Hamburg Institute
of International
Economics

FREE TRADE

Strategy 2030

Wealth and Life
in the next Generation.
An initiative of
the Hamburg Institute of
International Economics
and Berenberg

BERENBERG
PARTNERSHIP SINCE 1590

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Strategy 2030 is the title of a research series that our Bank has been publishing since 2005, together with the Hamburg Institute of International Economics (HWWI). Our aim with these studies is to highlight trends that we are engaged with today which will also have an impact on tomorrow. After all, our behaviour today will definitively determine and influence the lives of the next generation.

The world is changing at an increasing pace. This pace is being driven by the increasing frequency of new technological innovations, a rapidly expanding body of knowledge, and a globalised economy. Political, social, technological and economic catalysts have become fully integrated in this process of transformation, sometimes magnifying each other's effects, sometimes hampering further progress. As a result, these changes are perceived as becoming ever more complex and increasingly less tangible. This point is gaining increasing relevance, as the developments that are taking place now will inevitably affect matters far into the future, resonating across generations.

In light of this, we are dedicating the »Strategy 2030 – Wealth and life in the next generation« series to long-term, macroeconomic questions which go beyond traditional themes related to financial markets, focusing on social processes of transformation. The studies combine the expertise of economic researchers who are renowned beyond our nation's borders with the comprehensive experiences of a leading private bank that is steeped in tradition.

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Key findings at a glance

- Even now that the global financial crisis and the euro crisis have been overcome, the world is still looking for new ways to stimulate economic growth. Liberalisation of international trade is one of the promising instruments for attaining this goal.
- However, the controversies surrounding the Transatlantic Trade and Investment Partnership (TTIP) make it clear that trade liberalisation is more complicated than ever. Besides the relatively simple goal of eliminating tariffs and other barriers to trade, trade agreements must also accommodate wide-ranging public demands concerning the safety and quality standards applicable to traded goods and services. By itself, the prospect of additional economic growth is no longer enough to convince the public of the advantages of free trade.
- Notwithstanding these concerns, the contemplated TTIP would establish even closer trade relations between the world's two biggest economic zones (the USA and the EU together account for almost half of global GDP). For the EU, this trade agreement could fuel a GDP increase of up to roughly 0.5%, or approximately EUR 120 billion, over the long term.
- Whereas the overall economic impact would be relatively modest, individual sectors and companies would derive a far greater benefit. For example, the TTIP would create the world's biggest trade zone in chemicals. Together, the EU and the USA are responsible for slightly more than 34% of global chemical sales (China: 31.4%).
- In combination with some other foreseeable trends, the further intensification of trade would cause appreciable changes in economic activity. For example, we believe that it would unleash an intense investment race, which would stimulate economic growth. On the other hand, the middle class in the industrialised nations could shrink even further, and there could be a further concentration of income and wealth distribution.
- Due to increased specialisation and division of labour, the globally interconnected economy is becoming more efficient, but also more vulnerable to crisis. Even smaller missteps could provoke major economic consequences. Therefore, business leaders, academic experts, and government officials are well advised to develop concepts that will increase the »error tolerance« of the global economy. But first, governments must be prepared to respond to a future economic crisis, and they must set aside fiscal policy reserves for this purpose.

1 Introduction

Trade protectionism, defined as the economic insulation of domestic producers against foreign competition, substantially worsened the global depression of the 1930s. At the beginning of the global economic crisis of 2008, many experts feared that the affected countries might resort to protectionism and considerably restrict their trade with the rest of the world. Fortunately, national governments had learned the lessons of the Great Depression. In 2008 and afterwards, they left their borders open to trade, thereby preventing a more drastic collapse. Thus, the world avoided the adverse consequences of a global trade war.

It is widely accepted today that international trade produces prosperity-increasing effects. Therefore, it is hardly surprising that many countries today regard free trade agreements as a means of stimulating economic growth. In the last few years, the European Union not only had to contend with the global financial crisis, but also grappled with the systemic euro crisis. The Comprehensive Economic and Trade Agreement (CETA) between the EU and Canada, which is on the verge of being finalised, and the Transatlantic Trade and Investment Partnership (TTIP) between the EU and the USA can be expected to generate additional growth in the future.

2 Transatlantic Trade and Investment Partnership (TTIP)

2.1 What is the Transatlantic Trade and Investment Partnership TTIP?

Through the Transatlantic Trade and Investment Partnership (TTIP), the European Union and the United States of America intend to create the world's biggest free trade zone. The trade agreement would reduce tariffs and other barriers to trade, and harmonise technical regulations, standards, and permitting procedures on both sides of the Atlantic, with the overarching goal of creating additional prosperity and jobs. The TTIP is meant to strengthen the shared values of Europe and America, bolster their positions of economic dominance, and thus establish a counter-weight to dynamically emergent economies such as China, for example.

In some quarters, the TTIP is dismissed as a »cheap economic stimulus program.« However, the effects of the agreement would go far beyond purely economic concerns. It has the potential to set worldwide standards. The successful conclusion of TTIP negotiations would be regarded as a benchmark for future free trade agreements.

The TTIP is not just a trade agreement, but also an investment agreement. Besides the extensive reduction of tariffs, the TTIP would also seek to lower non-tariff barriers to trade (such as technical requirements and standards, for example). This would make it easier for European and American companies to invest in the other economic zone, respectively.

A free trade agreement between the EU and the USA would be a logical step forward, because the two economic zones conduct extensive trade already today. For example, the USA is the most important export market for the EU, and the second-biggest export market for Germany, after France. According to estimates of the Cologne Institute of Economic Research, 600,000 jobs in Germany today are directly or indirectly dependent on goods exports to the USA. Above all, export-oriented German small-and-medium-size enterprises stand to benefit from comprehensive trade liberalisation.

The most important points are summarised below:

- The overriding goal of the TTIP is to intensify trade in goods and services between the EU and the USA by reducing tariffs and non-tariff barriers to trade and by establishing common standards.
- Common standards include technical regulations, standards, and permitting procedures.
- The TTIP should make it easier for companies from the EU and the USA to invest in the other economic zone, respectively. (See the comments on investment protection below).
- Protective mechanisms that have already been put in place (including environmental and health protection standards, for example) would not be affected by the TTIP. The intent is to minimise existing differences, while also preserving sensible standards aimed at protecting consumers, the environment, and health.
- The intended effect of the TTIP is to increase prosperity, economic growth, and employment in both economic zones.

Time plan

Concrete negotiations on the TTIP commenced on 16 July 2013. Originally, the negotiations were considered to be a nobrainer, and therefore ratification was initially expected in October 2014. However, resistance to the trade agreement has grown with every round of negotiations. At the present time, a ratifiable agreement is expected to be ready at the end of 2015, but even this date is now considered to be ambitious. German Finance Minister Wolfgang Schäuble (CDU) is only one of many who no longer believe that a final agreement can be reached by the end of 2015. However, the negotiating parties are pushing for a speedier agreement, in view of the US Presidential elections in 2016, following shortly thereafter by the federal parliamentary elections in Germany, among others. No one wants to conduct negotiations against the backdrop of national elections because the sought-after agreement is too controversial politically. In the meantime, however, even this time plan is no longer considered to be realistic (as of early December 2014).

Criticisms

The planned free trade agreement has many critics. Opponents fear that standards and regulations will be harmonised at the expense of currently stricter standards. Such critics are primarily concerned with the quality of European consumer protections and U.S. healthcare standards. Another criticism is that the negotiations are being conducted behind closed doors, fuelling the suspicion that preference is being given to the interests of companies and investors.

Many critics are particularly worried about the intended investment protection, as they believe that it would effectively circumvent democracy and the rule of law, because claims asserted by foreign companies against national governments would be settled by international arbitration tribunals, beyond the jurisdiction of European courts. As a result, so the critics claim, national governments would cede their sovereignty to industrial enterprises, at the expense of their citizens. If the agreement is found to have been breached, so they claim, the affected nation could be sentenced to pay high amounts of damages, which would be borne by taxpayers. Another issue besides investment protection that provokes great anxiety is the food sector. Chlorinated chicken, genetically modified maize, and hormone-treated meat are only some of the sensitive topics that are invariably raised in press coverage of the TTIP. Such negative headlines have thrown some European and U.S. citizens into a fullblown panic over the TTIP. Naturally, the highly sceptical nature of public debate has had the effect of slowing the negotiation process. The failure of this project would be a political disaster. Therefore, we will take a somewhat closer look at the various criticisms.

