of effective variable trade barriers on the imputed level between Germany and the EU

SRU/Statement no. 19/2016/Table 1,
after FONTAGNÉ et al. 2013, p. 11; FRANCOIS et al. 2013, p. 45;
BERDEN et al. 2009b, p. 26; FELBERMAYR et al. 2013b, p. 97

Table 2

TTIP effects for different calculations for trade costs of non-tariff trade barriers

	Reference scenario*	
EU	Trade costs for NTMs calculated by CEPII	Trade costs for NTMs from ECORYS 2009 study
Exports (percentage difference in trade volume in target year 2025, compared with development path without TTIP)	2.3	1.3
Real income (percentage difference in GDP in target year 2025, compared with development path without TTIP)	0.3	0.1

* 100% duty reduction and 25% reduction in non-tariff trade barriers for products and services, excluding public procurement and audio-visual services

SRU/Statement no. 19/2016/Table 2, after FONTAGNÉ et al. 2013, p. 11

Uncertainties

13. The results of the economic studies on the impacts of TTIP involve great uncertainties. Calculation of the trade costs of non-tariff trade barriers presents a particular methodological challenge. The studies differ in what measures are classified as non-tariff trade barriers. In view of the number, diversity and nature of the measures (see item 7 above), the associated trade costs are only measurable to a very limited extent, and the studies tackle this in different ways. All authors emphasise these difficulties (e.g. FELBERMAYR et al. 2013b, p. 42; FRANCOIS et al. 2013, p. 16).

14. Taking the agricultural sector as an example, BUREAU et al. (2014) explain the difficulties and methodological limits involved in representing non-tariff trade barriers adequately in trade models. As a rule, these trade barriers are recalculated into tariff equivalents, so called ad valorem equivalents (only the IFO/BMWI study takes a different approach). With this method only the economic objectives of a trade barrier measure can be taken into account in the models. In contrast to tariffs, non-tariff measures often have other purposes than protecting the domestic economy by restricting market access and the generation of tax money. Regulations that are discussed in the context of TTIP are often in place, e.g. to safeguard certain product and production standards. The trade models do not represent product differentiation that is addressed by this type of non-tariff trade barriers. One example mentioned is hormone meat (see item 27). Similarly, these trade models cannot accurately model especially complex policy goals, e.g. in the field of sugar and biofuels. Welfare losses from a cutback of regulations with policy goals of this kind are not included in the models with the method of tariff equivalents. BUREAU et al therefore expressly draw attention to the fact that these limitations have to be taken into account when interpreting the model results (2014, p. 33).

However, the economic studies make the implicit assumption that regulatory harmonisation does not lead to any deterioration in regulatory quality. There is good reason to be sceptical about this. Many see a risk here, especially where great depth of liberalisation is assumed (RAZA 2014, p. 11, 19-20; also MYANT and O'BRIEN 2015, p. 14). If this assumption is correct, a reduction in the degree of protection ought to be included in the model calculations in the form of societal costs. The problem is illustrated by the remarks of JOSLING and TANGERMANN (2014, p. 20 ff.) on the complexity of reducing non-tariff trade barriers in the agricultural and food sectors. Every solution in sectors where the regulatory approaches differ widely is bound to involve societal costs. These may on the one hand be indirect, if preferences regarding health or environmental protection levels are no longer fulfilled or if the state has to take "counter"-measures financed by the taxpayer. On the other hand, costs may arise due to fines or buying absolution from liberalisation obligations or alternative trade-related concessions (see item 27). This has to be borne in mind when making reference to the economic studies in discussions about the desired depth of regulatory cooperation.

15. Furthermore, varying assumptions are made about the extent to which barriers can be reduced under TTIP. For example, the "internal market scenario" of the IFO/BMWI study assumes trade generation by TTIP that is comparable to the effects of the EU single internal market. This interpretation goes considerably beyond the maximum scenarios of the other studies and is even regarded as problematical by the IFO authors themselves. Many have doubts that the negotiations will really result in an extensive reduction in non-tariff trade barriers (MYANT and O'BRIEN 2015, p. 12 f.; RAZA et al. 2014; STEPHAN 2014). Nevertheless, it is particularly those results which are based on assumptions of very extensive liberalisation that are regularly used in the discussion. It should also be noted that the forecasts involving great uncertainties tend to

be presented as facts in the political debate. Both these aspects can result in exaggerated expectations.

Heterogeneous impacts on the sectors and EU member states

16. A differentiated view shows that the impacts at both sectoral level and the level of the EU member states are heterogeneous. More competitive sectors basically profit more from liberalisation. The reference scenario from the CEPII study assumes total abolition of tariffs and a reduction of 25% in non-tariff trade barriers. For the agricultural sector of the EU-27 as a whole (i.e. after full implementation of this liberalisation) this scenario permits a slight increase in exports in terms of volume and value (+ 1% and + 2.3 billion USD respectively). However, the calculations show a drop in the sector's contribution to GDP by 0.8% and 5.8 billion USD respectively. Under this scenario, the winners in the EU would be the mechanical engineering sector and the transport equipment sector, whereas the chemicals sector would suffer from adverse effects (FONTAGNÉ et al. 2013, p. 10ff; FONTAGNÉ et al. 2013, see Annex p. A.5, A.7).

A study conducted for the European Parliament investigated potential impacts of various scenarios of bilateral trade liberalisation on the agricultural sector. The principal scenario, which is similar to the reference scenario of the CEPII study, forecasts a considerable increase in trade in relative terms. However, the absolute contribution to GDP is negligible in view of the small volume of trade in agricultural products in the base situation. In this scenario, much as in the CEPII study, the net value-added effect for the entire agricultural sector is negative (minus 0.5%). The increase in imports from the USA is considerably larger than the rise in exports from the EU to the USA (BUREAU et al. 2014, p. 36-47). However, the effects vary depending on product groups. Special mention must be made of the forecast impacts on the beef sector and hence on suckler cow farming. The authors see a major risk here, because in many places in the EU this is not competitive compared with production in the USA (small herds, high land prices etc.). In view of the fact that extensive use of pasture in beef farming has positive environmental externalities, this also suggests adverse effects on the public interest, and especially nature conservation (BUREAU et al. 2014, p. 54-56).

The effects on overall trade and GDP vary between the EU member states depending on their trade relations with the USA and the relevance of the various sectors. For example, FONTAGNÉ et al. calculate that British exports in the reference scenario will increase by 4%, which is considerably more than the average of the member states, whereas Germany is in the middle of the range for this scenario, at 2% (2013, p. 8). FELBERMAYR (2013b) also sees Germany roughly in the middle of the range of GDP effects. Much stronger effects are to be expected for Sweden and, above all, the United Kingdom, while much lower increases are likely for France and Austria. The CEPII also calculates benefits for exports and GDP growth, especially for countries that already have highly competitive export sectors. By contrast, relatively small effects are calculated for southern and eastern Europe (FONTAGNÉ et al. 2013, see Annex p. A.7-A.8).

Impacts on third countries

17. All studies indicate that TTIP will increase bilateral trade between the USA and the EU. The result is a decrease in intra-EU trade: by 900 billion USD in the IFO/BMWI study (2013a). The results of the study vary regarding the effects on third countries. A central aspect is the question of whether "spillover effects" of bilateral liberalisation arise for third countries, i.e. whether their trade costs are also reduced. The authors of the CEPR study argue that improving or simplifying the regulations in the EU and the USA also facilitates market access for exporters from third countries. If TTIP gives rise to global standards, this would also lead to a reduction in non-tariff trade barriers for third countries. This would benefit both the EU and the USA. But it is also assumed that trade between third countries would increase (FRANCOIS et al. 2013, p. 28-29). In a recent study, the IFO institute also shows that the size of the calculated trade and welfare effects is among others influenced by the aggregation level of the data fed into the model. If only a single aggregated data record is used for the EU, the negative effects for third countries are smaller than if individual data records are used for each EU member state (FELBERMAYR et al. 2014, p. 37-38). These two points represent the major differences between the IFO study on the one hand and the CEPR and CEPII studies on the other. The two latter studies calculate third country effects on the basis of aggregated geographical data for the EU. The CEPR-study assumes the spillover effects mentioned above in all scenarios. The CEPII study has one scenario which assumes spillover effects. Thus both studies (the CEPII study in the scenario mentioned) arrive at positive effects of TTIP on exports and real incomes and the GDP of the "rest of the world" and for selected third countries or global regions (FONTAGNÉ et al. 2013, p. 10; FRANCOIS et al. 2013, p. 81-83).

In various studies, the IFO institute comes to different conclusions regarding the effects on third countries. However, these results are themselves heterogeneous. The IFO/BMWI study and FELBERMAYR et al. (2014, p. 37-38), citing a lack of empirical evidence, do not assume any appreciable spillover effects. They also use geographically disaggregated data. The studies show that in many third countries TTIP would result in a decrease in real GDP. This applies particularly to countries which currently have strong trade relations with the USA and the EU and have privileged market access under existing agreements. Negative welfare effects are calculated, for example, for Canada, Norway, Mexico and Russia. The two studies arrive at negative effects for many developing countries and emerging economies in particular (FELBERMAYR et al. 2014, p. 38; FELBERMAYR et al. 2013b, p. 76).

Two additional IFO studies analyse more deeply the potential effects for developing countries and emerging economies. They, however, paint a rather more positive picture and also see possible benefits for some of these countries. Inclusion in transatlantic added value chains is of special relevance here (FELBERMAYER et al. 2015; AICHELE et al. 2014).

In various studies the IFO authors basically stress that adverse impacts on the trade and GDP of third countries initially constitute an incentive for the relevant groups of countries to bring their own standards into line with the TTIP standards or to enter into more bilateral free-trade agreements themselves (FELBERMAYR et al. 2013b, p. 29; FELBERMAYR and LARCH 2013).

Distribution effects within the EU and Germany

18. The various studies mention average effects such as "in 2011 prices […] this means an average increase in income of around €500 per head" (FELBERMAYR et al. 2013b, p. 99). Much the same is true of the ECORYS study, which forecasts a plus of 12,300 euros per household for the entire working life (maximum scenario) (BERDEN et al. 2009b, p. xiv). The CEPR also calculates, in its "ambitious experiment" scenario, an annual income rise per four-person household of 545 euros, once TTIP has taken full effect in 2027. However, the question of distribution remains unanalysed and unanswered in all studies. FELBERMAYR et al. expressly point out in the introduction that this question could not be answered in view of the short time available (2013b, p. 14 f.).

Nevertheless, these welfare indicators are cited in the arguments for TTIP, e.g. by politicians and industry. The broad participation by society in the predicted growth effects which this suggests would seem to be highly questionable. In this connection, MYANT criticises the implicit assumption made in the CEPR study that wage increases would in future continue at the same pace as productivity and GDP increases. This would presuppose that a constant proportion of productivity increases made itself felt in wages and profits, which has regularly not been the case in the past 30 years. In fact there has been a marked decrease in wages as a proportion of GDP (MYANT and O'BRIEN 2015, p. 13). It is more probable that bilateral trade liberalisation with appreciable elimination of non-tariff trade barriers will result in both winners and losers in Germany as well. This is suggested by the remarks on the differentiated effects for the various sectors (item 16).

Effects on the labour markets are also an indicator of a potential distribution effect. The CEPII study does not consider this aspect. The CEPR study and the ECORYS study assume a constant supply of labour, and these models do not therefore calculate effects of trade policy on the level of employment. Among others, RAZA (2014, in a reference to EuroMemo Group, 2013) strongly criticises the underlying assumption of very high labour mobility. The IFO/BMWI study stresses long-term positive overall effects on the labour market (FELBERMAYR et al. 2013b, p. 17). In the short term, it nevertheless sees potential negative employment effects, because job reductions in shrinking and disappearing companies proceed much faster than the expansion of employment in export oriented companies. This model, however, is unable to provide any information about the spread of wages among the employees (op. cit. 2013b, p. 86f).

On the whole, moderate positive welfare effects of increased transatlantic trade are plausible, and for some sectors these are likely to be of relevant size. However, the study results shown are highly dependent on the choice of models and their assumptions, e.g. about the extent to which non-tariff trade barriers can and will be eliminated. There is still great uncertainty about the depth of liberalisation that is possible in the various sectors. Thus the magnitude of the effects is, on the whole, highly uncertain. The potential distribution effects have yet to be adequately investigated. There are however indications that bilateral liberalisation would have winners and losers both within the partner countries and among third countries.

2.2 Environmental relevance of TTIP

19. The European Commission envisages that the concept of "environment" is to play a role in various articles of the planned agreement. One example is the proposed chapter on sustainability, which addresses ecological and social aspects in detail (European Commission 2013a; 2015f). In the EU drafts, the concept of environment is mentioned above all in the articles that mention regulatory cooperation in specific sectors, or the statutory legislation on regulation which set out the objectives of the individual negotiating chapters, for example in Section I Art. 1 (1) a of the EU negotiating draft for regulatory cooperation.

However, environmental protection also plays a role in TTIP even if the term is not expressly mentioned in the text of the agreement. This is the case where environmental or health provisions are affected by the planned harmonisation. Although it is not yet possible to make a conclusive assessment of the environmental relevance of the free-trade agreement, one can nevertheless identify areas of regulation in which TTIP may have major impacts, because there are great differences between the regulations affected.

According to the Commission's negotiating draft of May 2015, the objective of regulatory cooperation is as follows: "promoting the compatibility of envisaged and existing EU and US regulatory acts" (European Commission 2015m, p. 2). Thus compatibility of the regulations is sought in the environmental field as well. The range of this cooperation would extend considerably beyond the discussion on "global trade and the environment" which has been in progress since the 1980s (HORVATHY 2014). Whereas the debate in international trade law has been primarily concerned with the admissibility of national environmental

regulations, efforts are now being made to achieve approximation of these regulations.

20. Studies – e.g. for the Environmental Committee of the European Parliament – identify areas in which there are differences between the level of protection in the EU and the USA (detailed overview in BERDEN et al. 2009a, Annex IX). Critics voice the suspicion that in some of these areas the level of protection in the environmental sector could be called into question in the course of regulatory harmonisation. There are also fears that legislation on new and ambitious regulations could be delayed or might not take place at all. It is also assumed that regulatory tightening could result in investors bringing actions for compensation on the grounds that their investment environment has deteriorated. This could prevent the legislature from aiming for a higher standard of environmental protection ("regulatory chill"). Some of these areas are outlined briefly below.

21. In the EU *cosmetics* are subject to compulsory notification and approval, whereas in the USA there are sometimes no registration requirements and safety tests are conducted on a voluntary basis (MUDGAL et al. 2014, p. 77). The situation is different for individual product groups such as sun milk, which in the USA is regarded as a medicine. The differences regarding regulations concerning *food* are also considerable, partly in relation to methods, but also with regard to the assessment of risks, where the differences are sometimes fundamental (overview in RUDLOFF 2014, p. 6). For example, the EU is planning legal acts which would prohibit the use of cloning technology in livestock farming. There is also to be a ban on imports of clones (European Commission 2013d) and the marketing of food from cloned animals (European Commission 2013c). In the USA, on the other hand, there is no ban at federal level.

Genetically modified organisms (GMOs) are subject to approval requirements in the EU. Before they are put on the market in food or animal feeds, they undergo various approval procedures at national and European level (BfN 2015). In the EU, 58 genetically modified organisms are currently approved for use in food and animal feeds, and these are listed in a publicly accessible register (European Commission 2015e). In addition to its own production, the EU imports considerable quantities of GM animal feeds (European Commission 2015g). Both foods and animal feeds must be labelled if they contain more than 0.9% of genetically modified organisms or consist of or are made from such organisms, and this proportion does not exist by chance or cannot be avoided by technical means (Regulation (EC) No. 1829/2003 of 22 September 2003 on genetically modified food and feed). As a result of the opt-out rule at EU level in 2015 the member states may now completely prohibit the growing of genetically modified organisms on their territory (Directive 2015/412/EU of 11 March 2015 on the option granted to the member states of restricting or prohibiting the growing of genetically modified organisms (GMO) in their territory).

In the USA, by contrast, genetically modified food is regularly not labelled (see HANSEN-KUHN and SUPPAN 2013). HOFFMEISTER, the former deputy cabinet chief of the then EU Commissioner for Trade, Karel de Gucht, takes the view that TTIP would not lead to any changes in the existing "material" legal situation (HOFFMEISTER 2015, p. 49). On the other hand, the US minister of agriculture stated clearly in an interview with the Financial Times on 7 May 2015 that the change in EU legislation (adoption of the opt-out rule) would in his opinion seriously call the TTIP negotiations into question (FINANCIAL TIMES 07.05.2015).

In general, there are great differences in the regulations under the overall heading of *sanitary and phytosanitary measures* – SPS. These include measures relating to food safety and animal and plant health, and hence numerous aspects that are relevant from an environmental point of view (MUDGAL et al.; GERSTETTER et al. 2013; RUDLOFF 2014, p. 6; JOSLING and TANGERMANN 2014, p. 20 ff.; DIELS and THORUN 2014). In the EU, unlike in the USA, pesticides and biocides that contain persistent, bioaccumulable and toxic substances (PBT substances) or substances that are carcinogenic, mutagenic or toxic to reproduction (CMR substances), are not eligible for approval (UBA 2015b, p. 4).

The regulations in the field of *chemicals* are also very different (KARLSSON 2015). In the REACH regulation (EC) No. 1907/2006, the EU has one of the strictest chemical laws in the world, which regulates the registration, evaluation, authorisation and restriction of chemicals and is subject to the precautionary principle (SRU 2011, p. 201). The German chemicals industry stresses that the standard of protection provided by REACH and that of the Toxic Substances Control Act in the USA (TSCA) are not comparable, and assumes that the regulations are not suitable for harmonisation (VCI 2014, p. 5). By contrast, US non-government organisations in particular (CIEL 2014), and also the German Environmental Ministry (FLYNN 2015) warn that TTIP could endanger the further development of chemicals regulations.

Critics take the view that in all these areas there is a risk that "downward" harmonisation of the level of protection might take place or that products from the partner which did not satisfy the statutory requirements might be imported into the EU.

22. A report by the United States Trade Representative (USTR) on "Technical Barriers to Trade" dating from 2014 (and the relevant prior reports) documents the objections of US industry and the reservations of the USTR with regard to numerous regulations existing or planned by the European Commission. For example, it mentions proposals to regulate fluorinated greenhouse gases in refrigerators and endocrine disruptors, the REACH Regulation, the

Renewable Energy Directive 2009/28/EC, the EU fuel quality directives, and labelling requirements for food (USTR 2014, p. 66 ff.). It therefore seems likely that these environmentally relevant regulations or regulation proposals, which the USTR has in some cases been making the subject of trade discussions for years now, will also be the subject of future efforts by the USA to harmonise regulations and/or prevent new and ambitious regulations under TTIP.

2.3 Relationship between TTIP and WTO

23. The planned free-trade agreement must fit into the existing world trade system with its numerous multilateral and bilateral trade agreements. These are, above all, the World Trade Organisation (WTO) with the General Agreement on Tariffs and Trade (GATT) and the relevant supplementary agreements, especially the Agreement on Technical Barriers to Trade (TBT agreement) and the Agreement on Sanitary and Phytosanitary Measures (SPS agreement). There are also a number of bilateral agreements and existing mechanisms between the USA and the EU, such as the US-EU Veterinary Agreement and the multilateral and bilateral agreements which the USA and the EU have entered into, e.g. for reciprocal recognition of conformity tests (cf. GERSTETTER et al. 2014, p. 16-20; for the embedding of TTIP in the international trade regime, see MEUNIER and MORIN 2015).

24. It is not possible to present here a general description of world trade law and its relation to environmental protection. The discussion goes back to the 1990s (see ESTY 1994) and has become increasingly complex since then. GATT, subsequently developed into the World Trade Organisation WTO, lays down that tariffs, charges and other barriers in international trade are to be reduced. This is done primarily in accordance with two principles: Firstly, through the most favoured nation clause (requirement of equal treatment), under which a country must grant the same tariff concessions to all GATT partners. Secondly, by the ban on discrimination. If exceptions to the ban on quantitative restrictions are granted, these must apply to all. In addition, Art. XX of GATT contains exceptions, in particular for measures which are necessary to protect the life or health of humans and animals or for maintaining plant growth (Art. XX b) GATT). Exemptions from the GATT principles are possible. This applies, for example, to the most favoured nation principle, deviation from which can be justified by the existence of a customs union or free-trade zone, as in the European Union. It is also possible to grant special trade concessions to neighbouring countries and developing countries.

25. TTIP belongs to a trend towards "Mega-Regionals". These are agreements which comprise countries and regions with a large share of global trade and global investments (SCHMUCKER 2014, p. 18). On the one hand, the agreement is intended to develop obligations arising from the WTO (WTO + – trade in goods and services, intellectual property and public procurement). On the other hand, it is to include areas that have not so far been the subject of the WTO (WTO X – investment protection, competition protection and regulatory coherence) (KRAJEWSKI 2014a).

26. The WTO's agreements on TBT and SPS already contain strict requirements for regulations which could adversely affect trade (STOLL et al. 2014, p. 392). The TBT agreement deals with sovereign, compulsory and voluntary technical standards, and therefore concerns product-related environmental protection. The SPS agreement sets out the rules that WTO members must observe when introducing provisions relating to food safety, animal and plant health (see item 54). Both agreements are also relevant to process-related regulations, in other words requirements which are not directly reflected in the product, such as the production of electricity from renewable energy sources, which thus results in "green power". These agreements also contain clauses on reciprocal recognition and harmonisation of technical and sanitary and phytosanitary measures. Numerous free-trade agreements make explicit reference to the WTO agreements. This is also envisaged in the Commission drafts for TTIP (as is the general practice in free-trade agreements under Art. XXIV GATT). The TBT chapter envisaged in TTIP declares that the relevant WTO agreement on TBT will be an integral part of the text of the agreement (Art. 2 (1) EU proposal on TBT, European Commission 2015j). The SPS chapter provides that TTIP is to promote the implementation of the WTO-SPS agreement (Art. 2 (3) of the EU proposal on the SPS chapter, European Commission 2015i). Like GATT, the secondary WTO agreements have already led to a number of important decisions on the admissibility of trade restrictions that are intended to be justified on the grounds of environmental protection (for WTO decisions relating to the EU: DE VILLE 2014, p. 278).

It already follows from GATT, but also – above all – from the two secondary agreements mentioned, that parties to the agreement are not completely free when adopting legislation that restricts international trade, e.g. by prohibiting imports of products that fail to satisfy certain requirements (for details see item 49 ff.). Especially in the sensitive area of food, i.e. in the case studies that are the subject of particularly broad public discussion, it is to a large extent true that regulation can only be imposed on the basis of scientific findings that show clear evidence of a health risk.

The EU-US hormone meat case

27. Disputes about the harmonisation and approximation of production standards for food already existed before the TTIP negotiations. One example of this is the dispute between the EU and the USA about the use of growth hormones in beef farming. This dispute goes back to the 1980s. In 1981, the EU passed the first directive prohibiting the use of anabolic steroids in livestock farming. This ban related to synthetic hormones and restricted the use of natural growth substances to exceptional medical cases. Imports of animals and meat bred with the aid of growth hormones were completely prohibited. This ban was based not only on fears about the adverse health effects, but also on the fact that European consumers objected to "hormone meat". Although the USA – as a major producer of beef – protested and managed to delay the final entry into force of the import ban until 1 January 1989, it was unable to prevent the ban.

The ban on imports was justified in terms of the precautionary principle: On the basis of initial studies, the natural growth hormones (17β-oestradiol, testosterone and progesterone) and their synthetic equivalents (zeranol, trenbolone acetate and melengestrol acetate) were suspected of having adverse effects on consumer health.

The USA reacted to the ban on imports by imposing a 100% duty totalling 93 million USD per annum on European agricultural exports. This penal duty remained in force until May 1996. The Codex Alimentarius, to which reference is made by the SPS agreement that entered into force with GATT in 1995, did not lay down any maximum limit for natural hormones. (The Codex Alimentarius is a collection of standards for food safety and -food product quality which has been published since 1963 by the Food and Agricultural Organisation (FAO) and the World Health Organisation of the United Nations (WHO). They define what measures may not be regarded as trade barriers.)