Investment protection

The most contentious point of the free trade agreement at present is the planned investment protection to be granted to foreign investors. Corporations will have a direct cause of action whenever the value of an investment is reduced by government action or legislative changes. This special

cause of action is intended to protect foreign companies against arbitrary actions on the part of national governments, including expropriation, for example. Such claims will be adjudicated by private lawyers before an international arbitration tribunal. The ruling of this tribunal will be unappealable and directly enforceable. This special cause of action would be granted only to foreign companies, not to national governments or domestic companies, which might also have sustained profit losses as a result of changes to relevant laws.

The legal asymmetry of investment protection is the particular bone of contention of this proposal. Even when faced with the same situation as foreign companies, domestic companies would »only« be allowed recourse to ordinary courts of law, whereas foreign companies would be entitled to present their arguments to international private lawyers. Critics assert that this arrangement would establish a parallel legal system that circumvents existing legal systems, thereby massively expanding the rights of private corporations. In practice, companies could be vested with the power to directly challenge new, democratically enacted laws.

The cause of action would not be retroactive. Thus, laws enacted before the trade agreement is ratified would be unchallengeable. Nonetheless, this expansion of companies' power could prove to be very costly for citizens. Arbitration tribunals could award billions of euros in damages to companies, which would be borne by the taxpayers of the respective country. A prominent example is the case of the Swedish energy company Vattenfall, which filed suit against the German federal government for changing pertinent laws in the course of Germany's surprising exit from atomic energy following the Fukushima catastrophe. The early shutdown of Vattenfall's two power plants in Krümmel und Brunsbüttel caused losses for Vattenfall that were not foreseeable at the time of entering into the contracts. The arbitration tribunal awarded Vattenfall damages of € 3.7 billion.

Critics fear that such arbitration proceedings could multiply under the TTIP. Consequently, national governments may be inclined not to pass strict laws in order to avoid possible arbitration proceedings with powerful corporations. Therefore, European nongovernmental organisations (NGOs) are demanding the removal of investment protection from the trade agreement. Investment protection is included in the already drafted free trade agreement between the EU and Canada (CETA), but it is by no means set in stone. CETA is considered to be a blueprint for the TTIP. If investment protection is anchored in the CETA, it will also be included in the TTIP.

Despite all the criticism, investment protection is not a new concept. Arbitration proceedings between investors and governments have been conducted for decades already. They were originally designed to protect investments in regions with under-developed legal systems. Germany alone has entered into more than 130 bilateral investment protection conventions. The U.S. business lobby is vehement in its insistence on investor protection as an integral part of the TTIP. By contrast, opinions in Europe are divided. On the one hand, proponents welcome the establishment of comparable standards for the treatment of foreign investments, which could be brought to bear in the settlement of disputes. On the other hand, the German Federal Economics Minister Sigmar

Gabriel (SPD) argues that arbitration proceedings between investors and the national government are not needed in a trade agreement between countries that already have well established legal systems, which is principally the case with the EU and the USA. No decision has yet been reached on whether investment protection will be an integral part of the TTIP.

Exclusion of the public/lack of transparency

Another point of criticism involves the (insufficient) transparency of the negotiations. Critics feel that the exclusion of the public and the strict secrecy of the negotiation contents are undemocratic. In this regard, it certainly does not help that the EU Commission has praised the trade agreement as the most transparent in history. Furthermore, critics take little comfort in the fact that a number of EU parliamentary delegates are allowed to view transcripts in reading rooms, or that position papers are published on the Internet prior to each meeting of negotiating partners. Associations, companies, and NGOs have taken advantage of the opportunity to meet with the lead negotiators of both sides after each round of negotiations to learn more about the current status. But critics are not placated by such arrangements. Although some details have leaked out in response to the growing public protest, the exact status of negotiations is supposed to be kept secret until ratification. However, the EU Commission has announced that the negotiating process will be made more transparent in the future, in that minutes of negotiation sessions will be made available to all EU parliament members and their aides.

Notwithstanding the many doubts that have been raised, the negotiating parties have repeatedly asserted that the trade agreement will benefit both the general populace and businesses on both sides of the Atlantic. On the European side, both the EU Commission and the EU member states remain in close contact with the various interest groups. However, TTIP opponents question the authority of the EU Commission to conduct the negotiations on behalf of Europeans. This particular argument is refuted by the fact that the EU Council has granted the EU Commission an extensive mandate to negotiate a comprehensive package with the United States, and the EU Commission has even published the TTIP negotiation mandate. While the process may be criticised as secretive, therefore, it cannot be said that it is undemocratic.

Harmonisation of standards

On the subject of potentially weakened quality standards, the positions have hardened of late. The Europeans have no trust in the U.S. food hygiene regulations, and the Americans do not trust the European standards for medical products. While it is true that the EU standards are stricter than the U.S. standards in many respects, there are also areas in which the opposite is true. For example, hundreds of chemicals are permitted for use in European cosmetic products, whereas only a handful of chemicals are permitted in the United States. Critics fear that standards will be harmonised »down.« In exchange for loosened permitting controls on new medicines in the United

States, the EU could yield to US demands for concessions, including permission to sell genetically modified maize in Europe, for example. Fears that hardwon standards will be weakened appear to be overblown. According to statements made by EU Trade Commissioner Karel De Gucht, who is leading the negotiations for the Europeans, in an interview with the magazine »Wirtschaftswoche« in late July 2014, there will be no chlorinated chicken or hormone-treated meat in Europe. The EU Commission is also taking pains to assuage such concerns. Although the goal is to harmonise standards, the high level of consumer protections will be upheld. The goal is to establish common rules, not set off a »race to the bottom« in terms of quality. For example, harmonised labelling regulations would save European companies a lot of money.

Nonetheless, critics maintain that history has shown that the harmonisation that accompanies free trade agreements typically involves a weakening of standards. If the weakest or business-friendliest standard of any given country is adopted as the binding standard under the free trade agreement, that could unleash a downward spiral. The result would be cheaper, simpler, faster, but not necessarily better processes. Therefore, TTIP opponents are demanding the incorporation of a clause that guarantees the continued application of the highest standard in every case. Furthermore, the German Federation of Trade Unions is demanding that signatory states be permitted to enact stricter laws in the areas of labour markets, social affairs, environmental protection, occupational health and safety, and consumer protections in the people's interest, also after ratification of the TTIP.

Access to public-sector contracts

One part of the trade agreement involves the equalisation of EU and US companies in the markets for public-sector contracts and procurement. In practice, this new rule would mean that public-sector tenders must be published on both sides of the Atlantic, in order to prevent discrimination against foreign bidders. Critics of this part of the TTIP complain that the tender procedures currently practiced in Europe are nerve-wracking enough. The idea of equalisation may indeed be progressive, but it is unclear at the present time how the intended opening of public-sector procurement markets will be implemented in practice.

Particular issues of concern in the TTIP negotiations

Agricultural concessions

Critics fear that the opening of the European agricultural sector could pave the way for US dumping prices to completely destroy small farmers in Europe. US agriculture is industrialised, whereas family farms or medium-sized agricultural enterprises are prevalent in the EU, and therefore US producers can offer agricultural products at lower prices. The elimination of agricultural tariffs and trade barriers could have serious effects on the European domestic market. It is probable that the Europeans will make concessions regarding the opening of agricultural markets.

According to EU Trade Commissioner De Gucht, however, the only concessions under discussion at the present time involve beef sales.

Precautionary principle

The socalled »precautionary principle« is applicable in Europe. It states that no technology may be used if potentially harmful consequences cannot be ruled out with certainty. In the United States, the opposite principle applies: A product may be banned only if harmful consequences can be proven. Critics fear grave economic and environmental damage in Europe if this principle is weakened, because European consumer protection laws are naturally much more restrictive than those in the United States.

One topical example is fracking, the controversial method for extracting oil and gas from unconventional underground deposits. Whereas natural gas production based on such technology has increased substantially in the United States, fracking is banned in some countries of Europe (the decision is left to member states) because this technology is deemed to be very risky. Such laws could possibly be changed in the course of harmonisation with US law.

2.2 Trade between the European Union and the United States

In order to assess the significance and potential effects of a free trade agreement between the EU and the USA, the economic roles and current trade ties of these two regions should first be considered. The EU and the USA are the two biggest economic regions in the world. Although their relative importance is diminishing somewhat as a consequence of the growing economic strength of other nations (such as China, for example), they still account for nearly half the world's economic output. Their proportional shares of global trade reflect the size of these economies. In 2013, the EU accounted for approximately 15%, and the USA for approximately 12.9% of total world trade. Furthermore, the EU is the most important trading partner of the USA, and vice versa. In 2013, 16.8% of the foreign trade of the United States (including both exports and imports) was conducted with the EU, followed by Canada (16.4%) and China (14.6%). Conversely, trade with the USA accounted for 14% of the total extra-EU foreign trade of EU countries. The other important trading partners of the EU were likewise China, which accounted for 12.5% of extra-EU trade, followed by Russia and Switzerland (9.6% and 7.7%, respectively). In terms of absolute numbers, the EU exported goods and services worth about € 447 billion to the USA in 2013, and imported goods and services worth about € 342 billion from the United States. Thus, the EU generates a substantial trade surplus with the USA.[1]

The USA is also an important trading partner for Germany. Exports to the USA amounted to roughly € 90 billion in 2013, representing about 8% of the country's total exports. US imports to Germany amounted to nearly € 49 billion.[2]

1 See European Commission (2014).
2 See Statistisches Bundesamt (2014).

Structure of trade

In terms of sectors, industrial goods accounted for the lion's share of traded goods between the EU and the USA. In 2013, more than 80% of total exports from the EU to the USA amounting to € 288 billion were industrial goods, leaving a relatively small share of agricultural goods. Exported services in the amount of approximately € 159 billion were less than half as much as exported goods. Services are more important for the USA, accounting for € 146 billion worth of exports to the EU, as compared to € 196 billion worth of exported goods. Furthermore, the proportion of agricultural exports is somewhat higher for the USA.[3]

Considering the most important types of goods traded between the EU and the USA, one quickly notices that most trade is conducted in the same categories of products, which also represent similar proportions of the respective trade figures.[4] Machinery and Transport Equipment are the biggest category by far, accounting for about 40% of the bilateral exports of the EU and USA in 2013. The second-biggest category is chemical products, accounting for about 22% of bilateral exports in both cases, followed by other industrial goods and manufactured goods, and mineral fuels. The same ranking applies also to categories of goods traded between the USA and Germany, except that Machinery and Transport Equipment represent about 60% of German exports (USA slightly less than 50%). Chemicals represent 17% of the bilateral exports of both countries.

Great similarities can also be observed with respect to the manner in which the traded goods are used. Manufactured goods for industrial uses and capital goods represent about one quarter of the bilateral exports of the EU and the USA. The biggest differences can be found in the sectors of food and beverages, fuels and lubricants, and transport equipment and vehicle accessories. The USA exports more primary food products to the EU, while the EU exports more con-

3 See European Commission (2014).
4 See Figure 1.

EU Foreign Trade with the USA in 2013, Breakdown of Total Imports and Exports of Goods

in Euro billions

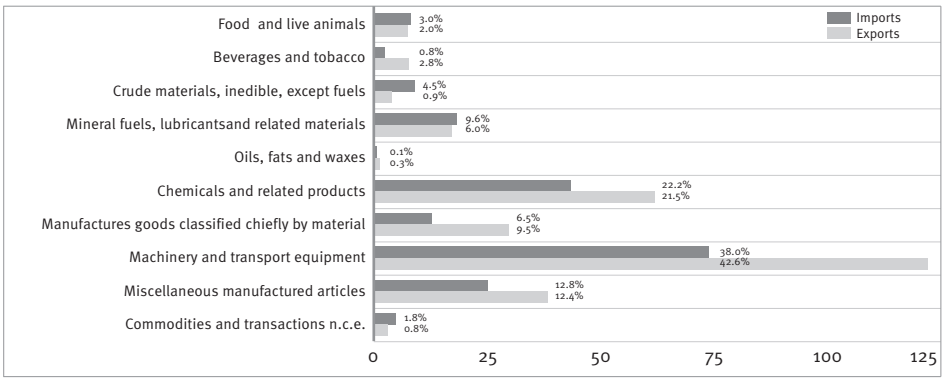

Fig. 1 Sources: Eurostat (2014); HWWI (2014).

sumption-ready processed food products to the USA. In the category of transport equipments and vehicle accessories, the EU exports considerably more passenger vehicles to the USA, representing about 10% of total exports, as compared to 2.2% for US exports to the EU. By contrast, individual parts and accessories represent nearly 15% of the USA's exports to the EU, as compared to 10.3% in the opposite direction.[5]

Openness of markets and barriers to trade

Eliminating barriers to trade as part of a free trade agreement is a necessary prerequisite for stimulating additional trade. Generally speaking, the markets of the EU and the USA are very open to international trade, based on the ICC Open Markets Index 2013, with scores on the level of the average values for comparable countries. According to this index, the USA ranks above average in the categories of trade policy and infrastructure, but scores below average in the category of observed openness to trade. Based on the overall score, the USA ranks 38 of the 75 countries studied. Among EU countries, both Germany and the United Kingdom, as well as the smaller member states in particular, receive above-average scores. The southern nations of Greece, Spain, Portugal, and Italy have the lowest scores, although no EU country has a below-average score overall.[6]

The currently high level of openness to trade is mainly reflected in the generally low tariff rates. In terms of sectors, both the EU and the USA levy the highest tariffs on agricultural products. The average tariff rate in the EU is 4.9% for agricultural products from the USA, while in the opposite direction the average tariff rate is 7.9%. However, if one weights the average tariff rates by the volumes of traded goods, the tariff rate levied on agricultural products from the USA is only 3.9%, and the tariff rate levied on products from the EU is only 2.6%. The difference between the weighted and unweighted tariff rates can be seen at least partially as an indication of the trade-steering effects of tariffs. For industrial goods, the weighted average tariff rate is 2.8% for both the EU and the USA. The difference between the weighted and unweighted averages is less than in the agricultural sector. In this case, the tariff rates of around 3.5 % are approximately the same.[7]

Higher tariff rates are levied on certain product categories, where they can have an even greater influence on trade. For example, the tariff rate for small trucks exported from the EU to the USA is very high, at 25%. In the opposite direction, the EU levies 22% on the same type of product. Furthermore, tariffs on specific agricultural products exported to the EU can range as high as 25%. The USA levies particularly high tariffs on clothing, textiles, and leather goods; these can be as high as 56%.[8] In such cases, a free trade agreement between the EU and the USA would make imported goods considerably cheaper. However, this particular detail could hardly be expected to appreciably stimulate trade, given the comparatively small quantities involved.

5 See Handel nach BEC System (Eurostat 2014).
6 See International Chamber of Commerce (2013).
7 See Gregosz/Walter (2013).
8 See Heinrich-Böll-Stiftung (2014).

Many economists and politicians believe that the elimination of non-tariff barriers to trade as part of a trade agreement between the EU and the USA would have the greater effect. As mentioned in the preceding chapter, the harmonisation of standards is an important topic of discussion in relation to the TTIP, because this is an area in which there are some major differences between the EU and the USA. Therefore, food and agriculture are particularly important sectors. Numerous differences can be observed in the areas of food safety, animal protection, and crop protection. Because this area affects consumers directly, this topic has drawn wide press coverage, including the rejection of chlorinated chicken and genetically modified maize in the EU, and the limits set by the USA on the levels of mould and bacteria used in the production of certain cheeses. Furthermore, European designations of origin for food products are not protected in the USA.

The harmonisation of standards in the sectors of chemicals, medicine, and automobiles could generate a significant quantitative effect, considering that these sectors make up a substantial portion of bilateral trade between the EU and the USA. This issue primarily involves technical standards, permitting procedures, reporting obligations, and limit values. Finally, the national regulations applicable to certain industries exclude foreign companies, thereby skewing the market, or they necessitate duplicate organisations for companies in the USA and the EU. For example, European airlines are permitted to purchase no more than 24.9% of a US airline, and are not permitted to offer routes between destinations in the USA. As other examples, cross-border IT services are not permitted in many instances, and foreign companies are often disadvantaged in the awarding of public-sector contracts.[9]

Non-tariff barriers to trade lead to higher costs, whether through the distortion of market prices or the necessity of maintaining duplicate organisations in manufacturing or permitting. However, it is difficult to estimate exactly what effects the elimination of some of these trade barriers and the related cost reductions would have on the overall volume of trade conducted between the EU and the USA. Furthermore, previous estimates related to the TTIP are often subject to criticism.

9 See Gregosz/Walter (2013).

3 Macroeconomic effects of trade agreements

3.1 Estimates of the effects of the TTIP

As in the case of trade agreements in the past, some studies attempting to quantify the potential economic effects have also been prepared in the course of the TTIP negotiations to date. In the following, we discuss the results and methodologies of two influential studies, one by the Centre for Economic Policy Research (CEPR) and the other by the Ifo Institute (Felbermayr et al. 2013a, 2013b). The CEPR study was commissioned by the European Commission and can therefore be regarded as an important decision basis. The Ifo Institute study was commissioned by the German Federal Ministry of Economics and Energy, and has therefore been widely discussed within Germany, in particular. Furthermore, a similar study, but one employing a slightly modified methodology, was commissioned by Bertelsmann Stiftung.

Estimates of the CEPR

The first comprehensive forecast of the economic effects of a trans-Atlantic trade and investment agreement was published in the study of the Centre of Economic Policy Research in September 2013. In this study, the authors estimate the effects of measures packages of different scopes on key macroeconomic indicators in the EU, the USA, and the rest of the world.