The justification given is that these hormones are in any case present in both humans and animals. A maximum limit was defined for synthetic anabolic steroids. This offered the USA – supported by Canada and New Zealand – a legal starting point for an action before the WTO against the EU. The USA brought the action on the grounds that the EU, by maintaining the ban on imports, had infringed WTO obligations. In 1997 the WTO arbitration panel allowed the action and required the EU to bring the disputed directive into line with its obligations under the SPS convention (WTO 2009, Note 9.2). It objected in particular to the violation of Art. 3.1, 5.1 and 5.5 of the SPS agreement in the form that the EU had failed to present scientific expertises providing adequate proof of the health risk.

The proceedings before the WTO court of appeal sustained the core of the evaluation. Although the Appellate Body recognised the "genuine anxieties" about the adverse effects of the hormones on health, it did not consider that the studies cited provided sufficient support for the suspicion. Under the SPS agreement, a precautionary ban would only have been possible on a temporary basis (WTO 1998).

When the EU failed to implement this panel decision, the US Trade Representative imposed penal fines on European imports from the EU-15 (with the exception of the United Kingdom) amounting to 116.8 million USD per annum. Canada followed suit with sanctions totalling around 8.5 million USD per annum. In 2009 the duties were increased again and extended to the new member states of the EU. A provisional compromise in the dispute lasting nearly three decades was not reached until 2009: the European import quota for US beef from non-hormone production was increased. In return, the USA discontinued all penal duties. However, there is no sign yet of a final consensus at political level. The EU is therefore adhering to its regulations, although these would be considered inadmissible under the court practice of the WTO, and thereby defending its regulation philosophy.

28. The growing number of free-trade agreements is also a reaction to the stagnating negotiations in the current round of WTO negotiations, the Doha Round (VIJU et al. 2010, p. 6; ZAGEL 2015, p. 108). Free-trade agreements made with third countries by the EU and the USA are increasingly including regulatory aspects (HORN et al. 2010, p. 1587). The aim is also to lay down in the agreements supra-regional rules that are not being discussed because of the sluggish negotiations in the WTO. The Europeans in particular explicitly put forward the argument that TTIP could also create rules for global trade (SCHMUCKER 2014, p. 20). The EU or the USA had previously sought to incorporate such regulatory matters in WTO rules, but had failed due to the resistance of emerging economies and developing countries (HORN et al. 2010). Accordingly, China, India and other emerging economies fear that as a result of the regional free-trade agreements and especially TTIP they will in future have to accept standards without having any say in their creation (PERTHES 2014).

3 Regulatory cooperation

29. Cooperation that takes place primarily between governments with the aim of designing regulations so that they are better co-ordinated and thereby promote trade is known as "regulatory cooperation". This affects widely differing forms of regulations. This is not reflected by the frequently voiced claim that "standards" are being harmonised.

In the first instance, regulatory cooperation can concern regulations passed by the legislature, in other words laws or at EU level, directives and EU regulations. Secondly, it concerns regulations that are passed by the executive for the EU and/or the member states. In Germany this means ordinances, in the EU it means delegated legal acts or implementing acts passed by the Commission. Thirdly, in many cases regulatory cooperation concerns technical rules and standards that are not law in a material sense. These are frequently drawn up by standardisation organisations like DIN (German Institute for Standardization) (GABLER 2014) or in the EU by CEN and CENELEC. All these various "rules" contain "standards" in the sense of protective standards (for definitions and legislation and also private-sector standard setting in the EU and the USA, see BDI 2015b, p. 7-17).

The possibilities of cooperation basically range from exchange of information through mutual recognition to harmonisation (AHEARN 2009; cf. Fig. 2). For TTIP, the European Commission explicitly states as the objective of regulatory cooperation that differences in requirements for trade and investment are to be reduced, by promoting the compatibility of existing and planned legal acts of the EU and the USA (European Commission 2014a, p. 2). It estimates that existing regulatory barriers to trade are equivalent to a tariff of 10 to 20% (European Commission 2014b, p. 1). The European Commission describes TTIP as a "living agreement" which has an "inbuilt agenda" and is intended to make it possible to include new topics as the years go on (European Commission 2013b, p. 4).

3.1 Objectives of regulatory cooperation in TTIP

30. With the aim of approximation in the field of regulation, chapters are being negotiated for individual branches of industry, namely chemicals, cosmetics, mechanical engineering, medical technology, information and communication technology, pharmaceuticals, textiles and vehicles. In addition to these industry-specific chapters, three overarching chapters will be discussed: one on technical barriers to trade (TBT), one on sanitary and phytosanitary measures (SPS), and a general chapter on regulatory cooperation. The regulations for cooperation in the specific chapters and in the TBT and SPS chapters are to take precedence over the "general part".

31. At the beginning of May 2015 the European Commission published a revised proposed text for the chapter on regulatory cooperation in TTIP ("regulatory chapter") (European Commission 2015l) as well as explanatory notes on this chapter (European Commission 2015d). The draft describes the general objectives of regulatory cooperation from a European point of view and stresses the importance of regulation for achieving legitimate "public policy objectives". It emphasises the "right to regulate". This draft, the texts for the preamble and numerous provisions of the WTO that are referenced in TTIP form the basis for the overriding objectives of regulatory cooperation, which recognise a high level of protection and mark the attempt to achieve a balance between (environmental) protection objectives and trade objectives:

- To strengthen growth and employment by simplifying trade and investment through regulatory cooperation (Art. 1 (1) a, regulatory chapter);
- To reduce unnecessary burdens and double or divergent regulatory requirements relating to trade or investment, by promoting the compatibility of existing or planned legal acts (Art. 1 (1) a, regulatory chapter);
- To increase the effectiveness and efficiency of regulations by promoting pro-competition regulatory framework conditions that are transparent and foreseeable for the public and economic actors (Art. 1 (1) c, regulatory chapter);
- To pursue a high level of protection for the environment and other protected assets (Art. 1 (1) a, regulatory chapter). To recognise the right to regulate and to emphasise the importance of regulation for the pursuit of the public welfare (preamble);
- To promote the development, adoption and reinforcement of international agreements and their timely implementation and application, in order to strengthen cooperation with third countries as well, and achieve coherent regulatory results;
- And also to use and promote "good regulatory principles and practices" (Art. 1 (1) d 4, regulatory chapter).

3.2 Regulatory cooperation mechanisms

32. Regulatory cooperation is broadly based and concerns trade-related regulation of goods and services. According to Art. 3 of the EU draft, Section II (Good regulatory practices) applies to regulations at the level of the EU or the US federal level which relate to products and services (Art. 3 (1) a and b), except where these are generally excluded from the chapter's field of application. Section III also applies to regulations at "decentralised level", in other words the level of the EU member states and the US federal states. The regulations in question must also satisfy the criteria of Art. 1 of the draft (cf. "common interest" pursuant to Art. 1 (2) and must have impacts on joint trade now or in the future (European Commission 2015m). The term "common interest" makes it clear that cooperation is to take place if it is in the interests of both parties. It is thus possible to refuse an exchange of information, but this must be justified to the other party.

Regulatory cooperation is to include legal acts at both "central level" and "decentralised level". In the first instance, this comprises legal acts by the EU and the US government. However, it also includes provisions adopted by EU member states at national level (i.e. not

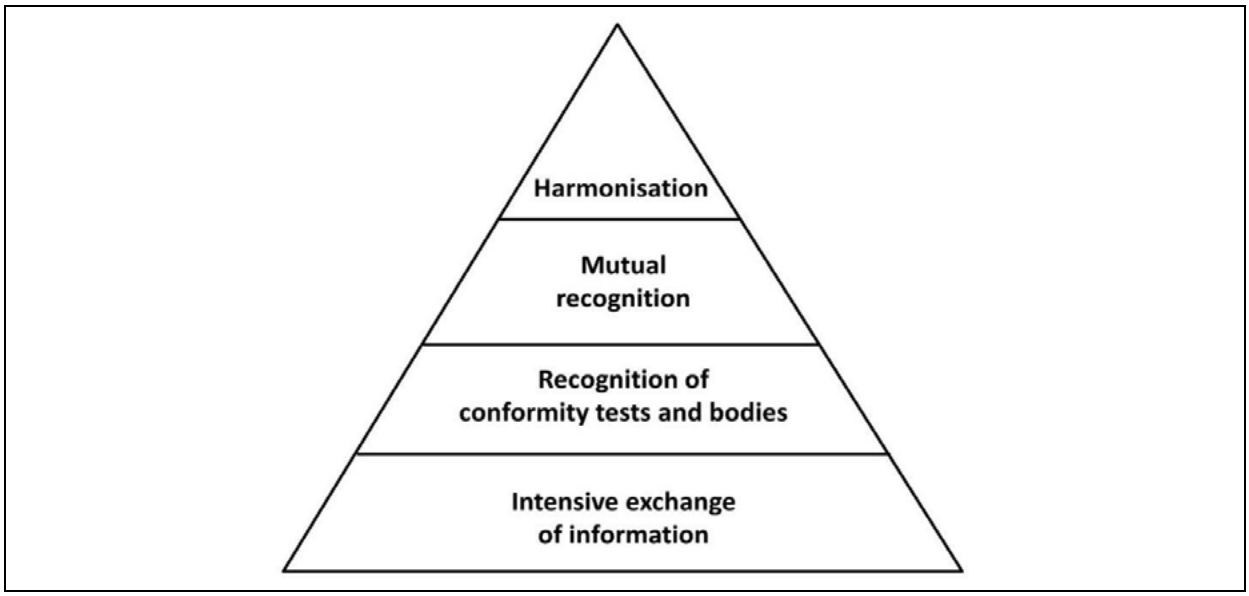
laws of German federal states) and acts and ordinances of US federal states. Only a small number of areas, such as audio-visual services, are explicitly excluded. Regulatory cooperation can take place in various ways, which are familiar at international level (especially in the WTO and in international standardisation organisations such as ISO or UNECE). These are explained below. The following approaches are listed in (decreasing) order of the depth of cooperation (cf. Fig. 2).

Harmonisation

33. The most far-reaching method of regulatory cooperation is the creation of common regulations or standards that apply in both economic areas and may in certain circumstances replace existing national regulations. Such harmonisation is ambitious and tends to be an exception at international level, because it presupposes that the states are prepared to agree on joint standards and, where appropriate, to give up their own regulations. Harmonisation therefore tends to take place most frequently through the orientation of national regulations to standards previously laid down by international organisations (Art. 10 (2) b i; regulatory chapter). Harmonisation based on decisions by international organisations is undertaken largely in the field of technical standards by ISO (International Organization for Standardization) or other organisations which are part of the international standardisation structure (CEN, IEC, ITU, CENELEC, ETSI). Whereas roughly 31 % of European standards are ISO standards (as many as 75 % in the field of electrical engineering), ISO standards are not used on a comparable scale in the USA (GABLER 2014). As regards standards for sanitary and phytosanitary measures, the Codex Alimentarius is the central authoritative document in the field of world trade law.

Figure 2

Regulatory cooperation mechanisms



Source: modified after DIELS and THORUN 2014, p. 14

Example of cooperation to date in the chemicals sector

34. In the field of testing and verification of chemicals there are already a number of cooperation projects between Germany or Europe on the one hand and the USA on the other. These are concerned with developing joint methods for testing chemicals ("Test Guidelines"). There is also formal cooperation in the field of nanomaterial safety research. According to the German Federal Environment Agency (UBA), this technical cooperation is normally conducted in a constructive fashion (UBA 2015a).

However, the UBA considers that cooperation becomes difficult when it comes to the evaluation of chemicals. For example, there was cooperation on pesticides between the states of the OECD. In this context, the various evaluations existing for an active substance, e.g. risk assessments relating to human health or the natural regime, were to be produced by the various OECD states and then incorporated in a joint dossier. What was intended as division of labour, however, proved in practice to be very time-intensive, partly because of time-consuming coordination and communication processes. Also, the cooperation did not result in any appreciable harmonisation of evaluations and was finally discontinued after an analysis of the experience gained (shortened information from UBA 2015a).

Reciprocal recognition

35. A more common procedure, by contrast, is mutual recognition of product requirements and technical standards and processes. Here both parties to the agreement retain their own regulations, but declare that the other party's requirements also achieve the desired regulatory objective and that the relevant products or services can therefore be imported without having to undergo any further approval procedures. The TTIP regulatory chapter deals with mutual recognition in Art. 10 (2) a. This article relates to the total or partial mutual recognition of the equivalence of legal acts on the basis of evidence that they equally fulfil the public objectives pursued by the parties. It states: "Mutual recognition of equivalence of regulatory acts, in full or in part, based on evidence that the relevant regulatory acts achieve equivalent outcomes as regards the fulfilment of the public goals pursued by both Parties". The result of mutual recognition is that a product may be imported, even if it does not comply with the detailed provisions of the importing country. One example of this is the agreement of 2012 between the USA and the EU on mutual recognition of bio products. Under this agreement, organic farming products which are certified under the EU environmental regulation or the National Organic Program qualify as "bio" and can be labelled and sold as such. An exception exists for products certified in the USA which contain antibiotics and are not covered by this provision.

Conformity testing and conformity assessment bodies

36. This relates to two different procedures: mutual recognition of conformity assessment bodies, and mutual recognition of test criteria. In the first case, bodies in one country (for example TüV or Dekra in Germany) are recognised by the other party as conformity assessment bodies, which means that they can undertake conformity assessments that are accepted.

Conformity assessments provide evidence that a process or product satisfies certain requirements which arise from legislation, regulations or standards and which serve the interests of quality testing and safety. In the EU, evidence of conformity is often provided by a supplier's declaration. Sometimes the testing has to be done by third parties. The manufacturer can use harmonised standards to test whether the requirements in force are met. The supplier's declaration is indicated by the CE label (BDI 2015b, p. 15).

As evidence that a product complies with the requirements of a standard, manufacturers in the USA frequently have to qualify for test labels from an independent testing laboratory which is in turn recognised by the US Occupational Health and Safety Organization (OSHA). The testing laboratories test and certify exclusively in accordance with national US standards. There is no obligation on the part of the testing laboratories to mutually recognise each other's test results (BDI 2015b, p. 16).

Mutual recognition of test criteria leads to the results of foreign conformity tests being accepted as equivalent. For example, the Mutual Recognition Agreement concluded between the EU and the USA in 1999 concerns the mutual recognition of conformity tests in the fields of telecommunications, medical equipment and leisure equipment (Agreement on mutual recognition between the European Community and the United States of America, OJ L 31/3 of 4 February 1999).

Exchange of information

37. Cooperation under TTIP is particularly to include planned regulation projects. These are to be disclosed annually to the other party (Art. 5, regulatory chapter). The other party then has the opportunity to comment on the planned projects. Delays in legislation are explicitly to be avoided (for details see item 45).

Simplification

38. Simplification of regulations is another form of regulatory cooperation that is cited by the regulatory chapter as a sub-case of harmonisation (Art. 10 (2) c, regulatory chapter). This term is largely due to the connection between administrative simplification and reduction in bureaucracy. Accordingly, Art. 1 (4) of the chapter also makes explicit reference to the recommendations of the OECD Committee on Regulatory Policy and Governance of 22 March 2012 (OECD 2012). The aim here is the modification of regulations by both parties with the aim of simplification, for example by reducing formalities, evidence obligations and authorisation requirements.

3.3 Institutions and scope of juridification of regulatory cooperation

Institutions

39. Regulatory cooperation is essentially to be undertaken by various committees, each composed of government representatives from both parties. The EU is to be represented by the European Commission and representatives of the "non-central level", in other words the member states (Art. 16 (1), regulatory chapter). It is envisaged that TTIP will have a main committee (Joint Ministerial Body) which will consist of ministers and commissioners and will coordinate the entire administration and implementation of the free-trade agreement. Regulatory cooperation is to be the responsibility of a separate regulatory subcommittee (Regulatory Cooperation Body), which can itself set up subcommittees (Art. 14).

A model for the regulatory committee proposed for TTIP is the US-Canadian Regulatory Cooperation Council, which LESTER and BARBEE regard as a pragmatic approach to harvesting "low hanging fruits", and which in particular features broad and early involvement of all stakeholders, so as to avoid any

takeover by industrial interests (LESTER and BARBEE 2013, p. 860 ff.). In the case of the Comprehensive Trade and Economic Agreement (CETA) which was negotiated between Canada and the EU, but has not yet been ratified by the participating states, it is also a matter of dispute whether the committees to be set up can take binding decisions. As things stand at present, the TTIP Regulatory Cooperation Body is not to have any such powers. It is also still unclear whether the main TTIP committee will have such competencies.

Juridification

40. Since only negotiation drafts exist to date and there is not yet any final text of the agreement, no conclusive answer is possible to the question of the legal status of regulatory cooperation in TTIP. At the present time it is not possible to state with certainty the extent to which regulatory cooperation might lead to binding, enforceable decisions that would (or might) have an influence on European legislation and standards. However, the present state of negotiations gives an idea of the situation (report status: mid December 2015).

41. The draft of the European Commission's regulatory chapter includes in square brackets a statement that the regulatory Council will not have powers to pass legal acts (Art. 14 (2) c placeholder, (see also the Commission's explicit explanatory notes in European Commission 2015d, p. 12; HOFFMEISTER 2015, p. 46). Furthermore, the Commission currently assumes that the rules on regulatory cooperation will not fall under the arbitration mechanism (General Notes 4, regulatory chapter). In addition, Art. 1 (2) of the regulatory chapter emphasises that the parties are not under any obligation to achieve a specific regulatory result. After all, bilateral regulatory cooperation is generally dependent on both sides agreeing to a proposal. It is therefore reasonable to assume that in future no binding individual decisions can be taken by TTIP bodies.

On the other hand, the regulatory chapter does indeed contain (less stringent) binding provisions. These include the requirement to publish a list of planned legislation proposals at least once a year, as is already done in the EU. This is also to include notification of whether there are plans to assess the impacts of legislation for these projects (Art. 5, regulatory chapter). If one of the parties so desires, there must be an exchange of information on the planned projects, in which the party requested must provide answers to every substantive criticism. Any refusal to exchange information must be justified. If the parties assess the impacts of such legislation, this is to include the regulatory approaches of the other party and to investigate the effects on trade and investment (Art. 7, regulatory chapter).

On the one hand it is pointed out that some of the procedural steps mentioned are already standard practice, on the EU side at any rate (publication of planned proposals as well as the impact assessment that was expanded through the better regulation agenda of the European Commission). On the other, there is the objection that it has not so far been the practice to deal specifically and in writing with criticisms of planned regulatory projects by the USA or the EU. In the USA, by contrast, the law of administrative procedures provides that even regulatory drafts are the subject of extensive comments by representatives of industry and society at secondary level ("notice and comment process"). Authorities are to give the public an opportunity to comment on any proposed regulation and to grant a period of not less than 60 days for this purpose (cf. BDI 2015b, with references). This opens up the possibility of delays ahead of legally binding procedural steps and -deadlines. Since this happens before a legislation process, it provides opportunities to exert influence on a party's legislation project. The cooperation process itself can build up political pressure to take account of the party's wishes in the course of regulation. The prospect that planned regulations could be hindered or suffer additional delays as a result of bilateral exchange of information may also have a deterrent effect on the regulators or result in a less ambitious solution being chosen from the outset. This is most likely to be the case where there is least public attention.

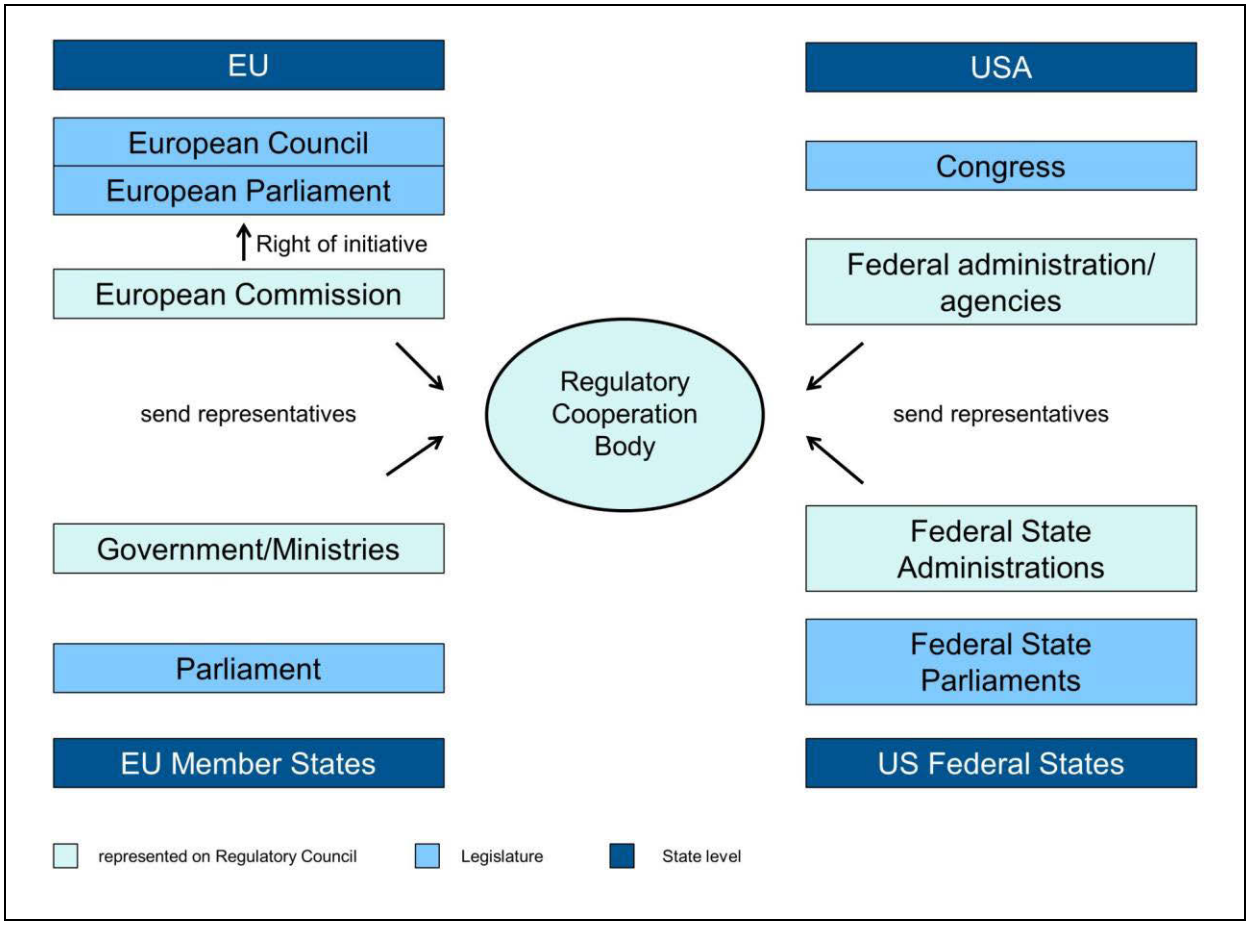
Special regulations apply in the field of sanitary and phytosanitary (SPS) measures. Art. 9 (1) of the EU draft of the SPS chapter in TTIP provides that the importing country is to recognise the exporting country's SPS measures as equivalent, if the latter furnishes "objective proof" that its measures provide equivalent protection. This requirement is not described in detail.

3.4 Possible environmental impacts of regulatory cooperation under TTIP

42. As far as can be currently seen, the proposed Regulatory Cooperation Body will not possess any powers to directly reduce the statutory level of protection in the environmental sector (or in the field of health and consumer protection), in other words to change existing law (see item 41). At present there are no indications that TTIP can change the existing legal decision mechanisms. Where EU or US law requires participation by the legislature, it can therefore be assumed that this will remain the case under TTIP. In addition to the text of the agreement, this is supported by the fact that neither the bodies envisaged in the future agreement nor the state institutions represented on them – the European Commission and US federal authorities – are authorised to make such changes on their own account (e.g. GERSTETTER et al. 2014, p. 28-31 for the cosmetics and chemicals sectors) (see also Fig. 3).

Figure 3

Regulatory cooperation



SRU/Statement no. 19/2016/Fig. 3

Basically, however, one problem of regulatory cooperation consists in the fact that in numerous areas of regulation where harmonisation is sought there are very considerable differences in regulatory philosophy between the EU and the USA (see section 3.6). Furthermore, the mandates of the institutions involved (US Agency, European Commission, member state representatives) differ very widely. In many cases it is not possible to see how these could be harmonised without giving up achievements in the field of environmental or consumer protection. Thus pressure to harmonise could result in a break with regulatory traditions (GODT 2014, p. 411).