Scenarios

The scenarios examined in this study differed with respect to both the nature of trade barriers to be reduced, and the scope of such reductions. A two-step approach was adopted for this purpose. In the first step, the effects of partial agreements that are limited to specific categories of measures (tariff reductions, non-tariff barriers to trade in private services and public-sector procurement) were contrasted with the effects of complete measures packages. In the second step, such measures packages were differentiated on the basis of scope, in the form of an ambitious scenario and a less ambitious scenario. These two scenarios differ particularly with respect to the scope of reduction of non-tariff barriers to trade. As to why it was assumed that the cost savings potential of measures aimed at non-tariff trade barriers is considerably less, the authors cite historical differences in culture and consumer preferences between the economic zones. The harmonisation of norms and standards is much more difficult to achieve politically than the elimination of tariffs, in their opinion.

The treatment of trade costs is a special aspect of this chosen estimation approach. Whereas tariffs can be quantified fairly easily in the form of percentage increases in prices, it is extremely difficult to quantify the costs of non-tariff barriers to trade, particularly as a result of different norms and product standards. After all, such measures necessarily involve a large number of detailed provisions, the macroeconomic effects of which are hard to estimate. For this purpose, the CEPR study employs the methodology utilised in an earlier study by the research institution ECORYS, under which the costs of non-tariff trade barriers are calculated as percentage increases to the

tariff-specific trade costs on the basis of surveys of market access restrictions.[10] A further assumption was made in relation to the possible effects of the harmonisation of product standards on third countries, which are supposed to benefit directly or indirectly from uniform standards in the USA and the EU. For example, a Chinese manufacturer should derive direct cost savings from the fact that it can now manufacture its products for both the American market and the European market on the basis of the same legal standards. An indirect savings is supposed to result from the hoped-for global strategic effects of the free trade agreement. The sheer size of the trade block so created is thought to exert pressure particularly on emerging-market countries to harmonise their product standards with Western product standards. According to the assumptions made in the study, manufacturers in emerging-market countries are expected to derive the benefit of lower trade costs from this step in the direction of global harmonisation.

Results

The simulated income gains expected to result from the TTIP differ considerably, depending on the scenario. Under the limited scenarios, only the tariff reduction would have an appreciably positive effect, especially for the EU in this case. In a corollary finding, the effects on trading activity were found to be the greatest under this scenario. By contrast, the effects of individual measures on the rest of the world are consistently negligible. The results of the comprehensive scenarios suggest that a coordinated approach can increase the income effect substantially. Interestingly, the simulations show that the income effect of even the less ambitious comprehensive scenario is considerably greater than the sum of effects of the individual measures. Under the most ambitious scenario, the GDP of the EU would be 0.48% higher, and the GDP of the USA would be 0.39% higher in 2027 than they would be in the absence of the TTIP (see Table 1). Thus, the EU would derive a somewhat stronger benefit than the USA, due to the somewhat greater openness of its markets. Despite trade-diverting effects, even the rest-of-world GDP would be 0.12% higher as a result of the TTIP.

10 See ECORYS (2009).

Percentage Effect of the TTIP in 2027, according to CEPR estimates

		Change in GDP (%)			Change in Trading Volumes (%)			
Degree of Liberalisation		EU	USA	Rest of World	EU Exports	EU Imports	USA Exports	USA Imports
Limited scenarios	Tariffs	0.10	0.04	-0.02	1.18	1.00	1.91	1.13
	Services	0.02	0.03	0.00	0.16	0.13	0.19	0.57
	Public-sector Procurement	0.02	0.01	0.00	0.19	0.18	0.23	0.14
Comprehensive scenarios	Less ambitious	0.27	0.21	0.05	3.37	2.91	4.75	2.81
	Ambitious	0.48	0.39	0.12	5.91	5.11	8.02	4.74

Tab. 1 Source: CEPR (2013).

Absolute Effect of the TTIP in 2027, according to CEPR estimates

		Change in GDP (€ billions)			Change in Trading Volumes (€ billions)			
Degree of Liberalisation		EU	USA	Rest of World	EU Exports	EU Imports	USA Exports	USA Imports
Limited scenarios	Tariffs	23.7	9.4	-2.3	43.7	44.3	57.3	47.8
	Services	5.2	7.4	0.1	5.8	5.7	5.5	4.7
	Public-sector Procurement	6.4	1.9	0.1	7.1	7.9	5.9	5.9
Comprehensive scenarios	Less ambitious	68.2	49.5	7.9	125.2	128.4	142.1	118.8
	Ambitious	119.2	94.9	17.9	220.0	225.9	239.5	200.5

Tab. 2 Source: CEPR (2013).

In percentage terms, these changes do not appear to be impressive at first glance, but the picture changes when they are converted into absolute money amounts. Under the ambitious scenarios, European GDP is expected to be higher by an amount between € 68.2 billion and € 119.2 billion, and US GDP by an amount between € 49.5 billion and € 94.4 billion, than the respective GDP figures in the absence of a free trade agreement. If the free trade agreement is limited to tariff reductions, however, increases of only € 23.7 billion in European GDP and only € 9.4 billion in US GDP are expected. In interpreting these results, it should be emphasised again that these projections only represent income increases compared with an alternative development in the (randomly chosen) year 2027. They provide no indication as to how the respective economies will develop during this period.

Estimates of the Ifo Institute

The Ifo Institute studies employ a different empirical approach. They estimate the effects of the TTIP on the basis of the observed effects of earlier trade agreements. Under this approach, no explicit distinction is made between individual barriers to trade; instead, they seek to quantify the overall trade-generating effect of the free trade agreement. Based on the average effects of the observed agreements, the aggregate long-term increase in the volume of trade between the EU and USA would be slightly less than 80%. The long-term horizon by which all adjustment processes are thought to have been completed is assumed to be 10 to 20 years. Thus, the average annual increase in projected bilateral trade is about 5%.

It is assumed that various geographical, historical, and political factors delineate a similarity between countries that favours the successful adoption of a free trade agreement. Embedded within a gravitation model of world trade, these conclusions are supposed to predict the potential for approval on a free trade agreement, as well as the trade-generating and trade-diverting effects of such an agreement. The Ifo Institute studies also contemplate different scenarios for the purpose of considering different potential outcomes of the TTIP negotiating process, so as to establish a corridor

of expectations relative to the potential effects. The studies contemplate two main scenarios that differ with respect to the extent of reduction of trade barriers. The tariff scenario only assumes the complete elimination of import tariffs. The NTB (non-trade barriers) scenario additionally assumes a partial elimination of non-tariff trade barriers, which would lead to an increase of almost 80% in the trade between the EU and the USA, based on the econometric analysis of previous free trade agreements.

Results

The results of the Ifo Institute studies are summarised in Table 3. In general, the estimated results of these studies are somewhat higher than those of the CEPR. Assuming the reduction of only import tariffs, the effects of the TTIP on incomes, wages, employment, and trade are the smallest, but the effect on GDP is roughly the same as calculated for the ambitious scenario in the CEPR study (see Table 1). Under the NTB scenario, the effects are considerably greater, particularly the welfare effects of 4.7% for Germany, 5.3% for the EU, and 13.4% for the USA. Thus, this effect is considerably higher than estimated in other studies. However, the stated welfare effects are not directly comparable with an increase in real gross domestic product, and are generally many times higher than the expected real GDP increases under the TTIP, which amount to slightly less than 1% for Germany, 1.3% for the EU, and 4.8% for the USA. On a percapita basis, that translates to income increases of about 2% in the USA and about 1.6% in Germany and the EU, compared with the expected development in the absence of a free trade agreement.Because consideration was given also to trade-diverting effects, income effects can be calculated for other countries as well. In this regard, it was found that primarily low-income countries in South America and Africa would be disadvantaged by the TTIP. GDP declines of 1% to 3% are projected for such countries.

Percentage Effect of the TTIP, according to estimates of the Ifo Institute

	Tariff Scenario			NTB-Scenario			Domestic Market Scenario		
	GER	EU	USA	GER	EU	USA	GER	EU	USA
Real GDP	0.5	0.5*	0.4	1.0	1.3*	4.8	–	–	–
Real GDP per capital	0.1	0.1	0.2	1.6	1.7	2.2	8.3	6.2	5.3
Welfare[1])	0.2	–	0.8	4.7	5.3*	13.4	–	–	–
Real wages	0.1	0.1	0.2	1.6	1.7	2.2	8.3	6.2	5.3
Employment[2])	2,100	9,890	6,250	25,220	98,910	68,790	109,300	280,890	103,190
Real wages (Bertelsmann)	0.5	–	0.9	2.2	–	3.7	–	–	–
Employment[2]) (Bertelsmann)	44,830	–	276,620	181,090	–	1.085,500	–	–	–
Exports									
USA → GER		1.7			93.6		–		
GER → USA		1.1			93.5		–		
USA → EU*		–			87		–		
EU → USA*		5.7			68.8		–		

Unless otherwise stated, all figures are taken from the Ifo Institute Study for the German Federal Ministry of Economics and Energy.
Long-term percentage difference compared with the basic scenario without TTIP.
1) Measured as equivalent variation (benefit of real per-capital income at constant prices).
2) Employment in absolute numbers.
* GDP, welfare effect, and bilateral exports for EU27 derived from aggregation of the country results of Raza et al. (2014).