Moreover, EU directives and regulations are subject to regular review processes and are also the subject of the Regulatory Fitness and Performance Programmes (REFIT) initiated by the Commission. These examine them with the aim of "reducing regulatory burdens and simplifying existing legislation" (European Commission 2015a). The possibility cannot be ruled out that in these processes the trade barriers cited by the trade partners will be discussed specifically and included in the evaluations on a priority basis.

There are also areas in which rules are established without direct participation by the legislature ("sub-statutory regulations"). In many areas the EU Commission already possesses extensive powers permitting it to implement current EU legislation without involving the Parliament (delegated legal acts or implementing legal acts). Furthermore, technical standards are already being developed – without participation by the legislature – at the level of standardisation organisations such as DIN, CEN or ISO with the aid of experts, especially from industry.

43. There is nevertheless the possibility that a party's protective standards may in fact be weakened and undermined, for example if, in the course of mutual recognition in individual industries or sectors, market access is granted for goods with product and process standards that differ from domestic standards (mutual recognition and conformity testing, see items 35 and 36)(GODT 2014, p. 411). Since the process of reaching a compromise on such recognition takes place in small groups of administrative experts, agreement is simplified by allowing both parties to formally retain their own standards, without having to conduct a specific discussion on their justification (STOLL and KRÜGER 2014, p. 11).

In certain sectors, therefore, mutual recognition should be subject to critical examination. Even if the work of the Regulatory Cooperation Body is to be conducted on a transparent and open basis, one cannot rule out the possibility of this not being pursued so rigorously in all subcommittees. Especially where experts are dealing with what are apparently purely technical issues such as verification of the comparability of non-statutory product requirements, there is a risk that such examination will be made with a technocratic approach. This could result in failure to address the socio-economic factors and cultural preferences underlying the regulation process. It must however be stressed that such assessments depend heavily on the industry in question and the specific content.

Mutual recognition may also create pressure on producers in the EU member states to reduce protective standards, because a higher level of protection could involve higher production costs, so that imported goods can be sold at lower prices than domestically produced goods. Then national producers could demand adjustments on the grounds of competition (DIELS and THORUN 2014, p. 16). For example, BUREAU et al. (2014, p. 49) point out that producers in the EU agricultural sector are worried about distortion of competition that could take place if customs duties were reduced, although the producers are confronted with stricter requirements (e.g. with regard to biotechnology, chemicals and environmental and animal welfare rules) than their competitors in the USA. This may result in demands for a "level playing field". This risk is seen in the EU, and is to be prevented by a specific rule in the negotiating mandate (COUNCIL OF THE EUROPEAN UNION 2013). The European Parliament has also specifically demanded that there should be no downward harmonisation (European Parliament 2014).

44. Such fears are supported by the ideas that parts of American industry have about mutual recognition under TTIP. Business Europe and the US chamber of commerce propose that regulators and stakeholders (in this case primarily industry) should be entitled to nominate whole sectors and legal acts in individual sectors. These should then be evaluated to determine whether they can be declared generally compatible (U.S. CHAMBER OF COMMERCE and BUSINESS EUROPE 2012, p. 3). On the other hand, the major German industrial associations take the view that it is necessary to investigate whether the regulations are comparable in each individual case (BDI 2015b).

Potential for delays

45. The most important influence that regulatory cooperation can have on protection standards relates to the influence of the cooperation mechanisms on *future* regulations. For example, regulatory cooperation could be used to question trade barriers arising from future legal acts. Although the EU negotiating draft on regulatory cooperation expressly lays down that the consultations are not to result in any delays in law-making processes, this is precisely what US and European environmental associations fear ("chilling effect" or "freezing effect"). The cooperation can make a party that is planning a new regulation feel under pressure to dispense with the regulation or at least to dispel the partner's reservations about the planned regulation (CIEL 2014; GERSTETTER 2014, p. 39). Very early discussion of planned legal acts – as envisaged in the draft – can then lead to preliminary negotiations with the trade partner which could exert pressure in the early stages of the political decision process (MEUWESE 2009). The US consumer protection agency (CPSC) and the Environmental Protection Agency (EPA) publicly stated in June 2014 that regulatory cooperation, especially when it involves the establishment of a regulatory cooperation body, can impede and delay the adoption of regulations designed to protect consumers (STAMOULIS 2014). In an unpublished study on TTIP, the UBA has also identified individual environmental sectors in which regulation has been delayed worldwide or in the USA by US industry (item 46).

Environmentally harmful refrigerants in car air conditioning systems

46. Fluorinated greenhouse gases have strongly adverse effects on the climate, and it is therefore necessary to reduce such emissions (UBA 2010a). Substitution of fluorinated greenhouse gases is therefore a central element of the EU's regulatory measures. These gases are primarily used as refrigerants. One of the first bans on fluorinated greenhouse gases was imposed by the EU in 2006 for refrigerants in car air conditioning systems. Since 2003 Europe has given priority to developing systems that use CO_2 as their refrigerant. CO_2 is non-combustible, inexpensive and available worldwide – by contrast with the new fluorinated substitute product from US chemicals companies.

Unlike Europe, the USA requires a separate authorisation for refrigerants. In 2003 the US Environmental Protection Agency (EPA) promised the European Commission the speedy approval of CO_2 as a refrigerant for car systems, but did not publish this until mid-2012. In March 2011, after only three years and before the approval of CO_2, the EPA granted approval for the fluorinated combustible US refrigerant subject to fairly moderate requirements.

The approval of CO_2 as a refrigerant for car air conditioning systems was delayed by the EPA for nearly a decade, thereby protecting economic interests of US companies. The European producers considered it would not be economic to introduce the innovative CO_2 technology in cars as long as this was not permitted in the USA, as an

important lead market for cars. For many years the unclear US requirements for the use of CO_2 constituted a considerable development risk. The rules introduced in 2012 now lay down unnecessarily strict limit values for the use of CO_2. Compliance with these rules involves increased technical input, which further raises the cost of CO_2 air conditioning systems. Their introduction in series production of cars has yet to take place – in favour of a combustible US product which is the subject of massive safety concerns (UBA 2010b; 2014; 2015a). Daimler has now announced its intention to introduce CO_2 air conditioning systems in its deluxe segment (press release of 20 October 2015, Safe compliance with climate objectives: Mercedes-Benz to equip first car models with CO_2 air conditioning systems). This example illustrates the massive environmental impacts that can result from delays in regulation.

Experience in connection with the adoption of the European REACH regulation shows that the fears about delays in regulation are indeed justified. The US government – to some extent using the text of the US chemical industry's requirements – had exerted massive pressure against the adoption of the regulation (detailed description in: WAXMAN 2004; see also TRANS ATLANTIC CONSUMER DIALOG 2004; MEUWESE 2009). Since then there has been no let-up in the pressure on the EU to modify REACH, as shown by the report on technical barriers to trade by the US trade representative (USTR) in 2014, which states that the USA has raised objections to REACH at every meeting of the WTO's TBT committee since 2003 (USTR 2014, p. 70)

Impact assessment

47. Similar fears are associated with the prominent role assigned to impact assessment in the European Commission's proposal for the regulatory chapter. Impact assessment is intended to address the impacts on trade and investment in particular, and to take account of the regulatory approach of the party to the agreement. The influence of a future illegal act on international trade and transboundary investments – and also on the environment – is already an issue covered by the EU Impact Assessment Guidelines. These examine whether the proposed legislation strengthens or weakens differences in the legal framework between EU companies and competitors in non-EU countries (European Commission 2009, p. 38).

According to the EU draft, trade interests are to be taken into account in the drafting of every legal act. They may also be the subject of discussions with the trade partner. This may lead to increased pressure to justify future and stricter standards (KRAJEWSKI 2014a, p. 5), especially from the point of view of cost-benefit considerations that already play an important role in the USA (item 58 and THE WHITE HOUSE - OFFICE OF MANAGEMENT AND BUDGET 2011).

In December 2015 the European Court of Justice pronounced a judgement in the case of Sweden versus the European Commission on failure to pass a delegated legal act that was intended to implement regulation (EU) No. 528/2012 on biocidal products. The court drew attention to the fact that the regulation on biocidal products did not provide for an impact assessment, and that the Commission could therefore not justify the belated implementation of the regulation on the grounds that an impact assessment was required. From this it can be concluded that the impact assessment is not an end in itself that can justify adopting or not adopting a legal act.

48. Research has shown that in terms of content, impact assessment is a very open instrument whose function and results depend heavily on the individual context (methods, analytical process, political priorities etc.) (RADAELLI 2005; HERTIN et al. 2009). A strong focus on quantitative assessments – especially cost-benefit analysis and compliance input – tends to result in short-term costs acquiring greater importance than long-term environmental aspects that are not readily quantifiable (HERTIN et al. 2009). To this extent there is a risk of distortion, which would result in failure to achieve the objective of extensive rationalisation of the discussion through impact assessment. This could lead to a "discursive shift in favor of economic and trade interests" (GERSTETTER 2014, p. 35).

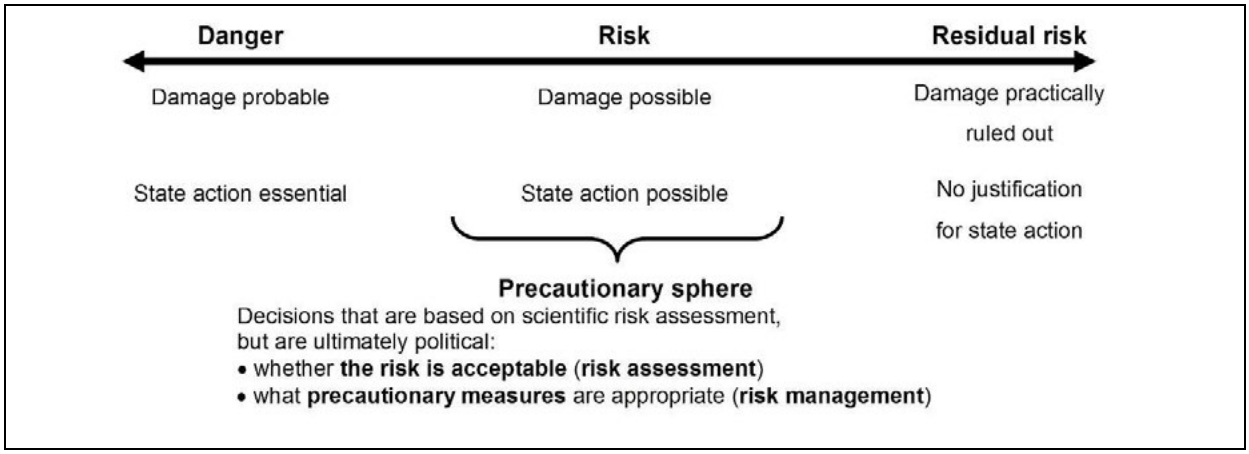
3.5 Risk assessment in trade law

49. Regulations also serve the purpose of avoiding hazards and risks to consumers and the environment. Where these protected assets are concerned, the criteria used for risk assessment and the methods of dealing with scientific uncertainties are crucially important in regulatory cooperation.

50. European environmental legislation is characterised by the precautionary principle, which legitimates state action to avert environmental risks even in the face of uncertain findings (Art. 191(2)(2) Treaty on the Functioning of the European Union (TFEU)). This enables the state to provide for protective measures and restrictions, even if there is (as yet) no scientific evidence of the adverse environmental effects, but where there is reason for abstract concern on the basis of a provisional and objective scientific risk assessment (CALLIESS in: CALLIESS and RUFFERT 2011, Art. 191 TFEU). In other words, the precautionary principle allows the state, for precautionary reasons, to do more than is required by proven risks at a particular point in time (Fig. 4). When applying the precautionary principle it is necessary to weigh up aspects of preventive environmental action against other concerns such as economic appropriateness. The measures taken must also be proportionate and non-discriminatory (European Commission 2000).

Figure 4

Determination of need for action and precautionary measures



Source: SRU/Special Report/2011-2/Fig. 5-1

The science-based approach, which works on the basis of evidence, is regarded as a counter-model to the precautionary principle (e.g. SUNSTEIN 2005; MARCHANT 2001). This widely used international term must not be misunderstood to mean that this model stands for a scientific approach, whereas the precautionary principle has a non-scientific character. It is rather the case that application of the precautionary principle requires that "on the basis of an objective scientific assessment there is justifiable cause for concern that the potential risks for the environment and the health of humans and animals or plants might not be acceptable or might be incompatible with the high level of protection in the Community" (European Commission 2000). The difference between the two models consists in the way they deal with gaps in knowledge and in their requirements regarding evidence of an environmental risk. The science-based approach tends to leave less scope than the precautionary principle for regulatory decisions oriented to environmental protection, in cases where an environmental risk is not scientifically proven or not proven with sufficient certainty.

51. The precautionary principle has not acquired any great significance in world trade law. This is due first of all to the fact that trade agreements are naturally concerned with promoting international trade and not with protecting the environment and other public interests. From the point of view of world trade law, such concerns are merely regarded as a means of justifying exceptions. Whether the precautionary principle is taken into account depends on the extent to which such exceptional situations make it possible to take precautionary protective measures, even if they restrict trade. Neither has the precautionary principle been mentioned to date in the European Commission's drafts for TTIP.

52. However, it is not possible – at least in international trade law – to discern any common interpretation of either the precautionary principle or the science-based approach (WEISS 2003). In WTO law the individual agreements of the WTO set different frameworks. Among other things, GATT contains exceptions for measures designed to manage exhaustible natural resources and to protect the life and health of humans, animals and plants and public morals (Art. XX a), b) and g)). These possible exceptions are formulated in relatively open form compared with the other GATT agreements (ZANDER 2010), but assessed differently in arbitration proceedings (cf. the facets of the Tuna/Dolphin-Falls case between Mexico and the USA: WTO 2015a).

53. By contrast, there are more closely defined rules in the TBT agreement, which is to be referenced as a direct part of the TTIP agreement (cf. Art. 2 of the Commission's proposed text for the TBT chapter, European Commission 2015j). According to the TBT convention, technical rules must not restrict trade more than is necessary to achieve the legitimate objective while taking account of the risks that could arise from non-fulfilment (proportionality principle). Protection of the health or safety of humans, or of the life or health of animals, plants or the environment are mentioned as legitimate objectives. However, the technical rules are to be "based, among other things, on available scientific and technical information" (Art. 2.2 TBT agreement). This formulation is relevant to application of the precautionary principle because the latter, on a European interpretation, is also intended to legitimate measures in cases where it is not (yet) possible to adduce scientific evidence of a risk, but where there are justified indications of the existence of a risk. By contrast, the wording of Art. 2.2 of the TBT agreement is more stringent, even if the rule can be generally held to offer scope for precautionary measures (ZANDER 2010).

54. By contrast, much more restrictive rules are found in the SPS agreement, which regulates the admissibility of measures in the field of agricultural goods and food and therefore directly affects environmental, health and consumer protection. According to a reference in Art. 3 of the Commission's

draft text for the SPS chapter, the SPS agreement is to be "confirmed" in TTIP (European Commission 2015i). This is presumably to be interpreted as meaning that the rules of the SPS agreement are to be authoritative for TTIP. According to the SPS agreement, trade restricting measures are to be based primarily on the existing international standards, rules and recommendations, for example the work of the Codex Alimentarius Commission of FAO/WHO and the World Organisation for Animal Health. Where these bodies have not made any specific recommendations, measures under Art. 2 (2) and Art. 5 (1-3) of the SPS agreement must be based on a scientific foundation. If the scientific findings are still not sufficient, Art. 5.7 of the SPS agreement merely permits the taking of temporary measures. The rules in the SPS convention could therefore be described as the weakest version of the precautionary idea.

The requirements of the SPS agreement have in the past led to conflicts between the EU on the one hand and Canada or the USA on the other which were concerned with the application of the precautionary principle. In the case of hormone fattening of calves, the relevant EU bans in relation to some of the hormonal substances in question were regarded as unjustified, because the panel was of the opinion that they could not be sufficiently substantiated by scientific findings (cf. Box labelled hormone meat case). The EU decided not to opt for justifying the requirements as provisional measures under the SPS convention and attempted instead – albeit unsuccessfully – to justify its measures in terms of an international precautionary principle (WTO 2009). The precautionary principle also played a role in the WTO decision on the European genetic engineering regulation. The EU failed in its attempt to invoke the precautionary provision of the Cartagena Protocol on biological safety (WTO 2008), in order to take steps going beyond the temporarily permitted measures of Art. 5.7 of the SPS agreement.

Art. 2 of the Commission's proposed text for the SPS Chapter in TTIP states that the parties' regulatory systems including risk assessment and risk management are to be "respected" (Art. 2 (1) SPS chapter). It is however unclear how such a general provision is to provide an effective counter-weight to the special risk assessment provisions under the model of the WTO SPS agreement.

55. The concept of precautions is not mentioned either in the Commission's draft of the chapter on regulatory cooperation. This merely states that the parties will pursue a high level of protection for the environment, health, safety and for animals and plants (Art. 1 (1) a.). Moreover, a note to Art. 1 states that the rules of the regulatory chapter are not to be interpreted or applied in a way that would oblige a party to modify its fundamental regulatory principles, and here it specifically mentions risk assessment and risk management (Footnote 2 to Art. 1 of the draft). At the same time the (European) draft displays a more science-based approach in many places. For example, it makes reference to the OECD recommendations on regulatory policy (Recommendation of the Council on Regulatory Policy and Governance in Art. 1 (4) regulatory chapter). This places the focus very strongly on the effectiveness of regulatory measures, cost-benefit assessments and risk assessments (cf. Recommendations 1, 4, 5 and 9 in OECD 2012). In the context of rule assessment under Art. 7 of the regulatory chapter, the main focus for the required legal impact assessment is on the impacts on trade and investment and the exchange of information on evidence and data. Information is also to be exchanged on methods and economic assumptions in the analysis of regulatory policy (Art. 7 (3) b). However, the Commission's statement that the precautionary principle is not affected by the regulatory chapter is not supported by the text of the EU proposal (European Commission 2015d).

56. The EU Commission's revised proposal for the sustainability chapter, introduced into the negotiations in November 2015, uses the term "precautionary approaches" as equivalent to the risk-based approach in the context of occupational safety (Art. 4 (2) a): […] and promotion of a preventative safety and health culture and the adoption of risk-based and precautionary approaches") (European Commission 2015f). Similarly, the terms are used side-by-side in the draft text of Art. 18 on transparency and public participation ("take account of relevant scientific and technical information and international standards, guidelines or recommendations if they exist, including on risk management and precautionary approaches"). This is evidently intended to avoid a situation where one approach takes priority over the other.

3.6 Excursus: The precautionary principle in US law

57. Although TTIP does not by any means result in the norms of US law being directly and generally applicable or required to be recognised in the EU, the allegedly lower "US Standards" play a central role in the public debate. However, the legal position is in fact less clear than the frequently simplified descriptions of the situation suggest. Unlike the law of the European Union (item 50), US law does not have any overriding precautionary principle in the field of environmental legislation. The lack of such a principle may be due to the fact that the USA has a very strict law of damages with very high penalties, which means one can expect that in their own interests, companies will not place any risky products on the market (RENN and ELLIOTT 2011). Moreover, US law generally has fewer overriding legal principles than European law. For this reason a contractual precautionary principle could be interpreted differently in the USA than in Europe, in other words as written and strictly applicable law, whereas in Europe it tends to have the character of an objective that must be weighed against other aspects (WIENER and ROGERS 2002).

58. Even if the precautionary principle is not codified, the value judgements it embodies are nevertheless taken into account in legislation in the USA. In fact the opinion is frequently found in the literature that the precautionary approach first arose in the USA in the 1970s, where it was applied even more ambitiously than in Europe into the 1980s (LÖFSTEDT 2003; ASHFORD 2007; VOGEL 2012). Subsequently, however, court practice and the changed political environment considerably restricted the scope for precautionary considerations. Whereas up to that time requirements for assessing a potential environmental risk had often been non-existent or unclear, the risk assessment process was now formalised and systematised by means of detailed sets of rules (ZANDER 2010). This applies not only to scientific risk assessment but also to risk management and cost benefit analyses. These procedural requirements are of great importance in regulatory decisions in the USA. Many observers consider it an advantage that the formalised assessment procedures make the decision process more efficient and predictable and permit uniform application of the law (ZANDER 2010; MARCHANT 2001). However, there are objections to the instrument of cost benefit analysis in particular on the grounds that it leads to distorted assessments and hence to unreliable results (ASHFORD 2007, p. 41; SATERSON 2011; SADELEER 2007). The monetary quantification and the positive and negative effects of a possible regulatory decision, especially on potential environmental damage of which the nature and extent are still unknown and which frequently takes effect over a long period, depends on a large number of assumptions and parameters. Critics like ASHFORD see a risk that the long-term benefits of an intact environment may not be given suitable weight and may be "set off" against the expected economic gains (ASHFORD 2007).

59. On balance, the literature takes the view that the US approach is more like the science-based approach that predominates in world trade law (e.g. SUNSTEIN 2005; MARCHANT 2001)). A striking example of this regulatory philosophy is found in US chemicals law, and especially in the way it deals with chemicals already on the market (i.e. not newly developed by the companies). Under the Toxic Substances Control Act (TSCA), the US environmental agency has the burden of proof that such chemicals present a risk to human health or the environment and that a specific chemical therefore has to be prohibited. In practice this procedural requirement, which tends to be interpreted strictly by court practice (RENN and ELLIOTT 2011), also constitutes a very high barrier because the environmental agency frequently does not have the necessary data for scientific evidence and cannot readily require companies to collect the relevant data. For this reason the TSCA is largely criticised in the literature as being insufficient (U.S. GOVERNMENT ACCOUNTABILITY OFFICE 2007; KASS 2014; RENN and ELLIOTT 2011). By contrast, the EU chemicals regulation REACH, which is based on the precautionary principle, basically requires the manufacturer or the importing company to prove the substance is safe so that it can be put on the market. To a much greater extent than under the TSCA, companies are required to collect the necessary data and if necessary to supplement them (U.S. GOVERNMENT ACCOUNTABILITY OFFICE 2007).

60. However, the literature has varying views on whether this different significance of the precautionary approach has the general consequence that less stringent environmental protection provisions apply in the USA than in Europe. In fact, some take the view that precautions and risk minimisation are of greater importance in the EU today than in the USA (VOGEL 2012; ASHFORD 2007; LÖFSTEDT 2003). Examples include the different treatment of genetically modified plants (CANTLEY and LEX 2011), the partial lack of testing of food additives in the USA (MAGNUSON et al. 2013) or the restrictive approval in Europe of performance-improving hormones in livestock farming (GRAY et al. 2011) (see example in item 27).

Other authors dispute the idea that the precautionary approach is generally applied more strictly in the EU than in the USA (ZANDER 2010; WIENER 2011, who however uses a very broad interpretation of the precautionary concept and includes anti-terrorism and anti-smoking legislation). There can also be no doubt that the EU does not apply the precautionary principle to all environmental risks with the same coherence (very critical, LÖFSTEDT 2014; "arbitrary application": ZANDER 2010, p. 146-148). According to this view, different regulatory decisions are primarily induced by the situation and are to a lesser extent consequences of different legal systems. Above all, the decisive factors are said to be the economic impacts of a decision, the availability of alternatives, and social sensitivities. For example, FREESTONE describes how the USA has pursued the precautionary approach in international fisheries agreements much more ambitiously than the EU, which has taken into consideration the interests of its fishing fleet and the economic importance of maritime fisheries (FREESTONE 2011). As an example of how different social perceptions of risks are reflected in different protective standards, WALSH (2011) cites the regulation of automobile exhaust emissions. For example, public attention in the USA was focused earlier than in Europe on the health risks of road traffic emissions (lead, carbon monoxide, hydrocarbons, oxides of nitrogen and particulates). To combat these, stricter emission limits were introduced there than in the EU, and in some cases these still apply today. Conversely, from the 1990s onwards the European public and the EU focused greater attention on the threat of climate change, which resulted in much stricter technical standards for vehicle CO_2 emissions than in the USA (WALSH 2011).

61. On balance, therefore, it is not possible to say that the USA does not take any precautionary

considerations into account in risk regulation or that the EU imposes generally stricter environmental standards. In some regulatory areas, however, one side does in fact take a more precautionary approach than the other. On both sides of the Atlantic it is possible that even scientifically identified risks are not addressed by regulations.

3.7 Sustainability chapter

62. Most free-trade agreements negotiated in the last 20 years include a sustainability or environmental protection chapter. This is true of the US free-trade agreements since the side agreement to the North American Free Trade Agreement (NAFTA). The EU first included such a chapter in the agreement with Tunisia which entered into force in 1995 (superseded by the Euro-Mediterranean Partnership Agreement with Tunisia).

On 6 November 2015 the European Commission published a proposed text for the planned sustainability chapter (European Commission 2015f), which was the subject of the round of negotiations with the USA in October 2015. This sets out the EU's ideas on the structure of the chapter and the main points it wants the chapter to include. October saw the presentation of the new trade strategy (European Commission 2015k), which makes reference to the 2030 Agenda for Sustainable Development (United Nations - General Assembly 2015).

The sustainability chapter is primarily concerned with occupational safety and environmental protection. The chapter begins with references to overriding principles. Art. 2 of the EU draft explains the objectives of the sustainability chapter. These are far-reaching and include:

- Strengthening the positive contribution of the sustainability chapter to TTIP,
- Confirming the parties' occupational safety and environmental protection objectives in the context of more liberalised, more open and transparent trade and investment relations,
- Formulating and implementing policies that contribute to achieving the sustainable development goals adopted by the UN in October 2015,
- Fostering dialogue and cooperation between the parties with regard to environmental protection and occupational safety issues that are relevant to trade and investment protection – in relation to third countries as well.

Art. 3 stresses the parties' right to determine and pursue their own sustainability objectives. The parties' right to regulate the level of their environmental protection and occupational safety is not to be restricted by TTIP, but is to be exercised in coordination with the relevant international occupational safety and environmental protection agreements.

The precautionary approach is mentioned in two places in the text, but not explicitly in connection with environmental protection. There is no mention of a precautionary *principle*. Art. 10 of the EU proposal for the sustainability chapter emphasises the importance of multilateral environmental agreements. Moreover, the parties are to undertake to ensure effective implementation of their national environmental protection provisions. The draft places a focus on multilateral environmental agreements (Art. 10 of the draft). Art. 11 relates to biological diversity, Art. 12 to CITES and Art. 13 to sustainable timber production. Separate articles are also devoted to sustainable fisheries policy and to chemicals and waste. Art. 16 is generally concerned with the interaction of environment and trade. Art. 20 underlines the importance of Corporate Social Responsibility (CSR). Unlike the previous draft, it no longer mentions climate change or the Montreal Protocol and renewable energy. Neither does the EU draft of the sustainability chapter address the specific critical issues of the relationship between global trade and environmental protection or the admissibility of trade restrictions for non-certified tropical timber or the inclusion of air traffic in emissions trading.

It is an open question whether bilateral exchange of information on sustainability issues will form an integral part of regulatory cooperation, because the EU does not want this to be subject to the "regular" mechanisms for inter-governmental dispute resolution and there are no explicit rules for its integration in regulatory cooperation. At present, the EU draft of the sustainability chapter does not contain any explicit rules for state-to-state dispute settlement (European Commission 2015f). The USA and the EU traditionally pursue different approaches to implementing sustainability chapters. Whereas the USA takes an approach based on sanctions, the EU relies on an independent procedure which constitutes a separate arbitration mechanism. One argument in favour of this procedure is the fact that it is capable of specifically taking up qualitative issues relating to the implementation of occupational safety and environmental protection provisions. The EU believes that a dialogue – backed up by an ad hoc arbitration mechanism and linked with public review – is more likely to achieve progress on social and environmental issues. The USA, by contrast, takes the view that these obligations should also be backed up by sanctions. One argument against this is the fact that the draft of the sustainability chapter contains hardly any provisions that might form the basis for legal action. An argument in favour, on the other hand, is the fact that this is the only way of implementing the dovetailing of environmental protection and labour provisions with the trade and occupational safety principles that are set out in Art. 2 and 3.

3.8 Principle of democracy

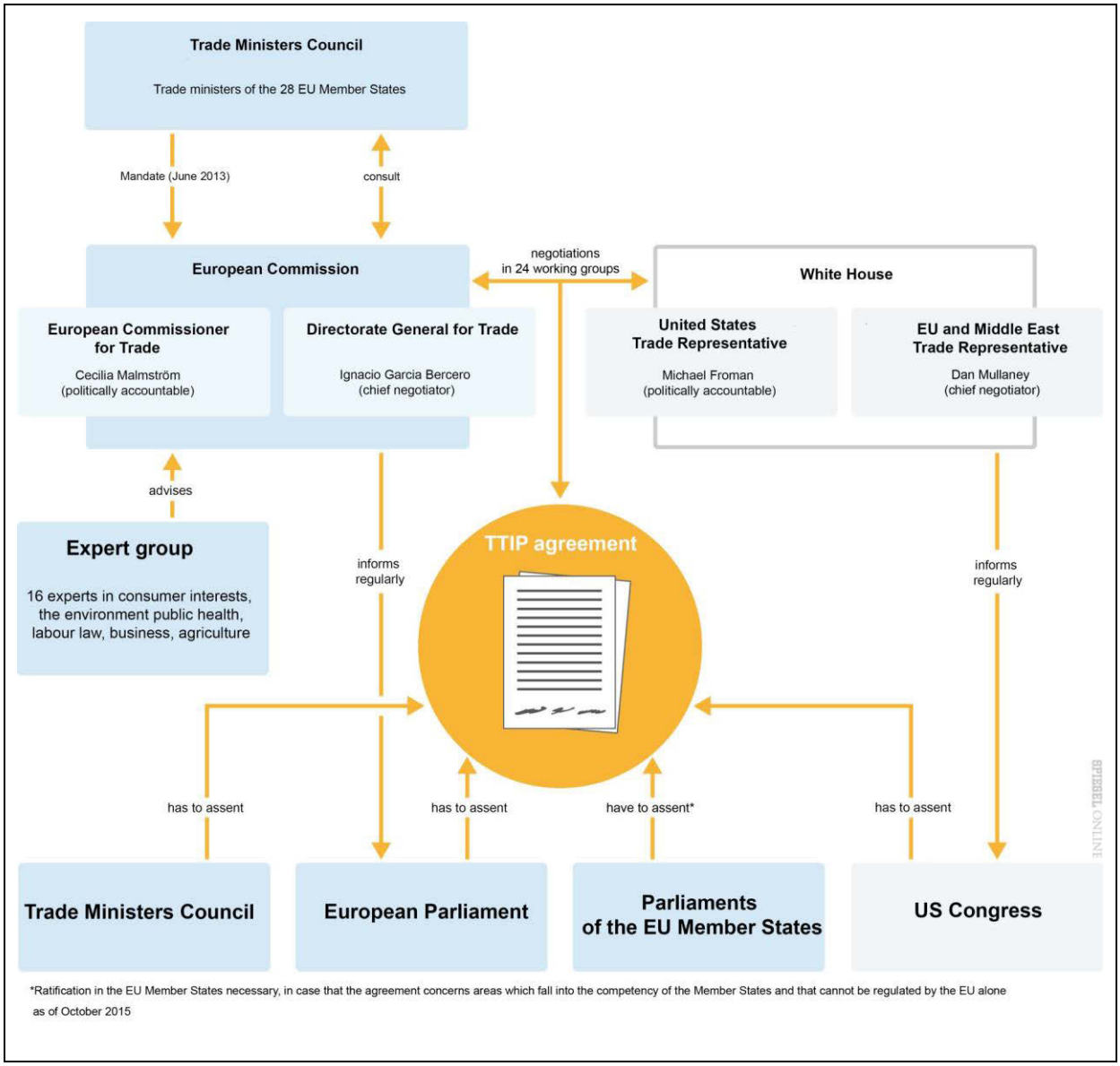
63. Today the majority opinion is that TTIP will be a "mixed agreement" (Deutscher Bundestag 2014a,

p. 8; DE GUCHT 2014; TREIER and WERNICKE 2015; RATHKE 2014; similarly for CETA: MAYER 2014; FISCHER-LESCANO and HORST 2014; but see HOFFMEISTER 2015, p. 54 ff.; for TTIP see also STOLL et al. 2016). This means that the agreement also concerns subject matter for which the EU has no competence or no exclusive competence (cf. investigation for CETA in MAYER 2014). To this extent, TTIP would interfere with the competence of the member states (MAYER and ERMES 2014). For this reason, the entry into force of TTIP will probably require that not only the European Parliament, but also nearly all national parliaments of the member states (excluding Malta) ratify the agreement where this is required by their national constitutions (see Fig. 5).

An issue that needs to separate consideration is how the future regulatory cooperation *after completion* of the ratification process fits into the institutional structure of the EU, and whether and when there is a need for liaison with the European Parliament as the democratically elected representation of the people. It is also unclear how the member states can be suitably involved in the case of issues that fall within their competence. These questions are *not* the subject of the TTIP agreement itself, because they relate to the process of consensus building within the EU.

Figure 5

Institutions involved in the creation of TTIP



Source: Spiegel online 2015

Democratic legitimation at the EU level

64. The principle of democracy does not rule out from the start the possibility of delegating decision-making powers to international bodies in the context of international cooperation. Neither is it unusual for the body mandated to take external action to be given a certain latitude in the further application of the final agreement in the interests of an effective foreign policy (CALLIESS 2006, margin note 48).

For example, EU law does not provide for any involvement of the European Parliament for external action in international-law bodies following conclusion of the individual agreement, with the exception of information requirements (cf. Art. 218 (9) and (10) TFEU). In fact, it is the Council of Ministers alone (consisting of representatives of the governments of the member states) that lays down the positions and the voting behaviour of the EU in the international-law bodies.

However, there are two aspects of the planned agreement that must be viewed in a critical light: firstly, the democratic consensus-building process in its creation, and secondly the possibilities of further development that are laid down in the agreement.

Admittedly the European Parliament has to give its approval in the process of ratifying TTIP, as do nearly all national parliaments because it is a mixed agreement. But the parliaments can only approve or reject the agreement as a whole (cf. CALLIESS 2006, margin note 30). In view of this, there is a democracy problem in the fact that the parliaments only have extremely restricted access to information about the course of the negotiations on the agreement (LÜBBE-WOLFF 2016). This applies in particular to the negotiating positions of the US government. In the meantime the Commission is now publishing its own negotiating goals and text proposals. Apart from this, however, negotiating documents are only made available to the parliaments under restrictive conditions which rule out a detailed and comprehensive assessment and only with the proviso that they are to be treated in confidence. As a result they cannot be made the subject of public discussion. Parliaments and the public have no opportunity to gain a timely and comprehensive picture of the complexities of the extremely extensive agreement and hence to arrive at a reasonably reliable assessment of the risks involved. This lack of transparency is claimed to be "incompatible with democracy" (LÜBBE-WOLFF 2016).

The limited involvement of the European Parliament is also to be seen in a critical light because TTIP is designed as a *living agreement* and can as such be extended by further decisions. It is therefore doubtful whether a single vote in the European Parliament can represent a sufficiently democratic legitimation. This depends on the design of future regulatory cooperation and the specific subject matter of the relevant regulations, and also the scope of the decisions (for a detailed treatment, cf. STOLL et al. 2016). Basically there are no plans for the TTIP agreement to modify the legislation procedures, especially the requirements it contains for participation and approval by the European Parliament. The situation would only be different if the bodies provided for in TTIP took decisions on regulatory issues which were binding on the parties. The same applies to conceivable powers to amend annexes, appendices, protocols and explanatory notes to the agreement.

3.9 Participation and civil society

65. The European Commission envisages that non-governmental actors should also be involved in the regulatory cooperation process. Art. 15 of the regulatory chapter sets out rules for the participation of stakeholders in the work of the Regulatory Cooperation Body. It provides that stakeholders shall have the opportunity to take part in a meeting at least once a year. To date the drafts merely envisage that the briefly mentioned "Civil Society Contact Group" is to be involved in preparing these meetings. This is to ensure balanced participation of representatives of industry, consumers, the health sector, trade unions, environmental associations and other public stakeholders. The Commission's position paper on the chapter on trade and sustainable development also includes some very general statements on the involvement of civil society. Stakeholders are to have the opportunity to make contributions to the Regulatory Cooperation Body and in the relevant sectoral working groups. The parties must address any concrete proposals in writing and make the answers public.

66. A positive aspect by comparison with CETA is the fact that the participation of civil society is not confined to the sustainability chapter, but is a central aspect of regulatory cooperation. However, meeting once a year cannot be sufficient to ensure continuous involvement of public interests. It must also be noted that formal equal representation of stakeholders can also result in unequal representation of interests, for example if the industry representatives possess considerably more resources for preparing and supporting their proposals and concerns. Effective participation of public interests presupposes that the representatives of these interests have the capacity necessary to familiarise themselves with the sector specific issues and maintain an overview of the bodies and processes. Otherwise the problem of a potential "overweight" of resource-rich lobby groups, which is already relevant at EU level, could also become established in the further development of participation models in free-trade agreements (GÖTT 2015).

67. The regulatory chapter also relates to the participation of non-governmental actors in the legislative activities of the parties that is in any case envisaged in the EU and the USA. Art. 6 of the regulatory chapter provides that any interested natural or juridical person (i.e. including one of the parties) must have the opportunity to express its views on planned regulations during the consultation process.

Such views are to be taken into account by the parties. A footnote explains that this does not mean that proposals have to be implemented. Where possible, electronic means of communication are to be used for the participation process. As far as the basic approach is concerned, the proposed involvement must be regarded in a positive light, especially the requirement that replies to stakeholders' submissions are to be made in writing.

3.10 Summary

68. By means of regulatory cooperation, TTIP is to increase the depth of cooperation between the EU and the USA on regulatory issues. Whereas the advocates of TTIP hope that this will bring considerable economic benefits, critics of the agreement do not expect the economic benefits to be very great. While studies come to the conclusion that greater transatlantic trade can on the whole be expected to yield moderate positive welfare effects, the study findings depend heavily on the choice of models and basic assumptions. Since it is not clear what depth of liberalisation can be achieved in the various sectors, the scale of the effects is highly uncertain. There has not yet been any adequate investigation of distribution effects. There are indications that bilateral liberalisation would result in both winners and losers, not only in the USA and the EU but also in third countries.

The extent to which TTIP will in fact result in harmonisation of regulations is still an open question. There are differences in the stringency of regulation of sectors of environmental relevance (e.g. food, chemicals and cosmetics) in the USA and the EU. As a result, adverse environmental impacts can only be avoided if harmonisation takes place at a high level. This is true in particular where it is proposed in future to introduce new laws or measures to protect the environment which run contrary to individual economic interests. Substatutory regulations and private sector standardisation such as ISO standards may also be of considerable environmental relevance. The example of manipulated vehicle emissions of nitrogen oxides shows how important even the apparently technical issue of effective verification of exhaust emissions can be for environmental protection.

Also relevant from an environmental point of view are the criteria used to assess risks and deal with scientific uncertainties. The precautionary principle embodied in German and European law is not found in this form either in US or international trade law, where precautionary measures are only permitted to a limited extent. The precautionary principle should therefore be expressly embodied in TTIP.

The planned sustainability chapter ignores important areas such as climate change mitigation. Furthermore, in the opinion of the European Commission the provisions of this chapter should not – like the rest of the agreement – be subject to state-to-state arbitration, which would make their legal enforcement impossible. Since it is assumed that TTIP will be a "mixed agreement", it will have to be ratified not only by the European Parliament but also by the great majority of national parliaments. However, the parliaments and the public have no opportunity to gain a comprehensive and timely picture of the complexities of the extremely extensive agreement and hence arrive at a reasonably reliable assessment of the risks involved. This lack of transparency is a democratic deficit.

4 Investment protection and settlement of investor-state disputes

69. The controversial aspects of the TTIP agreement include the planned regulations on investment protection and investor-state dispute settlement (ISDS). Whereas regulatory cooperation is concerned with making regulations more compatible, the objection to investor-state dispute settlement is that, even if no harmonisation takes place, investors could take legal action if their investments were adversely affected by a state regulation. From an environmental point of view, investment protection is therefore criticised on the grounds that it could result in environmental regulation being sanctioned by high compensation payments or not even passed in the first place ("regulatory chill"). In exceptional cases, decisions serving the interests of environmental protection could even be rescinded (e.g. in the course of a compromise settlement, see item 82). In summer 2014 the European Commission, in view of public criticism, initially held a public consultation on investment protection in TTIP (European Commission 2015c). In the mid-September 2015 it decided to "break new ground" and presented a proposal for the establishment of a TTIP investment court (European Commission 2015b, referred to below as: Commission draft). The proposal, which was initially discussed within the EU, relates both to the material rules for investment protection and also to the procedure (the bans on discrimination are contained in a separate document).

Function of investment protection

70. It is not new for agreements under international law to be made with the aim of protecting foreign investments, in order to ensure a stable investment environment and thereby attract foreign investment. The first agreement of this kind was concluded in 1959 between Germany and Pakistan. In the course of increasing economic globalisation the number of bilateral investment protection agreements has since grown considerably (ELKINS et al. 2006, p. 843). With the exception of Ireland, all EU states have made such agreements – to date the total is more than 1,300 (European Commission 2014b, p. 10), including 129 for Germany alone (BMWi 2014). However, the classic case is that of investment protection agreements between capital-exporting industrial countries and capital-importing developing countries. Accordingly, the USA has only signed agreements with the East European states in the EU. Germany has made 14 investment promotion and protection agreements with other member states of the EU ("Intra-EU-BITs").

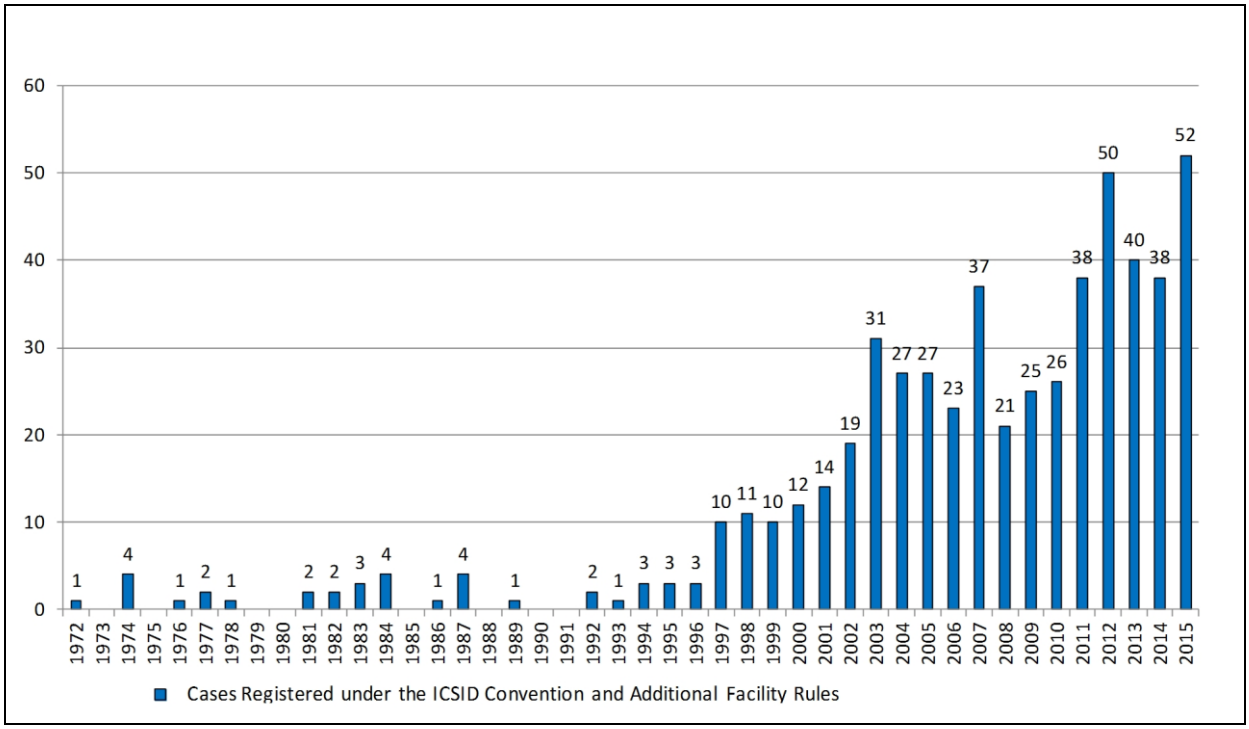
In the whole of the EU there are 190 such investment protection agreements between member states (TIETJE 2011, p. 6). Today the European Commission takes the view that the member states should not sign investment protection agreements with each other and that the existing agreements should be cancelled. It has also expressed this view in its accession as *Amicus Curiae* to the Vattenfall I case ARB 12/12. (Deutscher Bundestag 2014b, p. 1). This aspect cannot be explored in greater detail here, however.

71. Investor-state dispute settlement offers an additional, private-sector litigation facility in addition to classic arbitration between the (state) parties of the kind practised in the WTO. The foreign investor has the possibility of appealing to an arbitration tribunal if it believes that the host country has violated the material protection standards set out in the investment protection agreement. This offers the investor a legal protection mechanism – (as a rule) in addition to the relevant national law – which gives it a privileged position in relation to domestic investors (KRAJEWSKI 2015b, p. 1). This is unusual in international law, where private individuals generally have no opportunity to take legal action against states (with the exception of actions for compliance with human rights, e.g. individual action under Art. 34 ECHR before the European Court of Human Rights). In the case of violations by foreign states, private individuals usually have to rely on the litigation facilities under local law or on diplomatic protection by their home country. Investor-state dispute settlement was originally created to depoliticise investment disputes and provide the investor with an independent and neutral forum in a process over which the parties have considerable control through the nomination of arbitrators (UNCTAD 2013b, p. 2). Whereas in the past the focus was more on the protection against arbitrary expropriation of investors, today an increasing number of cases are concerned with changes in the legal framework.

72. As a rule the investor can only sue for damages, unlike proceedings before national courts. The investor cannot however demand cancellation of the state measure at issue. To date, the arbitration proceedings have been decided by ad-hoc arbitration tribunals, to which three legal experts are appointed. These decide in the first and final instance, because there is no appellate body in these proceedings. The number of investor-state settlement proceedings has increased sharply in recent years, and it is only in the last 15 years that it has acquired considerable importance (ICSID 2014; see Fig. 6)

Figure 6

Absolute number of actions registered by ICSID, by years



Source: ICSID 2016

Positions on investment protection

73. The advocates of investment protection in TTIP take the view that a free-trade agreement without an effective dispute settlement mechanism is worthless, especially in relation to investment protection, because otherwise the material rules cannot be enforced in practice (BDI 2014a; GRIEBEL 2014; arguments for and against: ZHAN 2015). This is particularly true because the provisions of the agreement (as international law) are not directly applicable in every country. Advocates point out that the arbitration process can only be as

good as the provisions of the agreement, i.e. the material law that is to be applied (GRIEBEL 2014). It is therefore of paramount importance to formulate the generalised investment protection provisions more precisely, to avoid the problem of very wide scope for interpretation.

Another argument advanced in favour of investment protection is that even rule-of-law systems such as that in the USA would not be immune to discrimination of investors (MALMSTRÖM 2015; KUIJPER 2014). The opportunity to take legal action is claimed to safeguard small and medium enterprises in Europe, especially since it is already mainly European companies that have gone to court (VCI 2014).

74. Nevertheless, even advocates of investment protection regulations emphasise the weaknesses of the existing system. In their opinion, it is precisely for this reason that a modern investment protection regulation in TTIP offers an opportunity to reform the international investor-state arbitration clauses (GRIEBEL 2014; VOß 2014) and is thus capable of establishing better standards worldwide (BUNGENBERG 2012; HOFFMEISTER). Concrete proposals for this have been presented by the BDI and the DIHK (BDI 2014a; HINDELANG and WERNICKE 2015). From a strategic point of view, it should be borne in mind that in negotiations on investment protection agreements with states not based on the rule of law (e.g. China) it will in future not be credible to insist on the necessary ISDS if there is no corresponding regulation in the agreement between the USA and the EU (GLOBAL POLITICS 07.06.2015). It is also pointed out that new investment protection regulations in TTIP are desirable for political reasons, since several East European member states would otherwise continue to be bound by the status quo, which is less favourable than TTIP (VOß 2014, p. 4).

75. By contrast, critics regard the investor-state arbitration rules as superfluous in agreements between states with a developed and impartial legal system (MEUNIER and MORIN 2015). Their argument is that legal action is increasingly being aimed at laws which have been passed democratically, in the public interest and in accordance with national law (EBERHARDT 2014). On this view it is not necessarily the actions themselves that are dangerous, but the considerable potential financial threat they represent (see above for the similar discussion on regulatory cooperation, item 41). This potential can discourage states from making public interest oriented regulations if the latter reduce the value of an investment and could therefore prompt an investor to take legal action (KRAJEWSKI 2014d). Seen in this light, the possibility of litigation constitutes an encroachment on the regulatory autonomy of the states (GERSTETTER and MEYER-OHLENDORF 2013).