Tab. 3 Sources: Felbermayr et al. (2013a); Felbermayr et al. (2013b); HWWI (2014).

With respect to labour market effects, the two ifo Institute studies employ different methodologies and produce widely different results. While positive wage and employment effects are projected by both studies, the employment gains predicted by the Bertelsmann study are many times higher. This difference can be attributed mainly to the fact that reallocation effects were not considered in the Bertelsmann study, and therefore employment gains in the export sector were not offset by employment losses in other sectors. The Ifo Institute study conducted for the German Federal Ministry of Economics and Energy, which takes reallocation effects into consideration, found a long-term employment effect of about 25,000 additional job-holders in Germany, 99,000 in the EU, and 69,000 in the USA. The average increase in real wages was found to be around 2%.

According to the Ifo Institute studies, a free trade agreement that only reduced tariffs between the USA and the EU would have almost no effect on bilateral trade. That also explains why the economic effect of such an agreement would be extremely weak, at best. Under the NTB scenario, exports between the USA and Germany would rise markedly by 94% for each country. Total US exports to the EU would increase by slightly less than 90%, whereas the EU could increase its exports to the USA by around 70%.

3.2 Economic appraisal of selected trade agreements

In the following, we compare the projected effects with the actual effects of three prominent examples of regional trade initiatives from recent decades: NAFTA, the creation of the EU single market, and the eastern expansion of the European Union in 2004. These examples serve as the basis for appraising the validity of forecasts of the economic effects of trade agreements, and the problems associated with such forecasts.

NAFTA

In 1992, the USA, Mexico, and Canada signed the North American Free Trade Agreement (NAFTA), under which tariffs and other trade barriers were to be lowered successively over a 15-year period, starting in 1994, in order to facilitate the free exchange of goods, services, and capital between the signatory countries. NAFTA is more farreaching than a free trade agreement per se, because it also includes clauses on the protection of intellectual property, environmental protection, and work standards, as well as dispute mediation procedures. The free movement of workers within the free trade zone was not part of the agreement, primarily because the US side feared that it would provoke a flood of immigration from Mexico.

Proponents expected that NAFTA would have positive effects on economic growth, employment, and wages in all three countries. The primary benefits propounded in the political debate in the USA included the creation of new jobs, lower prices for consumers, and new investment opportunities.[11] Generally speaking, however, the effects on the USA and even Canada were

11 See Clinton (1993); Congressional Budget Office (1993a).

deemed to be minor. Furthermore, a free trade agreement had been in effect between the USA and Canada since 1989, so that many barriers to trade between these two countries had already been eliminated. NAFTA was expected to bring about greater changes for Mexico, due to increased trade with the more developed US economy and increased foreign direct investments.

The expectations for NAFTA were based on a number of studies that attempted to estimate its macroeconomic effects. The authors Grumiller, Francois, and Shiells, as well as the U.S. International Trade Commission and the Congressional Budget Office, have provided a summary of the results, methods, and assumptions of the most influential studies.[12] In quantitative terms, both Grumiller as well as Baldwin and Venables determined that the average GDP increase to result from NAFTA, based on all the forecasts they studied, was slightly less than 0.15% for the USA, 2.5% for Mexico, and 1.1% for Canada.[13] Furthermore, most of these studies projected that NAFTA would have a positive influence on real wages. In this regard, foreign direct investments were thought to be particularly instrumental in promoting positive wage growth in Mexico. Depending on the underlying assumptions, the anticipated effects of the free trade agreement ranged from very positive to non-existent, or even negative. The range of different results is presented in Table 4.

In appraising the actual economic developments in the USA, Canada, and Mexico after NAFTA was enacted in 1994, one must make a determination as to how much these developments resulted from the free trade agreement, as opposed to other causes. In many respects, it is hard to make this determination because the effects of NAFTA, which were already deemed to be relatively insignificant, were coincident with other factors. For example, Mexico had been pursuing a policy of market opening and liberalisation already since the mid-80s. Furthermore, the increase in foreign direct investments observed during this time must have also been influenced by the general increase in international capital flows. Finally, a large part of the increase in trade was related to the development of exchange rates (peso crisis) and the strong growth of the US economy in the 1990s.

In purely descriptive terms, all three signatory states experienced very positive economic conditions after 1994. The real gross domestic product of the USA, Canada, and Mexico expanded at an average annual rate of about 4% in the 1990s. With respect to Mexico, it must be remembered

12 See U.S. International Trade Commission (1992); Francois (1993); Congressional Budget Office (1993b); Francois/Shiells (1994); Grumiller (2014).
13 See Grumiller (2014); Baldwin/Venables (1995). Median results per Grumiller (Baldwin/Venables): USA 0.14% (0.16%), Mexico 2.27% (2.59%), Canada 1.1% (3.26%).

Forecast Results of Different Studies on the Effects of NAFTA

	USA	Mexico	Canada
Real GDP	0.0 to 2.07	-0.35 to 11.39	0.12 to 10.57
Real wages	-0.7 to 0.95	0.4 to 16.20	0.04 to 1.30
Employment	-0.3 to 2.47	-0.1 to 6.60	0.61 to 11.02

In %, based on 11 studies and 22 different model specifications.

Tab. 4 Source: Grumiller (2014).

Development of Real Gross Domestic Product in Canada, USA and Mexico

Index (1994 = 100)

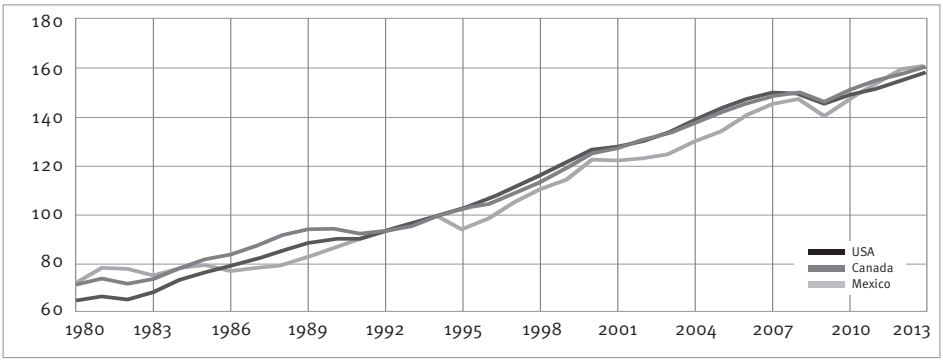

Fig. 2 Sources: IMF (2014); HWWI (2014).

that the economy suffered a setback in 1995 as a result of the peso crisis. However, there was no significant acceleration of the growth trend.

Furthermore, there was increased trade between the NAFTA countries. Particularly Mexico's exports increased at a much faster rate in the years following the enactment of NAFTA. Because of the already existing trade agreement between the USA and Canadasince 1989, NAFTA did not generate an appreciable increase in trade between these two countries. In absolute terms, however, the exports of all three countries increased in 1994 and in the following years. However, the pace of exports growth slowed temporarily in the early 2000s.