76. Furthermore, critics warn that investment protection rules can present a threat to public finance owing to the threat of actions for very high damages. A frequently quoted example is the action brought against the German government by the Swedish energy group Vattenfall AB because of the cancellation of the operating life extensions for nuclear power plants (not yet decided), in which the sum demanded is said to be €4.7 billion EUR (regarding the confidentiality of the proceedings cf. Deutscher Bundestag 2015). By the beginning of March 2015, the cost of the proceedings to the federal budget had already reached approximately 4.1 million EUR, mainly for attorneys' fees (BMWi 2015a). A qualitative study for the British government revealed that an EU-US investment protection agreement with ISDS would hardly bring any economic or political advantages for the United Kingdom, but would result in considerable economic and political costs (POULSEN et al. 2013). Unlike the umbrella associations BDI, German Chamber of Industry and Commerce (DIHK) and the German Confederation of Skilled Crafts (ZdH), some German SMEs object to the planned investment protection because small and medium companies have neither the financial resources nor the time to engage in lengthy arbitration proceedings (BVMW 2014). Another objection is that the arbitration system circumvents the national legal system without itself providing processes based on the rule of law. Aspects cited in this connection include in particular the insufficient democratic legitimation of the choice of arbitrators, the lack of an appellate body and the non-public nature of the proceedings (section 4.2).

77. Even some advocates tend to favour a multilateral approach and suggest deleting the investment protection chapter from TTIP (GRIEBEL 2014). The fact that even the USA and Australia, in their free-trade agreement dating from 2004, dispensed with an investor-state arbitration system (KLEINHEISTERKAMP 2014) shows that a bilateral free-trade agreement without ISDS is by no means unusual, even if the Trans-pacific Trade Partnership (TPP), to which the USA and Australia are parties, does provide for ISDS.

4.1 Substantive investment protection regulations

78. In the past, substantive provisions in investment protection agreements made by Germany have been formulated in very open and general terms and have been subject to broad interpretation by arbitration tribunals (KRAJEWSKI 2014b, p. 7). A different situation has applied to US investment protection agreements (cf. the USA's model investment protection agreement: U.S. DEPARTMENT OF STATE 2012). Investment protection agreements regularly contain standard clauses designed to ensure adequate protection for investments by a foreign investor. These substantive aspects of investment protection comprise in particular the scale of investment protection, which is determined above all by the definition of the terms "investment" and "investor", the formulation of the provisions on most-favoured-nation treatment and on fair and equitable treatment, the definition of direct and indirect expropriation, and the right to regulate. There follows a brief discussion of (only) three of the provisions that

are particularly relevant from an environmental point of view: the clause on fair and equitable treatment, the expropriation clause and the "right to regulate" (which is self-evident under international law). Whereas there are differences between the reasons given, experts are largely agreed that arbitration tribunals have so far not been very successful in taking adequate account of public interests when interpreting provisions in investment protection agreements (HINDELANG 2014, p. 73 with extensive references).

4.1.1 Fair and equitable treatment and the "right to regulate"

79. The requirement that an investor is to be accorded fair and equitable treatment would on the face of it seem self-evident and is found in practically all investment protection agreements. The clause is invoked in the majority of arbitration cases. From an environmental point of view it is problematical, largely because arbitration tribunals have frequently given it a very broad interpretation in the past (BRONFMAN 2006, p. 678) and have seen it as covering a broad spectrum of legitimate expectations on the part of the investor (HIRSCH 2011). These expectations may relate to the legal environment or to specific promises by officials.

80. One example of a definition of the term "fair and equitable treatment" by an arbitration tribunal is the case of Tecmed versus Mexico, which was concerned with the operation of a landfill site for special waste. The arbitration tribunal found that the host state must treat the investor in a way that is consistent, unambiguous and totally transparent, so that the investor is aware from the outset of all rules and regulations relating to its investments (Tecmed v. Mexico, ICSID Case No. ARB (AF)/00/02, 29 May 2003, Section 154; similarly LG&E Energy v Argentina, ICSID Case No ARB/02/1, 3 October 2006, Section 131). In this case the subsequent withdrawal of a licence on environmental grounds was adjudged to be a violation of the investment protection agreement. Thus the clause can be problematical in relation to increases in the stringency of environmental protection regulations, and also if a promise made to an investor in connection with a licence is retracted for environmental reasons.

Even if the formulation of the clause is more precise and arbitration tribunals have in many cases strengthened the right to regulate (overview of decisions in investor-state arbitration proceedings, e.g. in DOUGLAS 2009, with further references; overview of cases with German involvement in: INTERNATIONAL INVESTMENT LAW CENTRE COLOGNE 2015), this particular decision has in many cases been cited as a precedent (DOUGLAS 2006, p. 27-28).

81. The case also illustrates the tensions and constraints under which such cases are decided. On the one hand, the investor has from a purely economic point of view a legitimate interest in being able to rely on promises by the state. On the other hand, there is the interest of a democratically legitimated institution (e.g. the government) that is seeking to review or modify political decisions. The question of how a suitable balance between these interests can be reached is not something that should be decided on a one-sided basis at the expense of governmental (and hence usually public) interests. For example, the investor can reasonably be expected to ensure that the state institution making the promise is acting within its sphere of competence and that the promise is in accordance with national law.

Moorburg – easing of environmental protection requirements for the benefit of the investor?

82. The Vattenfall I case, which was concerned with the authorisation of a coal-fired power plant applied for by Vattenfall in Hamburg-Moorburg, makes it clear that the arbitration proceedings are also problematical because material investment protection law permits companies in certain circumstances to invoke promises that should not have been relied on under national law.

In this case the Swedish company objected to the fact that the final authorisation of a coal-fired power plant in Hamburg-Moorburg – unlike the permit issued to Vattenfall for an early start in accordance with Section 8a of the Federal Immission Control Act (BImSchG) – was granted subject to numerous restrictions and conditions relating to the abstraction and reintroduction of water from the River Elbe. The permit for an early start is not (as one might assume from the wording) a kind of preliminary authorisation. Under Section 8a (2) BImSchG the permit can be cancelled at any time, or it can be made subject to conditions or issued subject to the subsequent imposition of conditions. The decision notice also expressly stated that the permit was granted subject to the authorisation under water law – which is always issued in a separate procedure. Thus the investor should not have placed any trust in the decision notice as regards the assessment of the situation under water law.

The company brought an action against the authorisation before the Administrative Court and also had recourse to an arbitration tribunal under ICSID rules on the basis of the Energy Charter (Vattenfall AB et al. versus Federal Republic of Germany, ICSID Case No. ARB/09/6). A non-public compromise settlement was reached before the Higher Administrative Court in Hamburg. The court withdrew some of the conditions imposed under water law. The arbitration proceedings, also non-public, were then ended by reference to the compromise settlement. In the opinion of observers, the arbitration proceedings increased the pressure on the Hamburg authorities to agree to a compromise settlement. Even if the dispute before the arbitration tribunal was concerned with "legitimate expectations", the latter would not have existed under German law. The case thus reveals that even investment protection promises that might be problematical under national law may also be covered.

In 2015 the European Commission initiated infringement proceedings against Germany, because it regarded the water-law permit as an infringement of European law on the grounds of infringement of the Habitats Directive 92/43/EEC. In the Commission's opinion, the proposed abstraction and reintroduction of cooling water could endanger protected fish species (KRAJEWSKI 2014c, p. 398-399; BERNASCONI-OSTERWALDER and HOFFMANN 2012, p. 4; VERHEYEN 2012; Freie und Hansestadt Hamburg – Behörde für Stadtentwicklung und Umwelt (no year); European Commission 2015n).

83. The Commission's proposal of mid-September 2015 suggests a self-contained list of circumstances which can constitute an infringement of fair and equitable treatment. These include denial of justice in court proceedings, obvious arbitrariness, targeted discrimination, and abusive treatment of investors through pressure, molestation and duress (Section 2 Art. 3 (3) of the proposal). Although such an approach is regarded as sensible to narrow down the clause and restrict its alleged potential for impeding public interest regulations (KRAJEWSKI 2014b, p. 12), it has also been pointed out that as a rule the selected circumstances continue to be formulated on an open basis and can still be the subject of broad interpretation by arbitration tribunals (SCHEPEL et al. 2014). Furthermore, new legal terms always involve uncertainty, in that there is no interpretation already in existence. With regard to promises by the state, Art. 7 of the proposal provides that contractual promises in writing are to be complied with if they are legally binding. However, this does not solve the problem of unlawful promises or promises that violate national law.

The Commission's proposal also retains the concept of "legitimate expectations". In its interpretation of the definitive list of circumstances, the new tribunal should consider whether the host state has made specific promises to the investor which the host state has failed to fulfil (Section 2 Art. 3 (4) of the proposal; see also European Commission 2015h). This provision would however broaden the liability situation again (see also the Vattenfall I example above). The model investment protection agreement drawn up for the German Economics Ministry therefore proposed to dispense entirely with the concept of legitimate expectations (KRAJEWSKI 2015a, p. 11).

The "right to regulate" is an expression of state sovereignty and is self-evident under international law. Investment protection agreements serve to restrict this particular right for the benefit of the investor. It can nevertheless be regarded as an innovation that the Commission, in Section 2 Art. 2 (1) of the proposal, has expressly laid down the right of the state parties to achieve their public interests through effective regulation. On this basis, TTIP is to be interpreted as meaning that the parties to the agreement may modify the legal and regulatory framework even if this has adverse effects on an investor's investments. The non-exhaustive list of public-interest assets in Section 2 Art. 2 (1) includes public health, the environment and consumer protection.

If the content of a specific provision of national or European law is relevant to assessing a sovereign measure for the purpose of investment protection law, the court must rely exclusively on the interpretations of the national and European courts (Section 3 Art. 13 (2-4)).

84. Even before an arbitration award is made, it can have *de facto* effects on the right to regulate. One example of such an effect was the "plain packaging regulation" planned by the New Zealand government. This was to provide that tobacco products must be sold in neutral packages without logos. The New Zealand government postponed the entry into force of the regulation in order to await the outcome of the arbitration proceedings in progress between Philip Morris and Australia on a comparable regulation (HINDELANG 2014, p. 74). Impending actions by investors can also exert indirect pressure on the relevant governments or the EU not to adopt a regulatory decision or administrative act that might be susceptible to arbitration proceedings. Even if there is a lack of empirical studies of this phenomenon (which would naturally be difficult to record), such an influence cannot be exerted by a single clause in an investment protection agreement, but results from the interaction of various clauses, including the "fair-and-equitable treatment" clause and the provision on expropriation, and also the unforeseeable nature of the resulting arbitration awards (see TIETJE and BAETENS 2014).

4.1.2 Expropriation

85. All investment protection agreements contain clauses on expropriation, which have already played a role in numerous arbitration proceedings. From an environmental point of view, the concept of indirect expropriation in particular is problematical, because it is also designed to cover modifications to existing law. The stability of the investment environment should therefore be particularly important, especially if certain promises have been made to the investor (JOHNSON and VOLKOV 2013, p. 362; NEWCOMBE 2005). The interpretation of the concept of indirect expropriation has been based on the scale, duration, impact and nature of the measure, but also on the reasonableness of the mission and whether it pursues a legitimate purpose (OECD 2004; GERSTETTER and MEYER-OHLENDORF 2013).

86. The European Commission specifies the concept of expropriation in Annex I to the proposal. Art. 3 (3) of the Annex states that the concept of expropriation shall not cover non-discriminatory measures to protect public interests. Only in the rare circumstances that the effects of a measure are so serious that the measure appears to be "manifestly excessive" can one exceptionally consider classifying a non-discriminatory measure as expropriation. Art. 2 and 3 of Annex I also provide for a kind of proportionality test. Moreover,

non-discriminatory measures to protect legitimate public interests such as the environment are not as a rule intended to constitute indirect expropriation.

4.2 Procedural investment protection regulations

87. In addition to the substantive regulations that determine the content of an arbitration award, the procedural aspects may also be of great importance from an environmental point of view.

88. One important criticism of investment arbitration tribunals relates to the customary selection and composition of the tribunals (SMIT 2010; EBERHARDT and OLIVET 2014; PUIG 2014). Since these have to date been ad hoc tribunals, the arbitrators are only appointed for the decision on the individual case. Arbitration tribunals traditionally consist of three arbitrators: each of the parties nominates one arbitrator, and the third is nominated jointly by the two parties. These are not professional judges, but as a rule highly specialised experts in investment protection law. For this reason the persons nominated as arbitrators are professionals and former government officials, but also frequently attorneys from a small number of large law firms, who also regularly represent companies in such proceedings. There is thus a risk of their identifying too much with the relevant economic interests (VAN HARTEN 2014, p. 40-41). Furthermore, they may also have an interest in actions being decided in favour of the investors, because this encourages the initiation of comparable actions and can lead to further cases (GAUKRODGER and GORDON 2012, p. 47). Members of the legal profession who are concerned only with international investment protection law usually have no expertise in the field of national legislation, on which they (implicitly) pass judgement (BASEDOW 2015). On an international scale it is only a small number of arbitrators who decide the great majority of proceedings. There is considerable overlap between the arbitrators and the lawyers engaged in such cases (PUIG 2014, p. 402). A study shows that 247 of the 450 cases (55 %) known up to the end of 2011 were decided by only 15 arbitrators, and that these persons were – and in some cases still are – active both as arbitrators in arbitration proceedings and to some extent in other cases as lawyers for (the same) companies (EBERHARDT and OLIVET 2014).

89. There was also criticism of the inadequate involvement of third parties and the public, the lack of "consistency" of court practice (cf. HINDELANG 2014) and the lack of an appeal facility. It is doubtful whether procedural rules can prevent improper recourse to arbitration tribunals although the preconditions for an action basically do not exist. On a procedural view, therefore, various aspects are relevant from an environmental point of view, and these are discussed below. In addition, there are considerable misgivings about investment arbitration tribunals from the point of view of constitutional and European law. These have been investigated in detail by STOLL et al. in a report for the SRU (2016). Further discussion is needed in particular of the fact that domestic investors are placed at a disadvantage compared with foreign investors by the conclusion of an investment protection agreement because they have no additional legal protection facilities in the form of arbitration proceedings (DOLZER and SCHREUER 2012, p. 44), and the associated question of whether this constitutes unjustified and equal treatment under Art. 3 (1) of the German Basic Law and Art. 81 TFEU or Art. 21 (2) of the Charter of Fundamental Fights of the European Union (for a divergent view with reference to the possibility of reciprocal action by EU companies in the USA without a corresponding opportunity for US companies – HOFFMEISTER 2015, p. 51).

4.2.1 The European Commission's proposal: A permanent court with an appeal instance

90. The proposal for a permanent European-US trade court, published by the European Commission on 16 September 2015 in view of the considerable criticism of the existing arbitration system was first discussed within the EU (European Commission 2015b) and introduced into the negotiations with the USA on 12 November 2015 as an EU position (first assessments: HOLTERHUS 2015; BDI 2015a).

In this proposal the European Commission proposes a permanent court of two instances which would be competent exclusively for disputes arising from TTIP (cf. basically KRAJEWSKI 2014b). The court is to be established as a permanent bilateral international court that is not to sit permanently, but only when there is a case to consider (comparable to the International Tribunal for the Law of the Sea). The "Tribunal of First Instance" is to be competent in the first instance. An "Appeal Tribunal" can review decisions.

91. If one considers the possibilities open to companies, TTIP with ISDS first of all creates an *additional* means of litigation. Depending on its court practice, a TTIP court can be either an advantage or a disadvantage for companies or for the state body in question. As described above, this also depends on the design of the substantive investment protection regulations. One advantage for companies could be the better predictability of decisions that follows from the decisions of an appeal instance and the opportunity for the parties to supplement the agreement. On the other hand, companies in the USA and the EU have much more favourable litigation options under existing investment protection agreements such as the Energy Charter, which are not ruled out by TTIP. As a result, the view is also held that the bilateral solution ought in the long term to be developed into a multilateral international investment court (GRIEBEL 2014).

The Commission draft proposes that persons who are close to the government or simultaneously active as lawyers in investment protection disputes should not be eligible for nomination (section 3 Art. 11 (1). However,

this still leaves the possibility that arbitrators may be appointed in other cases outside of TTIP and that certain interpretations are taken over in TTIP as a "quasi-precedent", or vice versa. This may make it impossible for a legal interpretation that takes better account of public interest aspects to gain acceptance under TTIP.

The arbitrators are no longer nominated by the disputing parties, but by rotation from an existing pool (section 3 Art. 9 (7), Art. 10 (9)). This is primarily intended to dispel the objection that some arbitrators who in certain circumstances may also act as lawyers representing investors in other cases could decide in favour of investors. Also, the arbitrators' independence can be better guaranteed by their appointment for a fixed single period (of six or nine years for half the arbitrators) and payment (for individual aspects, cf. HINDELANG and WERNICKE 2015).

However, the proposal raises justified questions such as how it is to be enforced in relation to the USA, how its relationship to ISDS in CETA and in other investment protection agreements such as the Energy Charter is to be designed, and whether the existing 1,400 bilateral investment protection agreements can be harmonised accordingly (see CARTA 2015).

92. The Commission's proposal for an Appeal Tribunal principally takes up the criticism that once decisions have been made in investor-state arbitration proceedings, there is normally no basic means of correction. Although ICSID provides for an annulment process for decisions (Art. 52 ICSID Convention), this is only available in the case of extremely faulty decisions. The model for such a second instance is the Appellate Body of the World Trade Organisation (WTO). This is a widely accepted institution which experts consider to have made a major contribution to uniform interpretation of WTO law (STOLL and SCHORKOPF 2006, marginal note 226; for a much more critical view taking account of the discussion on constitutionalisation, see: BOGDANDY 2002). A permanent court can contribute to the predictability, uniform application of law and the credibility of decisions within an agreement (HINDELANG 2014, p. 62). The six-person Appeal Tribunal should also consist of independent judges appointed for a limited period. For some time now the idea of an appeal instance for investor-state disputes has been the subject of intensive discussion at international level (UNCTAD 2013b, p. 8; ANDELIC 2015; LEGUM 2015; PARK 2015; BOTTINI 2015; LEE 2015; STEGER 2012).

93. One objection to an appeal instance, however, is that such a court would acquire an important position of power which an individual arbitration tribunal cannot claim for itself. For example, the member states of the WTO were surprised by the power of the impacts developed by the Appellate Body of the WTO (TIETJE 2015, p. 8).

The advantages of an institutionalised court are nevertheless considerable. It can provide a better guarantee of the frequently questioned independence of arbitrators in arbitration proceedings, and the interpretation of provisions (of TTIP) can be more consistent. An appeal instance can correct faulty decisions. At the same time a second instance increases the pressure on judges to pronounce decisions that will as far as possible stand up to review.

4.2.2 Agreement committee

94. Another approach for contributing to the consistency and predictability of decisions is the possibility, envisaged in Section 2 Art. 3 (3) of the Commission draft, to provide a binding interpretation of the obligation to provide fair and equitable treatment for the arbitration tribunals. To this end it is proposed that a "Services and Investment Committee" should present its proposed interpretations to a "Trade Committee", which can recommend that the agreement be modified accordingly. While this gives the parties the opportunity to correct the court practice of the arbitration tribunals and the Appeal Tribunal, it must also be pointed out that this does not necessarily ensure enforcement of the most environmentally sound interpretation.

4.2.3 Transparency and civil society

95. Even if the regulations in investment protection agreements are different and US investment protection agreements have so far been much more transparent than German agreements or those of most EU member states (cf. Model investment protection agreement under U.S. DEPARTMENT OF STATE 2012), arbitration proceedings have largely been conducted *in camera* (MAUPIN 2013). In particular, this is problematical if the proceedings are concerned with regulatory measures relating to public interests (HAFNER-BURTON et al. 2015; BASEDOW 2015). An example of this is the Vattenfall II case, in which Vattenfall proceeded against the Federal Republic of Germany because of the nuclear energy phase-out and the entire proceedings were conducted *in camera*. At international level there is already a trend towards more transparency in arbitration proceedings, for example regarding the admission of statements by third parties who are not involved in the dispute ("Amicus Curiae briefs") (KNAHR 2007; BASTIN 2014; for the admission of the European Commission as Amicus Curiae in the case cited, cf. Deutscher Bundestag 2014b).

According to Section 3 Art. 18 of the Commission's draft negotiation text, the "Transparency Rules" of the United Nations Commission for International Trade (UNCITRAL) are, in modified form, to be made part of the agreement (UNCITRAL 2014). These rules provide for very considerable transparency of the proceedings compared with present practice. All important documents for the proceedings are to be made public (Art. 3 UNCITRAL Rules), proceedings are to be conducted in public (Art. 4 and Art. 6 UNCITRAL Rules) and statements by third parties not involved in the dispute are to be admissible (Art. 5 UNCITRAL Rules). As regards

the publication of documents, the Commission proposes to go beyond the UNCITRAL Rules: agreements, mediations and all documents submitted to the Appeal Tribunal are to be made public. Section 3 Art. 23 of the Commission draft also provides for the admission of statements to the court by third parties not involved in the dispute ("Amicus Curiae briefs"). The arbitration tribunal may however permit exceptions if business information is to be protected. The UNCITRAL Rules are regarded as the most far-reaching transparency rules that exist in the field of investment protection law, and go considerably further than what is permitted and usual before courts under German law. Their inclusion in TTIP would therefore considerably improve the investment protection regime of the EU.

4.2.4 Choice of legal process and allocation of costs

96. Unlike other areas of international law, the exhaustion of the national legal process is in investment protection normally not a precondition for having recourse to arbitration (HINDELANG 2014, p. 43; GODT 2014, p. 411). The situation is the same in the Commission draft. In Section 3 Art. 14 it provides that the investor, before initiating an action for arbitration, shall have either previously exhausted the national legal process or permanently waived its right to legal protection before national courts ("No-U-Turn clause") (HOLTERHUS 2015). Unlike the "fork-in-the-road" clause, the investor does not have to decide in favour of a particular legal process, but can also decide to go to arbitration if it has previously failed before the national courts. However, the investor may also confine itself to invoking the TTIP court.

97. The requirement to exhaust the legal process has advantages and disadvantages. One disadvantage is the fact that if the investor continues to take legal action after exhausting the national legal process, this automatically has the result that the arbitration tribunal passes judgement on a state measure which has already been judged by a national court. Thus the arbitration tribunal implicitly reviews the final-instance judgement under national law and thereby, as it were, constitutes an appeal or review instance under international law (TIETJE 2015, p. 8-9). This can result in conflicts of justice in multilevel systems, which may give rise to political friction.

The fact that international law decisions basically have such an effect is not unusual, and is the basis for the existence of institutions such as the International Court of Justice, the International Criminal Court, the European Court of Human Rights or the International Tribunal for the Law of the Sea. For years now, the tensions between German and European law have been the subject of discussion between the European Court of Justice and the Federal Constitutional Court (Solange I, Solange II, Maastricht and Lisbon judgements).

The principal argument in favour of a requirement for the exhaustion of legal process in TTIP is that both the USA and the EU have highly developed legal systems based on the rule of law which already provide for the protection of investments. It is therefore reasonable to expect the investor to initially confine itself to the protection that a domestic investor would enjoy. A reason for more far-reaching privileges only exists if the domestic legal protection is – exceptionally – insufficient (HINDELANG and WERNICKE 2015).

Costs to be borne by the losing party

98. According to Section 3 Art. 28 (4) first sentence, of the Commission draft, the losing party is in future to bear the costs of TTIP proceedings. In the majority of cases in the past the parties – as is usual in general international law – have had to bear their own costs, which can result in considerable financial burdens not only for the companies, but also for the state in question. The resulting threat of costs regardless of the outcome of the proceedings can result in the state making efforts to avoid arbitration by cancelling administrative acts or legal provisions. Studies by the OECD have shown that the costs of the parties in ISDS proceedings have averaged 8 million USD, with the cost of individual proceedings exceeding 30 million USD. Of these costs, an average of 82 % were due to fees for experts and lawyers (GAUKRODGER and GORDON 2012, p. 19). Thus the Commission draft is intended to reduce the risk that cases with no prospect of success may be brought to arbitration with the aim of exerting pressure on the defending party. However, the effect of such an allocation of costs on the regulatory autonomy of states meets with some scepticism (KRAJEWSKI 2014b, p. 19).

4.2.5 Treaty shopping

99. Treaty shopping is where companies select a specific investment protection agreement in order to benefit from the material or procedural provisions which they see as favourable to them. The focus is on bringing actions via subsidiary companies that are not themselves injured, but are resident in a country that has made an investment protection agreement with an ISDS clause – or a more far-reaching agreement – with the defending country. For an action by its US subsidiary, the Canadian oil and gas production company Lone Pine used the NAFTA agreement against its own government, which had imposed a moratorium on fracking in Quebec (NEWCOMBE 2015). In some cases, companies have used subsidiaries in certain countries for this purpose, for example Philip Morris, which used its branch in Hong Kong to take action against the Australian "plain packaging" regulations (Australian Government – Attorney-General's Department 2015). An analysis of a large number of completed cases revealed that often companies had successfully asserted their treaty shopping before the arbitration tribunal invoked (KLODT and LANG 2015, p. 485). To combat this problem, it is particularly important how the term "investor" is defined (cf. the definition of "investor" at the beginning of the Commission proposal).

Treaty shopping and world trade law

100. From an environmental perspective, the Commission proposal on the ISDS rules offers improvements compared with current investment protection law. Conversely, the proposal would mean that companies bringing an action tended to be in a less favourable position than under one of the existing investment protection agreements (e.g. the Energy Charter). Treaty shopping enables companies to circumvent this stricter investment protection law.

This problem cannot be combated solely through the design of TTIP, because as a rule investors can choose from a large number of investment protection agreements. For example, there are currently 129 (mainly) bilateral investment protection agreements in force in the EU, the majority of which include ISDS rules (as of: 23.09.2015, overview in BMWi 2015b). Furthermore it has to be noted that CETA also offers litigation facilities for companies (albeit limited by the requirement of "substantial business activity", which is not defined in detail). Thus any large US company with a branch in Canada can also bring actions under CETA.

4.3 Summary

Investor-state arbitration under an investment protection agreement offers private individuals a litigation option which is fairly unusual in international law and which favours foreign investors compared with domestic investors. In the last 15 years investors have increasingly used this method to take action against changes in the statutory legal framework by national legislatures. This also applies to environmental regulations. Experts largely agree that arbitration tribunals have so far not been very successful in taking adequate account of public interests when interpreting provisions in investment protection agreements.

Against this background the European Commission has presented an innovative proposal for a TTIP tribunal in the negotiations with the USA. Such a tribunal would dispel some of the misgivings about investor-state arbitration that are cited from a public interest point of view. It could also serve as a model for comparable agreements and should in particular be incorporated in the European-Canadian agreement CETA. The fundamental question remains as to whether such private arbitration tribunals are in fact necessary between industrial countries covered by the rule of law.

5 Recommendations for an environmentally sound design of TTIP

101. In line with its terms of reference, the SRU examined the planned Transatlantic Trade and Investment Partnership Agreement (TTIP) from an environmental point of view. In doing so, it investigated the planned regulatory cooperation and investor-state arbitration as far as was possible in view of the progress of the negotiations (as of 31.12.2015). In particular, it focused its attention on the proposals put forward by the European Commission, in the knowledge that these would not necessarily reflect the final result of the negotiations, and that the final agreement could deviate from the proposals in crucial aspects. The following recommendations do not therefore claim to deal with all the questions arising from the negotiations on a free-trade agreement.

5.1 Recommendations with regard to regulatory cooperation

102. The regulatory cooperation under TTIP in the depth proposed by the European Commission in its draft of 4 May 2015 is an innovation. This proposal has given rise to public reservations and fears, some of which are exaggerated, while others cannot be dismissed. The negotiating partners should not take such objections lightly, but should take them up and address them by means of balanced regulations.

Public interests

103. The SRU makes the following recommendations with regard to safeguarding public interests in the design of regulatory cooperation:

– The precautionary principle should be embodied in the text of the agreement and defined in detail (SRU 2011, item 49). The exception, formulated in general terms in the Commission proposal for the regulatory chapter, which declares measures for the protection of certain public interests to be admissible, should be designed such that regulations based on the precautionary principle count as limits to trade liberalisation or investor protection.

– The right to regulate should, as envisaged in the Commission draft, be emphasised at a suitable place in the agreement, and not merely in the preamble.

– The explicit possibility of a one-sided increase in protection of public interests in the context of harmonisation and mutual recognition, as envisaged in the Commission draft, is to be welcomed.

Democratic legitimation

104. To ensure adequate democratic legitimation of regulatory cooperation, the SRU recommends:

– The European Parliament should only agree to ratify TTIP on condition that principal measures of regulatory cooperation, which falls within the sphere of competence of the European Union and for which a formal legislative process at EU level exists, do not depend solely on a decision in the Council of Ministers, but also on the assent of the European Parliament.

– The nature of the activities of European Commission bodies in member state fields of competence relating to regulatory cooperation should be explicitly regulated by a separate agreement between the EU institutions and the member states. Such an agreement should cater adequately for united external representation of the EU, and also for the legitimate interests of the member states.

Participation of civil society

105. In view of the fact that TTIP seeks to raise regulatory cooperation between the USA and the EU to a new level, the participation of civil society is of special significance. The SRU therefore recommends:

– The participation of civil society should cover the entire field of regulatory cooperation and should not be restricted from the outset to the general chapter on regulatory cooperation. For this reason, an ongoing organisational framework for the participation of civil society should also be created for those areas where it has not yet been provided for. A regular (not merely annual) exchange of information between the committees and civil society should be ensured.

– The stated aim should be a balanced and representative composition of the civil society bodies. Provisions in the agreement should set out in detail the meaning of the terms "balanced" and "representative", for example in the form of non-exhaustive criteria or examples of rules. Definitive specification should be avoided in the interests of maintaining flexibility. Steps should be taken to ensure that even actors with limited resources have an opportunity to state their position adequately.

Sustainability chapter

106. In the last 20 years, sustainability chapters have been incorporated in newly negotiated free-trade agreements. TTIP should therefore seize the opportunity to create an ambitious set of rules. With regard to the sustainability chapter, the SRU therefore recommends:

– In the TTIP sustainability chapter, the parties should give a clear undertaking to pursue the aim of a high level of protection, and should not confine themselves to making reference to existing multilateral and international agreements in the fields of environment and social affairs.

– The means of enforcing the sustainability chapter should be improved, and its provisions should not be excluded from the general dispute settlement mechanism. Furthermore, the agreement should not – as is usual in US agreements – rule out the possibility of imposing trade sanctions in cases of infringement of the sustainability chapter.

5.2 Recommendations with regard to investment protection and ISDS

107. The European Commission's proposal on investment protection is innovative and is to a large extent to be welcomed. Above all, the clearer definition of substantive investment protection makes sense to ensure effective enshrinement of the right to regulate. With the proposal to establish of a TTIP court with an appeal instance, the European Commission is indeed breaking new ground. If the Commission proposal proves to be unacceptable, complete abandonment of investor-state arbitration in TTIP would be in line with the mandate of the European Council. The latter explicitly made the inclusion of investment protection and investor-state dispute settlement dependent on the provisions of the agreement ensuring that the right of the EU and its member states to take measures in the interests of (e.g.) the environment remains unaffected (Rat der Europäischen Union 2013, sections 22 and 23).

Substantive investment protection regulations

108. Even if the procedural aspects – especially the proposal for an investment court with an appeal instance – are of great importance for TTIP, the substantive investment protection rules remain crucial for the decisions that are taken in future by such a court. With regard to the substantive investment protection regulations, the SRU therefore recommends:

– The Commission's proposal for fair and equitable treatment of investors is very differentiated. The handling of the concept of expropriation and the right to regulate in the draft is very comprehensive and ambitious. However, the term "legitimate expectations" should be defined more clearly in the sense that the investor should only be able to rely on promises that are also legally binding under the national law of the state in which the investment is made.

Procedural investment protection regulations (ISDS)

109. A permanent TTIP court and a court of appeal on the lines of WTO dispute settlement are another far-reaching innovation that is welcomed by the SRU. Its development should be given constructive support. In addition, the SRU recommends:

– Unlike the European Commission's proposal, there are good reasons from a rule-of-law perspective for not allowing access to the TTIP court until the relevant national legal process is exhausted, even if this does not appear absolutely necessary for following the WTO model.

– If a permanent TTIP court proves to be politically unacceptable, the field of investment protection should be excluded from TTIP. After all, it is basically dubious whether an investor-state arbitration system under which private foreign investors are privileged compared with domestic companies is necessary at all between democratic constitutional states that are bound by the rule of law and are, from an economic point of view, capital exporting industrial countries.

6 Outlook: Developing political perspective of TTIP

110. TTIP is the first agreement in which the EU is negotiating with a partner of equal standing from an economic point of view. The EU has long been pressing for greater transatlantic integration. From an economic point of view this is based on the European desire to

remain competitive in global terms. TTIP must therefore be seen in the context of global liberalisation efforts in the Asia-Pacific region in particular (SCHMUCKER 2014, p. 21, 23). Since there have already been major reductions in customs tariffs worldwide, the focus for further liberalisation of global and bilateral trade has shifted to non-tariff measures. These are often requirements for products and services that serve to protect public interests, e.g. protection of consumers, the environment and human health. However, such public interests result in latent tensions between free trade and the (democratic) freedom of action of state legislatures.

Ever since the resignatory speech by the French political scientist and diplomat Jean-Marie Guéhenno about the "end of democracy" (GUÉHENNO 1996; see also the contributions in: BRUNKHORST 2009) the complex of tensions and constraints between globalisation and democracy has been a subject of (among other things) the debate on democracy. These tensions arise from the coupling of market and democracy within the state: Industrial society based on free competition led to the development of the modern state with its ability to lay down, in the interests of public welfare, minimum requirements regarding socially and environmentally acceptable production for the companies competing on the market.

This historic symbiosis of market competition and state regulation was basically capable of functioning in nation states despite all conflicts and deficits, as long as they succeeded in enforcing the requirements imposed on the companies on the market equally in relation to all competitors and thereby regulating competition consistently. However, the possibility of national supporting measures for resolving conflicts and deficits in the market economy was – and still is – restricted by the extent to which economic factors have interacted and become international. The resulting disappearance of state borders has thus given rise to tensions between the market and democracy.

In the EU, this process could be observed as if under a magnifying glass. The opening of the borders for goods, services, capital and labour created individual gains in freedom that favour mobile individuals and companies, but did not initially succeed in accommodating these by means of democratic counter-processes. This was because "deborderisation" placed limits on state opportunities for regulatory support of the market, for example in the field of environmental and consumer protection. As a result, laws passed by national parliaments are "under general suspicion" of causing potential distortion of competition.

There is also a problematical form of regulatory competition which occurs in globalised markets as well: When national companies in the single European market or in a (less integrated) free-trade zone meet competitors who – in addition to much lower labour costs – are not subject to the same production or product requirements, then requirements that are manageable on the national market (under the same competitive conditions) can become competitive disadvantages that threaten their existence (SCHARPF 1989, p. 13 ff. with further references).

In particular, the priority and barrier function of EU law, combined with the market freedoms that are directly applicable in favour of domestic citizens, generate a dynamic situation under which the national legislature can no longer readily protect domestic producers from competition by foreign suppliers. Fritz SCHARPF describes this as a condition that...

"...one could characterise, depending on one's point of view, as a neoliberal dream or as a regulatory nightmare: Unimpeded competition between companies results in a situation of competition on the location-related production conditions, and hence also between the prevailing regulatory systems, in which it is ultimately the market and no longer politicians that decide which regulations can be enforced or maintained." (SCHARPF 1989, p. 16 with further references).

Even at European level, between the EU member states, the solutions adopted on a national basis can vary considerably between countries for historic, social, economic and political reasons. If the aim is to liberalise world trade even further, it will be necessary to deal with the even greater heterogeneity that exists in the community of states. This is an inherently political problem.

111. In contrast, world trade is strongly oriented towards a depoliticized trade liberalisation. This does not provide for systematic inclusion and harmonisation of protection policies. For example, there are no powers for such "legislation" in the WTO agreement, or any of the other agreements (BOGDANDY 2002). Neither is there any democratic legitimation of world trade institutions (such as the WTO) for such a task (KRAJEWSKI 2001). Even the existing trade provisions, particularly in the SPS and TBT agreements, only allow protection interests to be catered for to a limited extent (section 3.5). Furthermore, the international organisations which – like the WHO – are concerned with the protection of health, consumer and environmental interests do not possess any competencies with regard to trade (cf. in connection with the discussion on democratic global governance: ZENGERLING 2013, p. 11 ff., 327 ff. with further references).

This finding can also be applied to TTIP: As a free-trade agreement, TTIP is designed to regard regulatory issues primarily from the point of view of simplifying trade, and not from the point of view of the protective goals. Moreover, there is reason to fear that TTIP will cause a narrowing in favour of a science-based view focusing on cost benefit aspects that tends to push precautionary protective approaches into the background. The globalised economy, which is increasingly displaying legalised demands for free market access as a result of free-trade zones and -agreements and investment protection agreements, repeats the tensions between mar-

ket and state that have been outlined for the EU and resolved step-by-step in the course of time. Here the realisation has grown that competition between rules in the field of technical standards and processes can be an acceptable means of standardisation through mutual recognition accompanied by appropriate consumer information. This can however be dubious in the field of product related standards for health, consumer and environmental protection and runs the risk of failing completely in relation to the protective goals of environmental or occupational safety standards. This is because the market tends to be insensitive, at least in relation to these protective goals, because they relate not to the product itself, but entirely to the production process. As a result, competition between the systems creates a risk that more expensive standards will be displaced by less expensive ones. At most, therefore, differences in the "sensitivity of the market" (SCHARPF 1989, p. 17) permit only limited competition between standards.

Against this background, the economic integration leading to the single internal market gave rise to a need for the EU to undertake regulation and harmonisation in supporting policy areas. The EU had to regulate certain tasks to safeguard public interests. To ensure that the single European market did not fail as a result of different national standards in the fields of health, consumer and environmental protection, it was absolutely essential to provide support at European level. In the interests of the public welfare they defined, these policy areas were logically "promoted" to European level (for the discussion see: JOERGES 1991). Thus the single European market was neither an end in itself nor a contractual objective that would take legal priority over the other objectives. In the interests of practical concordance, the goals and requirements of the single market have to be brought into line with the other objectives, especially those relating to social affairs and environmental issues (KAHL in: CALLIESS/RUFFERT, EUV/AEUV 2011, Art. 26 TFEU, margin note 30). This takes place in a legislation process in which the European Parliament, which is directly elected by the public, and the Council of the European Union, in which the EU member states are represented, take decisions in a democratic process at the initiative of the European Commission with the participation of civil society and the general public.

Experience with the single European market shows that even under TTIP as a free-trade agreement it will only be possible to realise environmental, health and consumer interests on an equal footing with trade interests if protection interests enjoy a comparable status and the harmonisation efforts under TTIP are also extended to include harmonisation of protection policies at a high level of protection. However, in the increasingly borderless market space of global free trade there is a lack of transboundary democratic mechanisms.

If the EU has resolved the tensions between free trade and democracy by deciding in favour of "more democracy" and providing political support for the market, this could also be demanded for TTIP: Economic integration must be followed by a political integration process that supports the market. In this spirit, TTIP should – at least in the medium term, and especially if regulatory cooperation is to be intensified – be supplemented by a democratically legitimated institutional political framework that is capable of safeguarding the protective policies supporting the market and thereby counteracting a transatlantic "stateless market".

Bibliography

Ahearn, R. J. (2009): Transatlantic Regulatory Cooperation: Background and Analysis. Washington, DC: Congressional Research Service. CRS Report RL34717.

Aichele, R., Felbermayr, G., Heiland, I. (2014): Going Deep: The Trade and Welfare Effects of TTIP. Munich: Center for Economic Studies und IFO Institut. CESIFO WORKING PAPER 5150.

Akhtar, S. I., Jones, V. C. (2014): Proposed Transatlantic Trade and Investment Partnership (T-TIP): In Brief. Washington, DC: Congressional Research Service. CRS Report R43158.

Alemanno, A. (2014): The Transatlantic Trade and Investment Partnership and the parliamentary dimension of regulatory cooperation. Brussels: European Parliament.

Andelic, K. (2015): Why ICSID Doesn't Need an Appellate Procedure, and What to do Instead. In: Kalicki, J., Joubin-Brett, A. (Eds.): Reshaping the Investor-State Dispute Settlement System. Leiden: Brill Nijhoff, p. 496-506.

Ashford, N. A. (2007): The Legacy of the Precautionary Principle in US Law: The Rise of Cost-Benefit Analysis. In: Sadeleer, N. d. (Eds.): Implementing the Precautionary Principle. Approaches from the Nordic Countries, EU and USA, London: Earthscan, p. 352-378.

Australian Government - Attorney-General's Department (2015): Tobacco plain packaging - investor-state arbitration. Barton Act: Australian Government, Attorney-General's Department. http://www.ag.gov.au/tobaccoplainpackaging (25.06.2015).

Federal Foreign Office (2014): EU and USA. Berlin: Auswärtiges Amt. http://www.auswaertiges-amt.de/DE/Aussenpolitik/RegionaleSchwerpunkte/USA/EU-USA_node.html (02.10.2015).

Barker, T., Workman, G. (2013): The Transatlantic Trade and Investment Partnership: Ambitious but Achievable. A Stakeholder Survey and Three Scenarios. Washington, D.C.: Bertelsmann Foundation, Atlantic Council.

Basedow, R. (2015): Eine Reform von Investitionsschutz und Schiedsgerichtsbarkeit unter CETA und TTIP. Diskussionspapier verfasst für die Sitzung des TTIP-Beirates des Bundeswirtschaftsministeriums am 14. Januar 2015, Berlin. Berlin: Bundesministerium für Wirtschaft und Energie. http://m.bmwi.de/BMWi/Redaktion/PDF/S-T/ttip-investitionsschutz-basedow, property=pdf,bereich=bmwimobile2012,sprache=de,rwb=true.pdf (25.06.2015).

Bastin, L. (2014): Amici Curiae in Investor-State Arbitration: Eight Recent Trends. Arbitration International 30 (1), p. 125-143.

Bauer, M., Erixon, F. (2015): "Splendid Isolation" as Trade Policy: Mercantilism and Crude Keynesianism in "the Capaldo Study" of TTIP. Brussels. European Centre for International Political Economy. ECIPE Occasional Paper 03/2015.

BDI (Bundesverband der Deutschen Industrie) (2015a): Investitionsschutz in TTIP. Vorschlag der EU-Kommission zu einem reformierten Investitionsschutz in TTIP. Bewertung. Berlin: BDI. http://bdi.eu/media/presse/publikationen/globalisierung-maerkte-und-handel/20151030_Positionspapier_Bewertung_Kom_Vorschlag_ISDS_in_TTIP.pdf (11.12.2015).

BDI (Bundesverband der Deutschen Industrie) (2015b): Regulatorische Zusammenarbeit in der Transatlantischen Handels- und Investitionspartnerschaft (TTIP): Fokus Industriegüterhandel. Positionspapier. Berlin: BDI. BDI-Publikation 0035.

BDI (Bundesverband der Deutschen Industrie) (2014a): The "I" in TTIP. Why the Transatlantic Trade and Investment Partnership Needs an Investment Chapter. Position Paper. Berlin: BDI. BDI Document 0009.

BDI (Bundesverband der Deutschen Industrie) (2014b): Transatlantische Handels- und Investitionspartnerschaft (TTIP). Mythen, Fakten, Argumente. Berlin: BDI. BDI-Hintergrundpapier 3.

Berden, K., Francois, J., Tamminen, S., Thelle, M., Wymenga, P. (2009a): Annexes - Non-tariff measures in EU-US trade and investment - An economic analysis. Final Report. Rotterdam: ECORYS Nederland BV. OJ 2007/p. 180-219493.

Berden, K., Francois, J., Thelle, M., Wymenga, P., Tamminen, S. (2009b): Non-tariff measures in EU-US trade and investment - An economic analysis. Final Report. Rotterdam: ECORYS Nederland BV. OJ 2007/p. 180-219493.

Bernasconi-Osterwalder, N., Hoffmann, R. T. (2012): The German Nuclear Phase-Out Put to the Test in International Investment Arbitration? Background to the new dispute Vattenfall v. Germany (II). Washington, DC: International Institute for Sustainable Development.

BfN (Bundesamt für Naturschutz) (2015): Gesetzliche Bestimmungen zur Agro-Gentechnik und Verfahrensfragen. Bonn: BfN. https://www.bfn.de/0301_rechtgrund.html (03.11.2015).

BMWi (Bundesministerium für Wirtschaft und Energie) (2015a): Antwort von Brigitte Zypries MdB vom

6. März 2015 auf die Schriftlichen Fragen an die Bundesregierung im Monat Februar 2015, Frage Nr. 266 von Klaus Ernst MdB. Berlin: Bundesministerium für Wirtschaft und Energie.

BMWi (Bundesministerium für Wirtschaft und Energie) (2015b): Investitionsschutzverträge. Berlin: BMWi. http://www.bmwi.de/DE/Themen/Aussenwirtschaft/Investitionsschutz/investitionsschutzvertraege.html (02.10.2015).

BMWi (Bundesministerium für Wirtschaft und Energie) (2014): Übersicht über die bilateralen Investitionsförderungs- und -schutzverträge (IFV) der Bundesrepublik Deutschland. Berlin: BMWi.

Bogdandy, A. v. (2002): Chancen und Gefahren einer Konstitutionalisierung der WTO. Verfassungsrechtliche Dimensionen der WTO im Vergleich mit der EU. Vortrag, Forum Constitutionis Europae, 26.06.2002, Berlin.

Bottini, G. (2015): Reform of the Investor-State Arbitration Regime: The Appeal Proposal. In: Kalicki, J., Joubin-Brett, A. (Eds.): Reshaping the Investor-State Dispute Settlement System. Leiden: Brill Nijhoff, p. 455-474.

Bourgeois, J., Dawar, K., Evenett, S. J. (2007): A Comparative Analysis of Selected Provisions in Free Trade Agreements. Commissioned by the European Commission, DG Trade. St. Gallen: University of St. Gallen, Department of Economics and Swiss Institute of International Economics and Applied Economic Research.

Bronfman, M. K. (2006): Fair and Equitable Treatment: An Evolving Standard. Max Planck Yearbook of United Nations Law 10, p. 609-680.

Brunkhorst, H. (Ed.) (2009): Demokratie in der Weltgesellschaft. Baden-Baden: Nomos. Soziale Welt, Sonderband 18.

Bungenberg, M. (2012): Preferential Trade and Investment Agreements and Regionalism. Siegen: Forschungskolleg Siegen, Universität Siegen. Working Paper 2012/03.

Bureau, J.-C., Disdier, A.-C., Emlinger, C., Fouré, J., Felbermayr, G., Fontagné, L., Jean, S. (2014): Risks and opportunities for the EU agri-food sector in a possible EU-US trade agreement. Study. Brussels: Europäisches Parlament, Ausschuss für Landwirtschaft und ländliche Entwicklung. http://www.europarl.europa.eu/RegData/etudes/STUD/2014/514007/AGRI_IPOL_STU(2014)514007_EN.pdf (03.12.2015).

BVMW (Bundesverband mittelständische Wirtschaft) (2014): TTIP - Chancen und Risiken für den Mittelstand. Berlin: BVMW. Politik kompakt.

Calliess, C. (2006): Auswärtige Gewalt. In: Isensee, J., Kirchhof, P. (Ed.): Handbuch des Staatsrechts der Bundesrepublik Deutschland. Bd. 4: Aufgaben des Staates. 3. völlig neubearb. und erw. Aufl. Heidelberg: C.F. Müller p. 589-632.

Calliess, C., Ruffert, M. (Eds.) (2011): EUV/AEUV. Das Verfassungsrecht der Europäischen Union mit Europäischer Grundrechtecharta. Kommentar. 4. Aufl. Munich: Beck.

Cantley, M., Lex, M. (2011): Genetically Modified Foods and Crops. In: Wiener, J. B., Rogers, M. D., Hammitt, J. K., Sand, P. H. (Eds.): The Reality of Precaution. Comparing Risk Regulation in the United States and Europe. Washington, DC, London: RFF Press, p. 39-64.

Capaldo, J. (2014): The Trans-Atlantic Trade and Investment Partnership: European Disintegration, Unemployment and Instability. Medford, Mass.: Tufts University. Global Development and Environment Institute Working Paper 14-03.