Based on an analysis of several expost studies, Grumiller concluded that even the low growth expectations associated with NAFTA were not fulfilled. The effects on the USA and Canada are generally deemed to be negligible; according to the estimates of several studies, this effect was less than 0.01% per year in the years following enactment of NAFTA. According to many studies, the positive labour market forecasts associated with NAFTA did not materialise. With respect to

Exports to the Other NAFTA Countries

Index (1994 = 100)

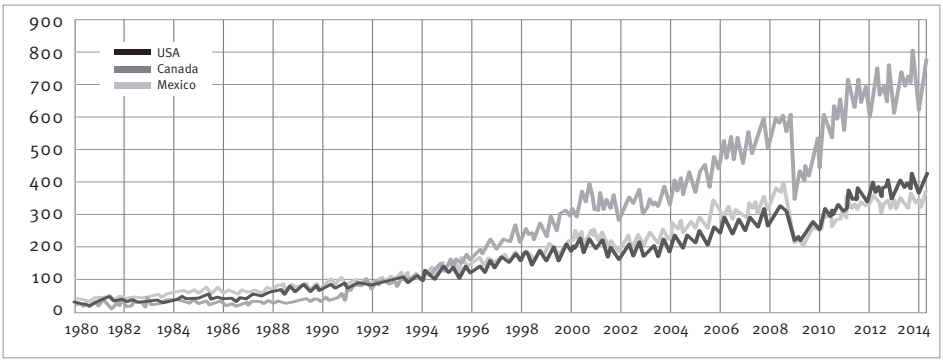

Fig. 3 Sources: IMF (2014); HWWI (2014).

employment, many studies concluded that if anything, jobs were lost in the USA, although the extent of such losses was very minor. Mexico experienced an increase in manufacturing employment, but it was accompanied by a greater drop in agricultural employment. A similar effect was observed in the development of real wages, which rose only marginally, at best. Some studies found a negative effect on real wages and on the negotiating power of workers in individual sectors. On the other hand, Mexican workers in sectors that experienced export gains and higher foreign direct investments benefited from higher wages.[14]

The EU single market

Under the Single European Act enacted in 1987, the member states of the former European Community undertook to abolish goods controls at interior borders and allow for the free movement of persons, services, and capital. The many individual legislative acts required to bring about this result were to be enacted and implemented by the end of 1992. The European single market was deemed to be officially accomplished on 1 January 1993. This agreement was not a traditional free trade agreement in the strict sense, because tariffs between member states had already been abolished. However, many non-tariff barriers to trade remained, including country-specific norms and product standards. Furthermore, member states hoped that the elimination of border controls would result in cost savings.

A forecast study known as the Cecchini Report was officially published by the European Commission in 1988, to serve as the basis for public debate.[15] This study identified four different sources of prosperity effects: the elimination of border controls, the opening of public-sector procurement markets, the liberalisation of financial services, and general competition effects. The latter were supposed to arise from the combined effect of economies of scale, cost savings generated by lowered technical barriers, and the reduction of monopoly rents under the pressure of competition. The study projected an aggregate medium-term base effect of 4.5% on EU-wide GDP, in relation to the baseline. However, the elimination of border controls contributed a direct effect of only 0.4%. Most of the anticipated income increase would result from medium-term competition effects. It was thought that the national budget deficits of EU countries would shrink due to higher tax revenues generated as a result of the direct growth effects, as well as lower public-sector procurement costs. Based on the assumption that the resulting revenue surplus would be used to fund longer-term investments in EU infrastructure, the study went on to predict a long-term base effect of up to 7% on EU GDP.

The anticipated effects on employment levels ranged from 1.8 and 5.7 million new jobs in EU countries, depending on whether consideration was given to public investment effects. Furthermore, competition effects in particular were expected to produce positive results in the form of lower prices. According to the calculations presented in the study, the overall price level would decline by up to 6%.

14 See Grumiller (2014); De La Cruz/Riker/Voorhees (2013); Scheerer (2004); Burfisher/Robinson/Thierfelder (2001).
15 See Emerson et al. (1988).

Proportion of Total Foreign Trade of EU Countries Represented by Intra-EU Trade

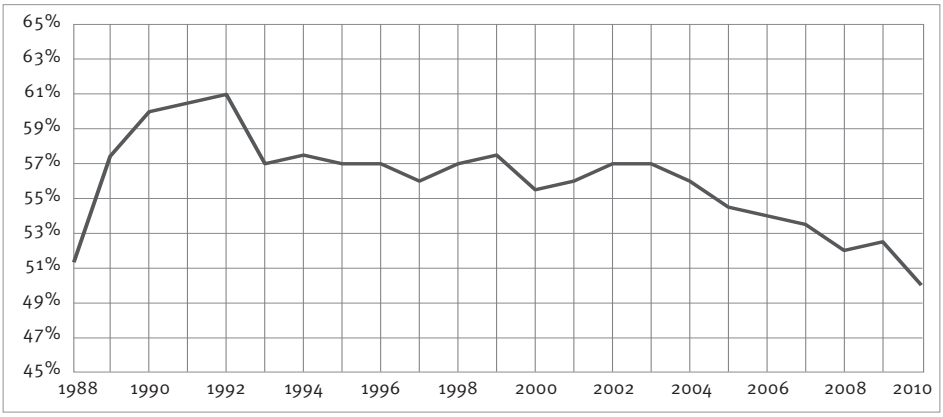

Fig. 4 Source: Eurostat (2014).

In descriptive terms, intra-European trade indeed underwent appreciable growth in the late 1980s. Total annual exports of the EU-12 countries more than tripled between 1990 and 2010. Trade with EU partners increased significantly not only in absolute terms, but also in relative terms, at least initially. The fact that the relative importance of intra-European trade declined steadily over the course of the 1990s can be attributed to the increasing global importance of emerging-market countries, as opposed to having been caused by the single market.

However, no comparable momentum can be discerned with respect to GDP growth during this period. Like the USA and Japan, the EU was impacted by a global economic downturn in the late 1980s, due to rising oil prices. Compared to the USA, however, it took the EU longer to resume a course of stronger GDP growth. Furthermore, no appreciable acceleration of GDP growth was observed in the further course of the 1990s.

The European Commission published the first official expost analysis of single market effects in 1996. This collection of 38 studies examined the evolution of industrial structures and changes in competition intensity in the period beginning with the reform measures enacted in 1988. Particular attention was given to competition-enhancing effects, as the profit mark-ups of companies declined by around 0.2 percentage points per year during this period.[16] In all sectors examined, market shares of domestic producers declined to the benefit of both foreign EU producers and non-EU producers. The market share gains of EU and non-EU producers were roughly the same. Thus, the fears of trade-diverting effects from the perspective of third countries were not confirmed.[17] However, the analysis was limited to the period until 1994, and to only 15 industry sectors that were deemed to be particularly sensitive, although they only represented about one third of total EU industrial production.

16 See European Commission (1996).
17 See Allen et al. (1998).

Development of Real Gross Domestic Product in Japan, USA and EU-12

Index (1981 = 100)

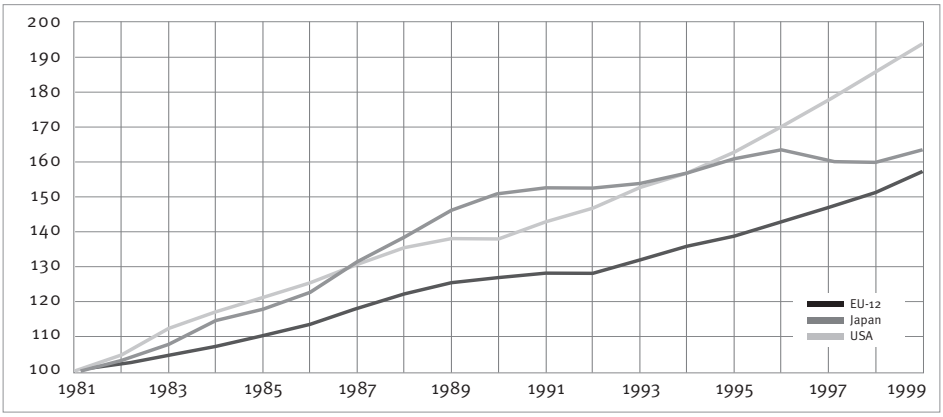

Fig. 5 Source: IWF (2014).

According to most studies, the establishment of the European single market generated positive, albeit rather weak growth effects on production compared to the Cecchini forecasts. All in all, a survey of the literature leaves the impression that the hoped-for dynamic effects on European growth potential did not materialise, for the most part.[18]

Eastward expansion of the EU

The EU expansion of 2004, which entailed the accession of ten Central and Eastern European countries to the European Union, was another key milestone of European integration. For the acceding countries, the accession necessitated the elimination of all trade restrictions, the adoption of common external tariffs, and participation in the single market program, which involved the acknowledgment of EU product standards in numerous areas. However, the transition was not abrupt; rather, the acceding countries were gradually brought up to the level of EU standards by means of association agreements concluded already in the 1990s. However, the pace of reform varied widely from one country to the next. This gradual transition makes it difficult to estimate the economic effects of the accession.

The first projections of the effects of the economic integration of eastern countries were based solely on the elimination of tariffs. At an early stage of the process, Brown et al. simulated the effects of such a free trade zone between the old EU and the Visegrad countries (Poland, Slovakia, Czech Republic, Hungary) on the basis of a CGE model. According to their projections, both the old and new member states would benefit, but the income gains would be much greater for the acceding countries, relative to baseline levels. That is hardly surprising, considering that the EU sales market is much bigger than the sales markets of the acceding countries. The effects on third countries were deemed to be negligible. Furthermore, Rollo and Smith estimated only minor trade-

18 See Ilzkovitz et al. (2007); Straathof et al. (2008); Boltho/Eichengreen (2008).

diverting effects.[19] However, they anticipated additional costs as a result of the more inwardly directed EU trade zone, as well as growing problems in the internal decision process, which could stand in the way of further progress in the liberalisation of global trade.