Carta, A. (2015): Investor-to-state dispute settlement mechanisms: The Commission´s "new EU approach", the European Parliament's "new system", five new questions and one old problem. elni Review 2015 (1-2), p. 30-31.

CIEL (Center for International Environmental Law) (2014): Letter to Ambassador Michael Froman and Commissioner Karel de Gucht. Washington, DC: CIEL. http://ciel.org/Publications/TTIP_REGCO_12May2014.pdf (25.06.2015).

De Gucht, K. (2014): The Transatlantic Trade and Investment Partnership: The Real Debate. Vortrag, European Affairs Committee of the Bundesrat, 22.05.2014, Berlin.

De Ville, F. (2014): How the EU defends its non-trade objectives before the WTO: An analysis of SPS/TBT disputes. Croatian Yearbook of European Law and Policy 10 10, p. 269-289.

Deutscher Bundestag (2015). Antwort der Bundesregierung auf die Kleine Anfrage der Abgeordneten Klaus Ernst, Hubertus Zdebel, Caren Lay, weiterer Abgeordneter und der Fraktion DIE LINKE. Bundestag Publication 18/3434 Vattenfall-Klage gegen die Bundesrepublik Deutschland. Berlin: Deutscher Bundestag. Bundestag publication 18/3721.

Deutscher Bundestag (2014a): Antwort der Bundesregierung auf die Kleine Anfrage der Abgeordneten Klaus Ernst, Dr. Diether Dehm, Alexander Ulrich, weiterer Abgeordneter und der Fraktion DIE LINKE – Bundestag publication 18/258. Berlin: Deutscher Bundestag. Bundestag publication 18/351.

Deutscher Bundestag (2014b): Schriftliche Fragen mit den in der Woche vom 14. September 2014 eingegangenen Antworten der Bundesregierung. Berlin: Deutscher Bundestag. Bundestag publication 18/6020.

Diels, J., Thorun, C. (2014): Risks and opportunities for consumer welfare arising from the Transatlantic Trade and Investment Partnership (TTIP). Expert report commissioned by the Economic and Social Policy Unit of the Friedrich-Ebert-Stiftung. Berlin: Friedrich-Ebert-Stiftung.

DIHK (Deutscher Industrie- und Handelskammertag) (2015): 10 gute Gründe für die Transatlatische Handels- und Investitionspartnerschaft. Berlin: DIHK. http://www.dihk.de/themenfelder/international/aussenwirtschaftspolitik-recht/handelspolitik/ttip/10-gruende (02.10.2015).

Dolzer, R., Schreuer, C. (2012): Principles of International Investment Law. 2nd ed. Oxford: Oxford University Press.

Douglas, Z. (2009): The International Law of Investment Claims. Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi, Dubai, Tokyo: Cambridge University Press.

Douglas, Z. (2006): Nothing if not critical for investment treaty arbitration: Occidental, Eureko and Methanex. Arbitration International 22 (1), p. 27-51.

Eberhardt, P. (2014): Investitionsschutz am Scheideweg. TTIP und die Zukunft des globalen Investitionsrechts. Berlin: Friedrich-Ebert-Stiftung.

Eberhardt, P., Olivet, C. (2014): Profit durch Un-Recht. Wie Kanzleien, SchiedsrichterInnen und Prozessfinanzierer das Geschäft mit dem Investitionsschutz befeuern. Brussels, Amsterdam, Berlin: Corporate Europe Observatory.

Elkins, Z., Guzman, A. T., Simmons, B. A. (2006): Competing for Capital: The Diffusion of Bilateral Investment Treaties, 1960-2000. International Organization 60 (4), p. 811-846.

Esty, D. C. (1994): Greening the GATT: Trade, Environment, and the Future. Washington, DC: Institute for International Economics.

EuroMemo Group (2013): The deepening divisions in Europe and the need for a radical alternative to EU policies. EuroMemorandum 2014. Berlin: EuroMemo Group. http://www2.euromemorandum.eu/uploads/euromemorandum_2014.pdf (09.11.2015).

European Commission (2015a): Better regulation. Brussels: European Commission. http://ec.europa.eu/smart-regulation/index_en.htm (25.06.2015).

European Commission (2015b): Commission draft text TTIP - investment Transatlantic Trade and Investment Partnership. Trade in Services, Investment and e-commerce. Chapter II - Investment. Brussels: European Commission. tradoc 153807.

European Commission (2015c): Commission Staff Working Document. Report. Online public consultation on investment protection and investor-state dispute settlement (ISDS) in the Transatlantic Trade and Investment Partnership Agreement (TTIP). SWD (2015) 3 final. Brussels: European Commission.

European Commission (2015d): Detailed Explanation on the EU proposal for a Chapter on Regulatory Cooperation (as per revised version made public on 4 May 2015). Brussels: European Commission.

European Commission (2015e): EU Register of authorised GMOs. Brussels: European Commission. http://ec.europa.eu/food/dyna/gm_register/index_en.cfm (03.11.2015).

European Commission (2015f): EU Textual Proposal. Trade and Sustainable Development. Brussels: European Commission. http://trade.ec.europa.eu/doclib/html/153923.htm (10.11.2015).

European Commission (2015g): Factsheet: Fact Sheet: Questions and Answers on EU's policies on GMOs. Brussels: European Commission. http://europa.eu/rapid/press-release_MEMO-15-4778_en.htm (01.02.2016).

European Commission (2015h): Reading Guide to the Draft text on Investment Protection and Investment Court System in the Transatlantic Trade and Investment Partnership (TTIP). Brussels: European Commission. http://trade.ec.europa.eu/doclib/press/index.cfm?id=1365 (04.11.2015).

European Commission (2015i): EU Textual Proposal. Sanitary and Phytosanitary Measures (SPS). Brussels: European Commission. http://trade.ec.europa.eu/doclib/html/153026.htm (10.06.2015).

European Commission (2015j): EU Textual Proposal. Technical Barriers to Trade (TBT). Brussels: European Commission. http://trade.ec.europa.eu/doclib/docs/2015/january/tradoc_153025.pdf (25.06.2015).

European Commission (2015k): Trade for all. Towards a more responsible trade and investment policy. Luxembourg: Publications Office of the European Union. http://trade.ec.europa.eu/doclib/docs/2015/october/tradoc_153846.pdf (04.11.2015).

European Commission (2015l): TTIP - Initial Provisions for CHAPTER [ ] - Regulatory Cooperation Brussels: European Commission. http://trade.ec.europa.eu/

doclib/docs/2015/april/tradoc_153403.pdf (25.06.2015).

European Commission (2015m): TTIP - Initial Provisions for CHAPTER [ ] - Regulatory Cooperation made public on 4 May 2015. Brussels: European Commission. http://trade.ec.europa.eu/doclib/docs/2015/april/tradoc_153403.pdf (25.06.2015).

European Commission (2015n): March infringements package: main decisions. As of: 26/03/2015 Brussels: European Commission. http://europa.eu/rapid/press-release_MEMO-15-4666_en.htm (01.02.2016).

European Commission (2014a): EU Position Paper. Trade and Sustainable Development Chapter/Labour and Environment: EU Paper outlining key issues and elements for provisions in the TTIP. Made public 7 January 2015. Brussels: European Commission.

European Commission (2014b): Stellungnahme Europäische Kommission (Ulrich Weigl) für die 15. Sitzung des Ausschusses für Ernährung und Landwirtschaft zur öffentlichen Anhörung "Geplantes Freihandels- und Investitionsabkommen zwischen der EU und den USA (Transatlantic Trade and Investment Partnership - TTIP)". Berlin: Deutscher Bundestag, Ausschuss für Landwirtschaft und Ernährung. Ausschussdrucksache 18(10)120-F.

European Commission (2013a): EU - US Transatlantic Trade and Investment Partnership. Trade and Sustainable Development. Brussels: European Commission. Initial EU position paper. http:/trade.ec.europa.eu/doclib/docs/2013/july/tradoc_151626.pdf (10.06.2015).

European Commission (2013b): Trade Cross-cutting disciplines and Institutional provisions. EU - US Transatlantic Trade and Investment Partnership. Initial EU Position Paper. Brussels: European Commission.

European Commission (2013c): Proposal for a council directive on the placing on the market of food from animal clones. COM (2013) 893 final. Brussels: European Commission.

European Commission (2013d): Proposal for a directive of the European Parliament and of the Council on the cloning of animals of the bovine, porcine, ovine, caprine and equine species kept and reproduced for farming purposes. COM (2013) 892 final. Brussels: European Commission.

European Commission (2009): Impact Assessment Guidelines. SEK (2009) 92. Brussels: European Commission.

European Commission (2000): Communication from the Commission on the precautionary principle. KOM (2000) 1 final. Brussels: European Commission.

European Parliament (2014): Texts adopted. Negotiations for the Transatlantic Trade and Investment Partnership (TTIP). European Parliament resolution of 8 July 2015 containing the European Parliament's recommendations to the European Commission on the negotiations for the Transatlantic Trade and Investment Partnership (TTIP) (2014/2228(INI)). Strasbourg: European Parliament. P8_TA-PROV(2015)0252.

Felbermayer, G., Kohler, W., Aichele, R., Klee, G., Yalcin, E. (2015): Mögliche Auswirkungen der Transatlantischen Handels- und Investitionspartnerschaft (TTIP) auf Entwicklungs- und Schwellenländer. Munich: ifo Institut. ifo Forschungsberichte 67.

Felbermayr, G. J., Heid, B., Larch, M., Yalcin, E. (2014): Macroeconomic Potentials of Transatlantic Free Trade: A High Resolution Perspective for Europe and the World. Munich: CESifo. CESifo Working Paper 5019.

Felbermayr, G. J., Heid, B., Lehwald, S. (2013a): Die Transatlantische Handels- und Investitionspartnerschaft (THIP). Wem nutzt ein transatlantisches Freihandelsabkommen? Teil 1: Makroökonomische Effekte. Gütersloh: Bertelsmann Stiftung.

Felbermayr, G. J., Larch, M. (2013): Transatlantic Free Trade: Questions and Answers from the Vantage Point of Trade Theory. CESifo Forum 14 (4), p. 3-17.

Felbermayr, G. J., Larch, M., Flach, L., Yalcin, E., Benz, S. (2013b): Dimensionen und Auswirkungen eines Freihandelsabkommens zwischen der EU und den USA. Final Report Munich: ifo-Institut.

Financial Times (07.05.2015): Donnan, S.: US accuses EU of undermining global food security. https://next.ft.com/content/bdf3f582-f487-11e4-9a58-00144feab7de (04.11.2015).

Fischer-Lescano, A., Horst, J. (2014): Europa- und verfassungsrechtliche Vorgaben für das Comprehensive Economic and Trade Agreement der EU und Kanada (CETA). Juristisches Kurzgutachten im Auftrag von attac/Munich Bremen: Zentrum für europäische Rechtspolitik, Fachbereich Rechtswissenschaft, Universität Bremen.

Flynn, V. (2015): Protect chemicals law from TTIP – German ministry. ENDS Europe (21.10.2015). http://www.endseurope.com/article/43789/protect-chemicals-law-from-ttip-german-ministry (05.11.2015).

Fontagné, L., Gourdon, J., Jean, S. (2013): Transatlantic Trade: Whither Partnership, Which Economic Consequences? Paris: CEPII: Policy Brief 1/2013.

Forum Umwelt und Entwicklung (2014): TTIP Nein Danke! Transatlantische Partnerschaft geht anders. Positionspapier deutscher Nichtregierungsorganisationen zum geplanten Freihandels- & Investitionsabkommen EU - USA (TTIP). Berlin: Forum Umwelt und Entwicklung u.a. http://www.ttip-unfairhandelbar.de/ (05.10.2015).

Francois, J., Manchin, M., Norberg, H., Pindyuk, O., Tomberger, P. (2013): Reducing Transatlantic Barriers to Trade and Investment. An Economic Assessment. Final Project Report. London Centre for Economic Policy Research. TRADE10/A2/A16.

Freestone, D. (2011): The Marine Environment. In: Wiener, J. B., Rogers, M. D., Hammitt, J. K., Sand, P. H. (Eds.): The Reality of Precaution. Comparing Risk Regulation in the United States and Europe. Washington, DC, London: RFF Press, p. 177-200.

Freie und Hansestadt Hamburg - Behörde für Stadtentwicklung und Umwelt (no year): Genehmigungsverfahren Kraftwerk Moorburg. Hamburg: Freie und Hansestadt Hamburg, Behörde für Stadtentwicklung und Umwelt. http://www.hamburg.de/kraftwerk-moorburg/ (26.06.2015).

Gabler, S. (2014): TTIP aus der Perspektive der Normen- und Standardsetzung. Vortrag, NFD-BUND-KNU Workshop, 10.10.2014, Berlin.

Gaukrodger, D., Gordon, K. (2012): Investor-State Dispute Settlement: A Scoping Paper for the Investment Policy Community. Paris: OECD Publishing. OECD Working Papers on International Investment 2012/03.

Gerstetter, C. (2014): Viel Schatten, wenig Licht. TTIP aus Umweltsicht. Neue Gesellschaft/Frankfurter Hefte 2014 (10), p. 37-40.

Gerstetter, C., Donat, L., Klaas, K., Weingartner, K. (2014): Regulatory Cooperation under TTIP - a Risk for Democracy and National Regulation? Berlin: Heinrich-Böll-Stiftung.

Gerstetter, C., Mehling, M., Eberle, A., Salès, K. (2013): Legal implications of the EU-US trade and investment partnership (TTIP) for the Acquis Communautaire and the ENVI relevant sectors that could be addressed during negotiations. Brussels. European Parliament, Directorate General for Internal Policies. Policy Department A : Economic and scientific policy.

Gerstetter, C., Meyer-Ohlendorf, N. (2013): Investor-state dispute settlement under TTIP - a risk for environmental regulation? Berlin: Heinrich-Böll-Stiftung.

Global Politics (07.06.2015): Eliasson, L. J.: Fear or Facts: the Case for ISDS in Modern Trade Agreements. http://global-politics.co.uk/wp/2015/06/07/fear-v-facts-the-case-for-isds-in-modern-trade-agreements/ (05.10.2015).

Godt, C. (2014): Wirtschaft und Umwelt im Partnerschaftsabkommen der USA und Europa (TTIP) - Lehren aus dem NAFTA-Umweltvertrag von 1991 für zukünftige Freihandels- und Investitionsschutzabkommen. Zeitschrift für Umweltrecht 25 (7-8), p. 403-414.

Gött, H. (2015): Legitimation der Regulierungszusammenarbeit durch Einbindung der Zivilgesellschaft? Hamburg: Junge Wissenschaft im Öffentlichen Recht e.V. http://www.juwiss.de/38-2015/ (10.06.2015).

Gray, G., Rogers, M. D., Wiener, J. B. (2011): Beef, Hormones, and Mad Cows. In: Wiener, J. B., Rogers, M. D., Hammitt, J. K., Sand, P. H. (Eds.): The Reality of Precaution. Comparing Risk Regulation in the United States and Europe. Washington, DC, London: RFF Press, p. 65-90.

Griebel, J. (2014): The TTIP Negotiating Position of the EU Commission – a Convincing Reform Approach with some Weak Details. Berlin: Verfassungsblog.de. http://www.verfassungsblog.de/ttip-verhandlungsposition-eu-kommission-ueberzeugender-reformansatz-mit-leichten-schwaechen-im-detail/#.VHiJ82fPyY0 (26.06.2015).

Guéhenno, J.-M. (1996): Das Ende der Demokratie. Ungekürzte Ausg. München: dtv.

Hafner-Burton, E. M., Steinert-Threlkeld, Z. C., Victor, D. G. (2015): Predictability Versus Flexibility: Secrecy in International Investment Arbitration. San Diego: Laboratory on International Law and Regulation. ILAR Working Paper 18.

Hansen-Kuhn, K., Suppan, S. (2013): Promises and Perils of the TTIP. Negotiating a Transatlantic Agricultural Market. Minneapolis: Institute for Agriculture and Trade Policy.

Hertin, J., Turnpenny, J., Jordan, A., Nilsson, M., Russel, D., Nykvist, B. (2009): Rationalising the policy mess? Ex ante policy assessment and the utilisation of knowledge in the policy process. Environment and Planning / A 41 (5), p. 1185-1200.

Hindelang, S. (2014): Part II: Study on investor-state dispute settlement ('ISDS') and alternatives of dispute resolution in international investment law. In: Kuijper, P., Pernice, I., Hindelang, S., Schwarz, M., Reuling, M. (Eds.): Investor-state dispute settlement ('ISDS') provisions in the EU's international investment agreements. Vol. 2: Studies. Brussels: European Parliament, Directorate-General for External Policies of the Union, Directorate B, Policy Department, P. 39-131.

Hindelang, S., Wernicke, S. (Eds.) (2015): Grundzüge eines modernen Investitionsschutzes - Ziele und Handlungsempfehlungen. Harnack-Haus Reflections. Berlin: Freie Universität, Deutscher Industrie- und Handelskammertag.

Hirsch, M. (2011): Between Fair and Equitable Treatment and Stabilization Clause: Stable Legal Environment and Regulatory Change in International Investment Law. The Journal of World Investment & Trade 12 (6), p. vii-806.

Hoffmeister, F. (2015): Wider die German Angst - Ein Plädoyer für die transatlantische Handels- und Investitionspartnerschaft (TTIP). Archiv des Völkerrechts 53 (1), p. 35-67.

Holterhus, T. P. (2015): "A new era in the settlement of investment disputes?" - Reformvorschläge der EU-Kommission zum Investitionsschutz in TTIP. Berlin: Verfassungsblog.de. http://www.verfassungsblog.de/a-new-era-in-the-settlement-of-investment-disputes-reformvorschlaege-der-eu-kommission-zum-investitionsschutz-in-ttip/#.Vfv90H3EGY0 (02.10.2015).

Horn, H., Mavroidis, P. C., Sapir, A. (2010): Beyond the WTO? An Anatomy of EU and US Preferential Trade Agreements. The World Economy 33 (11), p. 1565-1588.

Horvathy, B. (2014): Integration of Environmental Concerns into the EU Trade Agreements - The Real Stakes of the Transatlantic Trade Negotiations? 7th Pan-European Conference on the European Union, 5 - 7 June 2014, The Hague.

Hummer, W. (2015): Was haben TTIP, CETA und TISA gemeinsam? 'Investor-To-State Dispute Settlement' (ISDS) als umstrittenes Element der EU-Freihandelsabkommen. integration 38 (1), p. 3-25.

International Center for Settlement of Investment Disputes (2015): The ICSID Caseload – Statistics (Issue 2015-1). Washington, DC: International Center for Settlement of Investment Disputes.

International Center for Settlement of Investment Disputes (2014): The ICSID Caseload – Statistics (Issue 2014-1). Washington, DC: International Center for Settlement of Investment Disputes.

International Investment Law Centre Cologne (2015): German Investment Treaty Disputes. As of: 14/10/2015 Cologne: International Investment Law Centre Cologne. http://german-investment-treaty-disputes.de/Home/Index/de (04.11.2015).

Joerges, C. (1991): Markt ohne Staat? Die Wirtschaftsverfassung der Gemeinschaft und die regulative Politik. In: Wildenmann, R. (Ed.): Staatswerdung Europas? Optionen für eine Europäische Union. Baden-Baden: Nomos. Studien zur gesellschaftlichen Entwicklung 9, p. 225-268.

Johnson, L., Volkov, O. (2013): Investor-State-Contracts, Host State "Committments" and the Myth of Stability in International Law. The American Review of International Arbitration 24 (3), p. 362-415.

Josling, T., Tangermann, S. (2014): Agriculture, Food and the TTIP: Possibilities and Pitfalls. Brussels, Washington, DC: Centre for European Policy Studies and Center for Transatlantic Relations. CEPS Special Report 99.

Karlsson, M. (2015): TTIP and the environment: the case of chemicals policy. Global Affairs 1 (1), p. 21-31.

Kass, M. J. (2014): TSCA, the anti-TSCA, and TSCA reform. Natural Resources & Environment 28 (4), p. 53 ff.

Kleinheisterkamp, J. (2014): Is there a Need for Investor-State Arbitration in the Transatlantic Trade and Investment Partnership (TTIP)? London London School of Economics. http://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID2410188_code172188.pdf?abstractid=2410188&mirid=3 (05.10.2015).

Klodt, H., Lang, S. (2015): Treaty Shopping beim Investorenschutz. Wirtschaftsdienst 95 (7), p. 482-486.

Knahr, C. (2007): Transparency, Third Party Participation and Access to Documents in International Investment Arbitration. Arbitration International 23 (2), p. 327-355.

Krajewski, M. (2015a): Modell-Investitionsschutzvertrag mit Investor-Staat-Schiedsverfahren für Industriestaaten unter Berücksichtigung der USA. Berlin: Bundesministerium für Wirtschaft und Energie. http://www.bmwi.de/DE/Themen/Aussenwirtschaft/Freihandelsabkommen/ttip.html (26.06.2015).

Krajewski, M. (2015b): Stellungnahme zu Investitionsschutz und Investor-Staat-Streitbeilegung im Transatlantischen Handels- und Investitionspartnerschaftsabkommen (TTIP). Öffentliche Anhörung des Ausschusses für Wirtschaft und Energie des Deutschen Bundestages. 12 March 2015 Berlin: Deutscher Bundestag, Ausschuss für Landwirtschaft und Ernährung. Ausschussdrucksache 18(9)392-F.

Krajewski, M. (2014a): Geplantes Freihandels- und Investitionsabkommen zwischen der EU und den USA (Transatlantic Trade and Investment Partnership - TTIP). Stellungnahme für die 15. Sitzung des Ausschusses für Ernährung und Landwirtschaft. Berlin: Deutscher Bundestag, Ausschuss für Landwirtschaft und Ernährung. Ausschussdrucksache 18(10) 120-C.

Krajewski, M. (2014b): Modalities for investment protection and Investor-State Dispute Settlement (ISDS) in TTIP from a trade union perspective. Brussels: Friedrich-Ebert-Stiftung.

Krajewski, M. (2014c): Umweltschutz und internationales Investitionsschutzrecht am Beispiel der Vattenfall-Klagen und des Transatlantischen Handels- und Investitionsabkommens (TTIP). Zeitschrift für Umweltrecht 25 (7-8), p. 396-403.

Krajewski, M. (2014d): Stellungnahme zu Investitionsschutz und Investor-Staat-Streitbeilegung im Transatlantischen Handels- und Investitionspartnerschaftsabkommen (TTIP). Kurzgutachten. Berlin: BÜNDNIS 90/DIE GRÜNEN, Bundestagsfraktion.

Krajewski, M. (2001): Democratic Legitimacy and Constitutional Perspectives of WTO Law. Journal of World Trade 35 (1), p. 167-186.

Kuijper, P. (2014): Part I: Study on investment protection agreements as instruments of international economic law. In: Kuijper, P., Pernice, I., Hindelang, S., Schwarz, M., Reuling, M. (Eds.): Investor-state dispute settlement ('ISDS') provisions in the EU's international investment agreements. Vol. 2: Studies. Brussels: European Parliament, Directorate-General for External Policies of the Union, Directorate B, Policy Department, P. 6-38.

Leal-Arcas, R., Wilmarth, C. M. (2015): Strengthening Sustainable Development through Preferential Trade Agreements. In: Wouters, J., Marx, A. (Eds.): Ensuring Good Global Governance through Trade. Retrieved. Cheltenham: Edward Elgar. In preparation.

Lee, J. (2015): Introduction of an Appellate Review Mechanism for International Investment Disputes: Expected Benefits and Remaining Tasks. In: Kalicki, J., Joubin-Brett, A. (Eds.): Reshaping the Investor-State Dispute Settlement System. Leiden: Brill Nijhoff, p. 474-496.

Legum, B. (2015): Appellate Mechanisms for Investment Arbitration: Worth a Second Look for the Trans-Pacific Partnership and the Proposed EU-US FTA? In: Kalicki, J., Joubin-Brett, A. (Eds.): Reshaping the Investor-State Dispute Settlement System. Leiden: Brill Nijhoff, p. 437-443.

Lester, S., Barbee, I. (2013): The Challenge of Cooperation: Regulatory Trade Barriers in the Transatlantic Trade and Investment Partnership. Journal of World Trade 16 (4), p. 847-867.

Löfstedt, R. E. (2014): A possible way forward for evidence-based and risk-informed policy-making in Europe: a personal view. Journal of World Trade 17 (9), p. 1089-1108.