Besides the different sizes of the markets involved, this forecast was also supported by the higher starting tariffs of the accession candidates. The prosperity gains resulting from the liberalisation of the acceding countries tended to be greater because these countries would open their import sectors to foreign competition, thereby accelerating the restructuring of their own economies. Under a different scenario, the study examined the anticipated effect of lowered risk premiums for investments. The adoption of EU laws and regulations for investor protection effectively lowered the risk of investments in the acceding countries. According to the model results, this effect led to increased capital formation and the expansion of production capacities in this region. On aggregate, the study predicted an 18.8% increase in the real income of the acceding countries. By contrast, the income gains to be experienced by the old member states were more in line with those of the conservative scenario.

On aggregate, the data for the last few years confirms a major increase in the export activities of acceding countries within the EU zone. This increase was considerably higher than the trade growth of the old member states, both in the time shortly before the accession and particularly also in the period from 2004 (year of accession) to the global crisis of 2009. During the same period, however, the exports of the acceding countries to the rest of the world also increased by nearly as much. This development seems to indicate that trade-diverting effects did not play a major role.

These developments were accompanied by strong GDP growth in the acceding countries, although this growth can be interpreted to a certain degree as being part of the long-term recovery from the structural shocks of the early 1990s. However, the fact that GDP growth accelerated

19 See Rollo/Smith (1997).

Development of Exports in the EU Region (EU-28)

Index (1999 = 100)

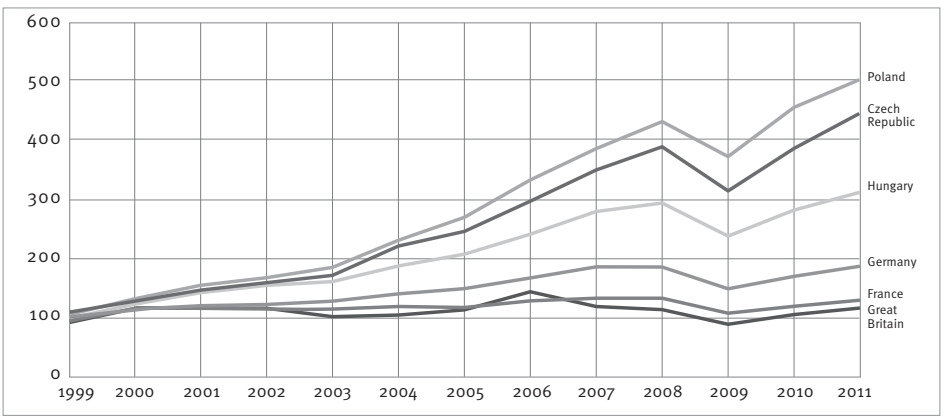

Fig. 6

Source: Eurostat (2014).

Growth of Gross Domestic Product

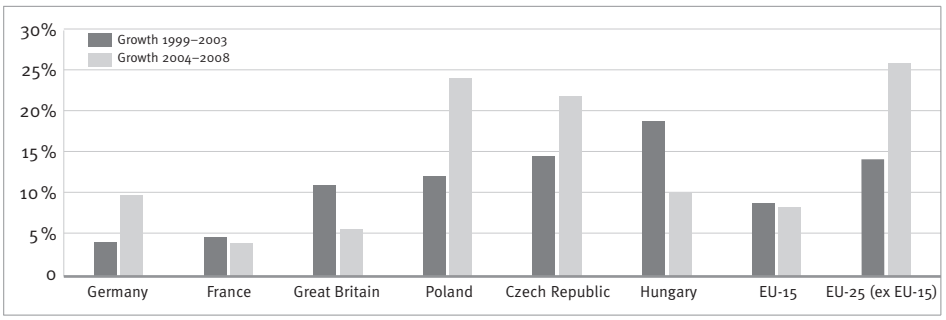

Fig. 7 Source: Eurostat (2014).

further in most of these countries (Hungary and Estonia being the exceptions) in the first few years after accession supports the conclusion that the integration generated real economic effects at an early stage. Another positive development was the increase in the percentage of GDP devoted to research and development in these countries during this time. This observation underscores the potential for additional dynamic effects resulting from heightened R&D incentives.

A causal effect of the eastward expansion on trade flows has been proven by a number of studies. Antimiani and Costantini concluded that the eastward expansion stimulated strong export growth among EU countries, primarily as a result of technology transfers from west to east. According to their estimates, the eastward expansion influenced the export activities of the new member states more than those of the old member states. In a corollary finding, the study authors estimated a greater influence on the innovation rate of the new member states, as measured by the number of patent applications. This effect was especially pronounced in high-tech sectors such as pharmaceuticals, mechanical engineering, and automobiles.[20]

3.3 General assessment of the TTIP

The studies on the macroeconomic effects of the TTIP and the experiences made with past trade agreements support the conclusion that the effects of the TTIP on incomes, employment, and growth will not be exceedingly great. Furthermore, the final agreement could well be less comprehensive than originally intended, due to the growing criticisms of some points. Abstracted from the technical and methodical details, therefore, the following statements can be made in relation to the economic assessment of the TTIP:

- The magnitude of macroeconomic effects will depend on the level of trade liberalisation. Given the fact that trade is already highly liberalised, the marginal effect of further reductions of tariff-based and non-tariff barriers to trade would be minor, whereas the marginal costs in the form

20 See Antimiani/Costantini (2013).

of modified standards that no longer completely satisfy specific social preferences can be expected to increase. Because trade between the USA and the European Union is already highly liberalised, the macroeconomic effects of the TTIP would be minor, as proven by the studies. The considerable openness of markets in both economic zones today already allows for the rapid transfer of technology advances. Thus, the dynamic growth effect would be somewhat weak.

- The lower transaction costs that would result from the reduction of non-tariff barriers to trade would be equally advantageous for businesses and consumers, due to lowered market entry barriers, increased competition, and lower prices. A careful distinction must be drawn between the sensible reduction of genuine non-tariff trade barriers that represent a hidden form of protectionism, on the one hand, and the justifiable protection of consumer preferences by specific norms and standards, on the other hand.
- Rarely have the negotiations for a free trade agreement drawn as much public attention as in the case of the TTIP. That is good insofar as it has stimulated a broad public debate on the drafting of trade agreements and the negotiation process. The critical question involves the entity vested with the mandate to conduct the negotiations, and legitimacy of this decision. This question is particularly relevant within the EU, due to the perception that the legitimacy of decisions made in Brussels is very indirect, to say the least. After all, the transparency of the negotiations was enhanced and the influence of lobbyists was reduced only as a reaction to focused public attention.
- Besides the direct economic effects of the TTIP, proponents sometimes argue that the integration of these two economic zones to create a single trading block could strengthen the relative positions of the USA and Europe as the global economy evolves in the direction of a multipolar world order. In general, the creation of a single market encompassing the USA and Europe could play an important role in the development of norms and standards for the rest of the world, probably making it easier to enforce them, as opposed to weaker standards in a »race-to-the-bottom« scenario.

4 Consequences of more international trade

The current wave of globalisation has been advancing for more than 20 years now. Based on the many years of experience accumulated during this globalisation phase, the consequences for individuals, business, and financial markets of the increasing global interdependence of economic activity are generally well known. The typical consequences of globalisation include foreign direct investments, the splitting of production units, the relocation of production facilities to low-wage countries, the internationalisation of financial markets, and the remarkable widening of product choices for consumers. Most of the structural changes that necessarily accompany the transition from a more nationally oriented economy to an internationally oriented economy have already occurred. In all probability, the pattern of globalisation will continue in the future. Within the known pattern, however, certain (regional) changes or shifts can be expected. In the fast-growing Asian economies, workers will increasingly demand higher wages, thereby successively diminishing the relative attractiveness of these countries as manufacturing locations. Consequently, the economic importance of other countries (in Africa, for example) that still have low wage costs can be expected to rise.

As a general rule, intensive international trade enhances economic efficiency, and therefore additional trade agreements can serve to support higher rates of global economic growth in the future. As we have seen in recent years, however, a highly interdependent global economy, while undeniably very efficient, is also more vulnerable to disturbances of all kinds. Regional disturbances such as overheated real estate markets or armed conflicts, for example, can spread more quickly in a globalised economy and pose a threat to global economic stability. Therefore, companies should be prepared for the very real possibility of sudden economic swings, because they are no longer rare exceptions. For investors, this aspect of globalisation poses the risk of heightened market volatility, even though increased trade and more economic growth should support the continued upward trajectory of equity markets over the longer term. The DAX Volatility Index reveals multiple phases of considerable stress in the equity markets over the last 15 years (see Figure 8).