Löfstedt, R. E. (2003): The Precautionary Priniciple; Risk, Regulation and Politics. Process Safety and Environmental Protection 81 (1), p. 36-43.

Lübbe-Wolff, G. (2016): Democracy, Separation of Powers and International Treaty-Making: The Example of TTIP. Current Legal Problems 69, in preparation.

Magnuson, B., Munro, I., Abbot, P., Baldwin, N., Lopez-Garcia, R., Ly, K., McGirr, L., Roberts, A., Socolovsky, S. (2013): Review of the regulation and safety assessment of food substances in various countries and jurisdictions. Food Additives & Contaminants / A 30 (7), p. 1147-1220.

Malmström, C. (2015): Opening remarks: Discussion on Investment in TTIP. Meeting of the International Trade Committee of the European Parliament. Brussels: European Commission.

Marchant, G. E. (2001): The Precautionary Principle: an "unprincipled" approach to biotechnology regulation. Journal of World Trade 4 (2), p. 143-157.

Maupin, J. A. (2013): Transparency in International Investment Law: The Good, the Bad, and the Murky. In: Bianchi, A., Peters, A. (Eds.): Transparency in International Law. Cambridge: Cambridge University Press p. 142-171.

Mayer, F. C. (2014): Stellt das geplante Freihandelsabkommen der EU mit Kanada (Comprehensive Economic and Trade Agreement, CETA) ein gemischtes Abkommen dar? Rechtsgutachten für das Bundesministerium für Wirtschaft und Energie. Berlin: Bundesministerium für Wirtschaft und Energie.

Mayer, F. C., Ermes, M. (2014): Rechtsfragen zu den EU-Freihandelsabkommen CETA und TTIP. Zeitschrift für Rechtspolitik 47 (8), p. 221-256.

Meunier, S., Morin, J.-F. (2015): No Agreement is an Island: Negotiating TTIP in a Dense Regime Complex. In: Morin, J.-F., Novotná, T., Ponjaert, F., Telò, M. (Eds.): The Politics of Transatlantic Trade Negotiations. TTIP in a Multipolar World. Farnham, Burlington, Vt.: Ashgate, p. 173-186.

Meuwese, A. (2009): EU-U.S. Horizontal Regulatory Cooperation Two global regulatory powers converging on how to assess regulatory impacts? Berkeley, Calif.: University of California Berkeley. http://igov.berkeley.edu/content/eu-us-horizontal-regulatory-cooperation-two-global-regulatory-powers-converging-how-assess-r (01.07.2015).

Mildner, S.-A., Schmucker, C. (2013): Abkommen mit Nebenwirkungen? Die EU und die USA stehen vor Verhandlungen über eine Transatlantische Handels- und Investitionspartnerschaft. Berlin: Stiftung Wissenschaft und Politik. SWP-Aktuell 26/2013.

Mudgal, S., Salès, K., Landowski, A., Kern, O., Mansard, J., Gerstetter, C., Grünig, M., Dooley, E., Tedsen, E., Nesbit, M., Paquel, K., Withana, S. (2014): ENVI Relevant Legislative Areas of the EU-US Trade and Investment Partnership Negotiations. Study for the ENVI Committee. Brussels. European Parliament, Directorate General for Internal Policies. Policy Department A : Economic and scientific policy.

Myant, M., O'Brien, R. (2015): The TTIP's Impact: Bringing in the Missing Issue. Brussels. European Trade Union Institute. ETUI Working Paper 2015.01.

Newcombe, A. (2015): italaw. Victoria: italaw. http://www.italaw.com/cases/1606 (05.10.2015).

Newcombe, A. (2005): The Boundaries of Regulatory Expropriation in International Law. ICSID Review 20 (1), p. 1-55.

OECD (Organisation for Economic Co-operation and Development) (2012): Recommendation of the Council on Regulatory Policy and Governance. Paris: OECD

OECD (Organisation for Economic Co-operation and Development) (2004): "Indirect Expropriation" and the "Right to Regulate" in International Investment Law. Paris: OECD Working Papers on International Investment 4.

Park, E. Y. (2015): Appellate Review in Investor-State Arbitration. In: Kalicki, J., Joubin-Brett, A. (Eds.): Reshaping the Investor-State Dispute Settlement System. Leiden: Brill Nijhoff, p. 443-455.

Persson, M. (2015): Är TTIP-avtalet dåligt för EU? Lund: Lund University. Lund Business News. http://review.ehl.lu.se/ar-ttip-avtalet-daligt-for-eu/ (09.11.2015).

Perthes, V. (2014): TTIP: Die strategischen Prioritäten der Anderen. Zur Interessenlage der einzelnen Partner beim Transatlantischen Handelsabkommen TTIP. Politik und Kultur 2014 (6), p. 1-2.

Poulsen, L., Bonnitcha, J., Yackee, J. W. (2013): Costs and Benefits of an EU-USA Investment Protection Treaty. London London School of Economics, Political Science Enterprise.

Puig, S. (2014): Social Capital in the Arbitration Market. European Journal of International Law 25 (2), p. 387-424.

Radaelli, C. M. (2005): Diffusion without convergence: how political context shapes the adoption of regulatory impact assessment Journal of European Public Policy 12 (5), p. 924-943.

Council of the European Union (2013): Note from the General Secretariat of the Council to Delegations. Subject: Directives for the negotiation on the Transatlantic Trade and Investment Partnership between the European Union and the United States of America. Brussels: Council oft he European Union.

Rathke, H. (2014): Fragen zur Zuständigkeitsverteilung zwischen EU und Mitgliedstaaten sowie zur Ratifikation des Abkommens über eine Transatlantische Handels- und Investitionspartnerschaft (TTIP). Berlin: Deutscher Bundestag. Ausarbeitung PE 6 - 3000 - 49/14.

Raza, W., Grumiller, J., Taylor, L., Tröster, B., Arnim, R. v. (2014): ASSESS_TTIP: Assessing the Claimed Benefits of the Transatlantic Trade and Investment Partnership (TTIP). Vienna: Österreichische Forschungsstiftung für Internationale Entwicklung. Policy Note 10/2014. http://www.oefse.at/fileadmin/content/Downloads/Publikationen/Policynote/PN10_ASSESS_TTIP.pdf (01.07.2015).

Renn, O., Elliott, D. E. (2011): Chemicals. In: Wiener, J. B., Rogers, M. D., Hammitt, J. K., Sand, P. H. (Eds.): The Reality of Precaution. Comparing Risk Regulation in the United States and Europe. Washington, DC, London: RFF Press, p. 223-256.

Rodrik, D. (2015): TTIP and the War of Trade Models. London Social Europe. http://www.socialeurope.eu/2015/05/ttip-and-the-war-of-trade-models/ (09.11.2015).

Rudloff, B. (2014): Lebensmittelstandards in Handelsabkommen. Unterschiedliche Regelungstraditionen von EU und USA und Tipps für TTIP. Berlin: Stiftung Wissenschaft und Politik. SWP-Aktuell 63/2014.

Sadeleer, N. d. (2007): The Precautionary Principle in European Community Health and Environment Law: Sword or Shield for the Nordic Countries? In: Sadeleer, N. d. (Eds.): Implementing the Precautionary Principle. Approaches from the Nordic Countries, EU and USA. London Earthscan, p. 10-58.

Saterson, K. A. (2011): Biodiversity Conservation. In: Wiener, J. B., Rogers, M. D., Hammitt, J. K., Sand, P. H. (Eds.): The Reality of Precaution. Comparing Risk Regulation in the United States and Europe. Washington, DC, London: RFF Press, p. 201-222.

Scharpf, F. W. (1989): Regionalisierung des europäischen Raums: Die Zukunft der Bundesländer im Spannungsfeld zwischen EG, Bund und Kommunen. Referate. Cologne: Kohlhammer. Cappenberger Gespräche der Freiherr-vom-Stein-Gesellschaft 23.

Schepel, H., Muchlinski, P., Watt, H. M., Van Harten, G. (2014): Public consultation on investor-state arbitration in TTIP - Comment. Kent: University of Kent,

Kent Law School. https://www.kent.ac.uk/law/downloads/ttip_isds_public_consultation_final.pdf (01.07.2015).

Schmucker, C. (2014): TTIP im Kontext anderer Freihandelsabkommen. Aus Politik und Zeitgeschichte 64 (50-51), p. 17-23.

Smit, H. (2010): The pernicious institution of the party-appointed arbitrator. New York, NY: Columbia Center on Sustainable Investment. Columbia FDI Perspectives 33. http://ccsi.columbia.edu/files/2014/01/FDI_33.pdf (01.07.2015).

SRU (Sachverständigenrat für Umweltfragen) (2011): Vorsorgestrategien für Nanomaterialien. Sondergutachten. Berlin: Erich Schmidt.

Stamoulis, A. (2014): EPA, Consumer Safety Regulator Express Skepticism About TTIP Benefits. Inside U.S. Trade 32 (26). http://lists.citizenstrade.org/pipermail/ctcfield-citizenstrade.org/2014-July/006602.html (02.10.2015).

Steger, D. P. (2012): Enhancing the legitimacy of international investment law by establishing an appellate mechanism. In: Mestral, A. d., Lévesque, C. (Eds.): Improving International Investment Agreements. London Routledge, p. 247-264.

Stephan, S. (2014): TTIP - Das Märchen vom Wachstums- und Beschäftigungsmotor. Bonn: Friedrich-Ebert-Stiftung, Abteilung Wirtschafts- und Sozialpolitik. WISO direkt.

Stoll, P.-T., Holterhus, T. P., Gött, H. (2016): Die Transatlanische Handels- und Investitionsspartnerschaft (TTIP) - Regulatorische Zusammenarbeit und Investitionsschutz und ihre Bedeutung für den Umweltschutz. Rechtsgutachten, erstellt im Auftrag des Sachverständigenrates für Umweltfragen. Berlin: Sachverständigenrat für Umweltfragen: In preparation.

Stoll, P.-T., Krüger, H. (2014): Agrar- und verbraucherpolitische Auswirkungen des Comprehensive Economic and Trade Agreements (CETA) zwischen der EU und Kanada. Kurzstudie. Göttingen: Universität Göttingen, Institut für Völkerrecht und Europarecht.

Stoll, P.-T., Schorkopf, F. (2006): WTO - World Economic Order, World Trade Law. Leiden, Boston: Nijhoff.

Stoll, T., Krüger, H., Xu, J. (2014): Freihandelsabkommen und ihre Umweltschutzregelungen. Zeitschrift für Umweltrecht 25 (7-8), p. 387-395.

Sunstein, C. R. (2005): Cost-Benefit Analysis and the Environment. Ethics 115 (1), p. 351-385.

Tietje, C. (2015): Ein internationales Handels- und Investitionsgericht für CETA (und TTIP)? Halle (Saale): Martin-Luther-Universität Halle-Wittenberg, Forschungsstelle für Transnationales Wirtschaftsrecht. Policy Papers on Transnational Economic Law 42.

Tietje, C. (2011): Bilaterale Investitionsschutzverträge zwischen EU-Mitgliedstaaten (Intra-EU-BITs) als Herausforderung im Mehrebenensystem des Rechts. Halle (Saale): Martin-Luther-Universität Halle-Wittenberg, Forschungsstelle für Transnationales Wirtschaftsrecht. Beiträge zum Transnationalen Wirtschaftsrecht 104.

Tietje, C., Baetens, F. (2014): The Impact of Investor-State-Dispute Settlement (ISDS) in the Transatlantic Trade and Investment Partnership. Halle (Saale), Leiden: University Halle, Leiden University.

Trans Atlantic Consumer Dialog (2004): Briefing paper on REACH. London Trans Atlantic Consumer Dialog. Doc. No.Trade-14PP-04.

Treier, V., Wernicke, S. (2015): Die Transatlantische Handels- und Investitionspartnerschaft (TTIP) – Trojanisches Pferd oder steiniger Weg zum Olymp? Europäische Zeitschrift für Wirtschaftsrecht 26 (9), p. 334-340.

U.S. Chamber of Commerce, Business Europe (2012): Regulatory Cooperation in the EU-US Economic Agreement. Washington, DC, Brussels: U.S. Chamber of Commerce, BUSINESSEUROPE. http://ec.europa.eu/enterprise/policies/international/cooperating-governments/usa/jobs-growth/files/consultation/regulation/9-business-europe-us-chamber_en.pdf (03.07.2015).

U.S. Department of State (2012): U.S. Model Bilateral Investment Treaty. Treaty between the Government of the United States of America and the Government of [Country] concerning the Encouragement and Reciprocal Protection of Investment. Washington, DC: U.S. Department of State. www.state.gov/documents/organization/188371.pdf (02.11.2015).

U.S. Government Accountability Office (2007): Chemical Regulation. Comparison of U.S. and Recently Enacted European Union Approaches to Protect against the Risks of Toxic Chemicals. Washington, DC: U.S. Government Accountability Office. GAO-07-825.

UBA (Umweltbundesamt) (2015a): Einschätzung der geplanten Regulatorischen Kooperation zwischen der EU und den USA im Rahmen der Transatlantic Trade and Investment Partnership (TTIP) anhand ausgewählter Umweltbereiche. Dessau-Roßlau: UBA In preparation.

UBA (Umweltbundesamt) (2015b): Environmental protection under TTIP. Dessau-Roßlau: UBA Position.

UBA (Umweltbundesamt) (2014): Europäischer JRC-Bericht zu R1234yf ignoriert Brandereignisse. Dessau-Roßlau: UBA Stellungnahme.

UBA (Umweltbundesamt) (2010a): Fluorierte Treibhausgase vermeiden. Wege zum Ausstieg. Dessau-Roßlau: UBA Climate Change 08/2010.https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/climat_change_08_2010_gesamt_mit_erratum_3.9.2014.pdf (10.12.2015).

UBA (Umweltbundesamt) (Ed.) (2010b): Umweltbundesamt: Sicherheitsrisiken bei Pkw-Klimaanlagen nicht auszuschließen? Neue Untersuchungen mit dem Kältemittel HFKW-1234yf bestätigen Gefahren beim Einsatz. Dessau-Roßlau: UBA Presseinformation 06/2010.

UNCITRAL (United Nations Commission on International Trade Law) (2014): Rules on Transparency in Treaty-based Investor-State Arbitration. Vienna: UNCITRAL.

UNCTAD (United Nations Conference on Trade and Development) (2015): UNCTADstat. International trade in goods and services. Geneva: UNCTAD. http://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx (12.11.2015).

UNCTAD (United Nations Conference on Trade and Development) (2013a): Classification of Non-Tariff Measures. New York, Geneva: UNCTAD. United Nations Publication UNCTAD/DITC/TAB/2012/2.

UNCTAD (United Nations Conference on Trade and Development) (2013b): Reform of Investor-State-Dispute-Settlement: In Search of a Roadmap. Geneva: UNCTAD. IIA Issues Note 2. http://unctad.org/en/PublicationsLibrary/webdiaepcb2013d4_en.pdf (03.07.2015).

United Nations - General Assembly (2015): Transforming our world: the 2030 Agenda for Sustainable Development. Resolution adopted by the General Assembly on 25 September 2015. New York: United Nations, General Assembly. http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (10.11.2015).

USTR (United States Trade Representative) (no year): Free Trade Agreements. Washington, DC: USTR. https://ustr.gov/trade-agreements/free-trade-agreements (02.11.2015).

USTR (United States Trade Representative) (2014): 2014 Report on Technical Barriers to Trade. Washington, DC: USTR.

USTR (United States Trade Representative) (2013): Remarks by United States Trade Representative Michael Froman at the Transatlantic Trade and Investment Partnership First Round Opening Plenary. Vortrag, TTIP First Round Opening Plenary, 8. Juli 2013, Washington D.C.

Van Harten, G. (2014): Why arbitrators not judges? Comments on the European Commission's approach to investor-state arbitration in TTIP and CETA. Toronto: York University, Osgoode Hall Law School. http://eu-secretdeals.info/upload/2014/07/Van-Harten_Comments-id2466692.pdf (03.07.2015).

VCI (Verband der Chemischen Industrie) (2014): Daten und Fakten zum Thema: Transatlantisches Freihandelsabkommen (TTIP). Berlin: VCI

Verheyen, R. (2012): Briefing Note: The Coal-fired Power Plant Hamburg-Moorburg, ICSID proceedings by Vattenfall under the Energy Charter Treaty and the result for environmental standards. Hamburg: Rechtsanwälte Günther.

Viju, C., Kerr, W. A., Mekkaoui, C. (2010): Everything is on the Table: Agriculture in the Canada-EU Trade Agreement. Ottawa: Canadian Agricultural Trade Policy Research Network. CATPRN Commissioned Paper 2010-03.

Vogel, D. (2012): The Politics of Precaution. Regulating Health, Safety, and Environmental Risks in Europe and in the United States. Princeton, Oxford: Princeton University Press.

Voß, J. O. (2014): Brauchen Investitionen im TTIP Schutz? Überlegungen zum Investitionsschutz im transatlantischen Freihandelsabkommen. Bonn: Friedrich-Ebert-Stiftung, Abteilung Wirtschafts- und Sozialpolitik. WISO direkt.

Walsh, M. P. (2011): Automobile Emissions. In: Wiener, J. B., Rogers, M. D., Hammitt, J. K., Sand, P. H. (Eds.): The Reality of Precaution. Comparing Risk Regulation in the United States and Europe. Washington, DC, London: RFF Press, p. 142-158.

Waxman, H. A. (2004): A special interest case study: The Chemical Industry: The Chemical Industry, the Bush Administration, and European efforts to regulate chemicals. Washington, DC: United States House of Representatives.

Weiss, C. (2003): Scientific Uncertainty and Science-Based Precaution. International Environmental Agreements: Politics, Law and Economics 3 (2), p. 137-166.

The White House - Office of Management and Budget (2011): Regulatory Impact Analysis: A Primer. Washington, DC: The White House, Office of Management and Budget. https://www.whitehouse.gov/sites/default/files/omb/inforeg/regpol/circular-a-4_regulatory-impact-analysis-a-primer.pdf (04.12.2015).

Wiener, J. B. (2011): The Real Pattern of Precaution. In: Wiener, J. B., Rogers, M. D., Hammitt, J. K., Sand, P. H. (Eds.): The Reality of Precaution. Comparing Risk Regulation in the United States and Europe. Washington, DC, London: RFF Press, p. 519-566.

Wiener, J. B., Rogers, M. D. (2002): Comparing precaution in the United States and Europe. Journal of World Trade 5 (4), p. 317-349.

WTO (World Trade Organization) (2015a): United States - Measures Concerning the Importation, Marketing and Sales of Tuna and Tuna Products Recourse to Article 21.5 of the DSU by Mexico. AB-2015-6. Report of the Appellate Body. Geneva: WTO. WT/DS381/AB/RW. https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds381_e.htm (10.12.2015).

WTO (World Trade Organization) (2015b): World Development Report 2015: Speeding up trade: benefits and challenges of implementing the WTO Trade Facilitation Agreement. Geneva: WTO. https://www.wto.org/english/res_e/booksp_e/world_trade_report15_e.pdf (12.11.2015).

WTO (World Trade Organization) (2009): European Communities - Measures Concerning Meat and Meat Products (Hormones). Geneva: WTO. Dispute Settlement: Dispute DS26. https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds26_e.htm (10.06.2015).

WTO (World Trade Organization) (2008): European Communities - Measures Affecting the Approval and Marketing of Biotech Products. Geneva: WTO. Dispute Settlement: Dispute DS291. https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds291_e.htm (10.06.2015).

WTO (World Trade Organization) (1998): EC Measures Concerning Meat and Meat Products (Hormones). Report of the Appellate Body. Geneva: WTO. WT/DS26/AB/R – WT/DS48/AB/R. https://docs.wto.org/dol2fe/Pages/FE_Search/ExportFile.aspx?Id=33861&filename=q/WT/DS/26ABR-00.pdf https://docs.wto.org/dol2fe/Pages/FE_Search/ExportFile.aspx?Id=33861&filename=q/WT/DS/26ABR-01.pdf (09.12.2015).

Zagel, G. M. (2015): Transatlantic Trade and Investment Partnership (TTIP). Überblick und Analyse der Kritik im rechtlichen Kontext. Zivilrecht Aktuell 11 (6), p. 107-111.

Zander, J. (2010): The Application of the Precautionary Principle in Practice. Comparative Dimensions. Cambridge: Cambridge University Press.

Zengerling, C. (2013): Greening International Jurisprudence. Environmental NGOs before International Courts, Tribunals, and Compliance Committees. Leiden: Nijhoff. Legal aspects of sustainable development 17.

Zhan, J. X. (2015): Investor-State Dispute Settlement: Alternatives and Implications. Vortrag, Joint Public Hearing Committee on Legal Affairs and the Committee on International Trade "Transatlantic Trade and Investment Partnership (TTIP): Regulatory Aspects, Investor to State Dispute Settlement (ISDS) and Arbitration", 27.01.2015, Brüssel.

List of abbreviations

BDI	=	Federation of German Industries (Bundesverband der Deutschen Industrie e.V. – BDI)
BImSchG	=	Federal Immision Control Act (Bundes-Immissionsschutzgesetz)
BIT	=	Bilateral investment treaty
BMUB	=	Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety)
BUND	=	Bund für Umwelt und Naturschutz (Friends of the Earth Germany)
CE label	=	With the CE label, the manufacturer, marketer or EU authorised representative pursuant to EU Regulation 765/2008 declares that the product satisfies the prevailing requirements for its affixing which are laid down in the Community's provisions on harmonisation.
CEN	=	European Committee for Standardization
CENELEC	=	European Committee for Electrotechnical Standardization
CEPII	=	Centre d'Etudes Prospectives et d'Informations Internationales
CEPR	=	Centre for Economic Policy Research.
CETA	=	Comprehensive Economic and Trade Agreement
CGE models	=	general equlibrium models
CMR substances	=	Substances which are carcinogenic, mutagenic or toxic to reproduction
CPSC	=	US consumer protection agency
DIHK	=	Deutscher Industrie- und Handelskammertag (Association of German Chambers of Industry and Commerce)
DIN	=	German Institute for Standardization (Deutsches Institut für Normung)
ECHR	=	European Convention on Human Rights
ECJ	=	European Court of Justice
EPA	=	US Environmental Protection Agency
ETSI	=	European Telecommunications Standards Institute
EUGrCh	=	Charta der Grundrechte der Europäischen Union (European Union Charter of Fundamental Rights)
FAO	=	Food and Agriculture Organization of the United Nations
GATT	=	General Agreement on Tariffs and Trade
GDP	=	Gross domestic product
GG	=	Grundgesetz (German Basic Law)
GMO	=	genetically modified organism
ICSID	=	Internationales Zentrum zur Beilegung von Investitionsstreitigkeiten (International Centre for Settlement of Investment Disputes)
IEC	=	International Electrotechnical Commission
IMO	=	International Maritime Organization
ISDS	=	Investor-Staat-Streitbeilegung (investor-state dispute settlement)
ISO	=	International Organisation for Standardization

ITU	=	International Telecommunication Union
MARPOL	=	International Convention for the Prevention of Pollution from Ships
NAFTA	=	North American Free Trade Agreement
NTB	=	non-tariff trade barriers
OECD	=	Organisation for Economic Co-operation and Development
OSHA	=	US Occupational Health and Safety Organization
PBT substances	=	persistent, bioaccumulable and toxic substances
REACH	=	Registration, Evaluation, Authorisation and Restriction of Chemicals
REFIT	=	Regulatory Fitness and Performance Programme
REFIT	=	Regulatory Fitness and Performance Programme
SPS	=	sanitary and phytosanitary (measures)
SRU	=	Sachverständigenrat für Umweltfragen German Advisory Council on the Environment
TBT agreement	=	agreement on technical barriers to trade
TEC	=	Transatlantic Economic Council
TFEU	=	Treaty on the Functioning of the European Union
TPP	=	Transpacific Trade Partnership
TSCA	=	Toxic Substances Control Act (US)
TTIP	=	Transatlantic Trade and Investment Partnership
UBA	=	Umweltbundesamt (German Federal Environment Agency)
UN ECE	=	United Nations Economic Commission for Europe
UNCITRAL	=	United Nations Commission on International Trade Law
US-EPA	=	United States Environmental Protection Agency
USTR	=	United States Trade Representative
WHO	=	World Health Organization
WTO	=	World Trade Organisation
ZdH	=	Zentralverband des Deutschen Handwerks (German Confederation of Skilled Crafts)

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