VDAX

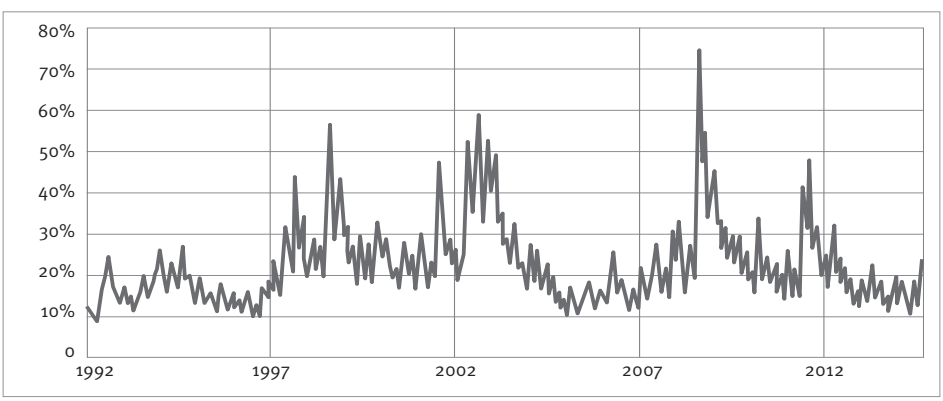

Fig. 8 Source: Bloomberg.

Sector effects of the TTIP

In chapter 3 we discussed the expected macroeconomic effects of the Transatlantic Trade and Investment Partnership (TTIP). Because the negotiations have not yet been completed, the extent to which trade between Europe and the USA will be liberalised is not yet known, and therefore the results should be interpreted with the requisite degree of caution. It is foreseeable, however, that the full effects of the free trade agreement will not be felt until the middle of the next decade. Besides being delayed, the macroeconomic effects will also be modest (0.5% for the EU). Nonetheless, it should be remembered that this is not just a one-time effect, but also a level-shifting effect. Thus, gross domestic product will be higher by this amount year after year, and that will also lead to higher employment and higher tax revenues.

Considering this basic forecast, however, it is hardly surprising that the sought-for free trade agreement has been met with only muted enthusiasm of late. The considerable number of TTIP proponents in government and politics is fairly astounding, considering that the free trade agreement is extremely unpopular from an economic policy standpoint. After all, it will take several election cycles for the economic benefits to materialise, meaning that politicians in office today will derive practically no advantage from pushing a trade agreement that is unpopular with most of the populace.

The true advantages of the free trade agreement will be more in evidence on the level of companies and industry sectors. According to the Ifo Institute study, small and medium-sized enterprises in particular will benefit from the free trade agreement. Within this group of companies, in turn, the smaller export-oriented companies stand to benefit most from the reduction of non-tariff barriers to trade. For such companies, the cost of jumping over regulatory hurdles has been particularly high. On the other hand, the free trade agreement cannot be expected to produce any significant effects for larger companies. Although it will indeed result in cost savings for them, the improved cost situation will be largely offset by heightened competition from US companies. Furthermore, some smaller, non-export-oriented companies could suffer as a result of US competition, without gaining the benefit of cost savings from the opening of markets. Such companies will be among the net losers.

The agricultural sector would benefit most from the TTIP, followed by the industry sector, followed in turn by the services sector in third place. In principle, the TTIP could unlock tremendous growth potential for the food sector, because the cost of trade-inhibiting mechanisms is particularly high in this sector at the present time.[21] However, we expect that the final version of the free trade agreement will provide for important

21 See Felbermayr et al. (2013a) and Institut der deutschen Wirtschaft (2014).

exemptions in this sector. Ultimately, widespread public opposition to the harmonisation of food standards will probably force the negotiating partners to make concessions in favour of the critics.

In the industrial sector, the TTIP can be expected to boost growth in textiles and leather goods, as well as mechanical engineering and automobiles.[22] The TTIP would also provide a boost to the chemicals sector by creating the world's biggest free trade zone for chemicals (China would fall to second place). Taken together, EU and the USA account for slightly more than 34% of global sales of chemicals (China: 31.4 %).[23] The USA is a key market particularly for the German chemicals industry. After the EU, the USA represents the biggest sales market for German chemical companies, accounting for 9% of their exports. Furthermore, the USA is the second biggest market (after the EU) for foreign direct investments by the German chemicals industry, accounting for 24.3% of their total foreign direct investments in 2012.

For the services sector, the Ifo Institute anticipates double-digit growth rates in the areas of financial services, communication, and business services.[24]

Box 1

However, the free trade agreements with the USA and Canada should lead to greater security of commodity supplies for Germany and Europe. Precisely in times of geopolitical uncertainty, closer cooperation with reliable partner countries that possess large reserves of natural resources is extremely valuable.

In the following, we will focus on a few special developments that we consider to be probable, which will issue from the further increase in trading intensity in combination with other economic and societal trends.

4.1 Proposition 1: Accelerated growth due to capital investment race

A primary factor driving the wave of globalisation is the rapid pace of innovation in information and communication technologies. The radical changes engendered by digitisation are summed up in the catch-phrase »global village.« For companies, globalisation and free trade mainly offer the potential for expanding their sales markets. Whereas in earlier times companies primarily served regional or national markets, in the globalised economy they can sell their products and services to the entire world, in principle. This effect is especially pronounced in the case of companies whose business consists entirely or mostly of digital services, with little or no sales of physical goods. The cost structure of this »digital economy« is unique, because fixed costs (such as development

22 See Felbermayr et al. (2013a), pp. 29 ff.
23 See Verband der Chemischen Industrie (2014).
24 See Felbermayr et al. (2013a), p. 30

costs, for example) are predominant, and virtually no marginal costs (such as production and shipping costs, for example) are incurred. In other words, the number of times a digital service is sold has virtually no effect on the company's total costs. The situation is similar to that of television: Costs are incurred primarily for program production, whereas practically no additional costs are incurred when more viewers watch the TV show. Thus, every additional viewer increases the broadcaster's profit.

Markets characterised by high fixed costs and low marginal costs lend themselves to monopoly formation over the long term, because a single company is able to offer the product at a lower price than multiple companies competing with each other. Classic examples include gridbound industries such as electricity, natural gas, and telecommunications. Likewise, the digital economy naturally fosters the formation of monopolistic structures.

Consequently, globalisation and digitisation tend to promote the establishment of »winner-takes-all« markets. The winner of the competition race comes into the ability to serve global demand. Speed is generally advantageous in all sectors of business, but it is an indispensable success factor in the digital economy. Higher market shares result in lower average unit costs, making it possible to offer products or services at a lower price than competitors. For this reason, the »first mover advantage« is especially powerful. Aside from this direct cost effect, the market leader also derives benefits from the reputation established in a new market, and from the advantages of the so-called network effect.[25] Thus, attaining market shares and brand familiarity as quickly as possible holds the promise of tremendous financial advantages.

In the 1970s, Economics Nobel Prize winner George Akerlof published an essay in which he described the expected economic effects of »winner-take-all« markets. In his analogy, competitors behave like rats fighting over a piece of cheese.[26] They become hyperactive and overwrought because it's about all or nothing. Because all the competitors want the »whole cheese« for themselves, they work extremely fast and spare no investment costs in their pursuit of potential profits. This »goldrush« mentality engenders an »investment race« which only one competitor can ultimately win.

The goldrush mentality and investment races are not just academic thought games. For example, the Internet sector has been gripped by gold-rush fever since the 1990s. This occurs in waves, of course, and the topical priorities shift over time, and yet the structural transformation unleashed by the Internet is far from over. The digital revolution will give rise to many capital investment races in the future as well. Considering the established market leaders in segments like social networks, online auction houses, and search engines today, there can be no doubt that it pays to be the winner. Furthermore, national governments find it difficult to effectively counter-act the monopolistic tendencies of such companies.[27]

25 A network effect is created when the benefit of a product, service, or even a network increases with the number of users. For example, a social media network becomes more useful for users when additional users are added to the network. Once a social network has established a strong market position, competing ideas or companies face extremely high, if not impossibly high barriers to market entry.

26 See Akerlof (1976).

27 However, the »winner-take-all« effect is not quite as powerful as theoretical modelling would suggest. In the real online world, second-ranking and third-ranking providers do not come out empty-handed. Nonetheless, the financial difference between the first-place provider and the rest of the field is itself great enough to incentivise the investment race described herein.

TecDAX

Fig. 9 Source: Bloomberg.

Therefore, investors can expect that free trade in general and digitisation in particular will continue to support very strong economic growth. The digital economy will continue to exhibit strong growth in the foreseeable future, and new stars will continually be born in the sky of Internet companies. On the other hand, promising companies that once topped the field will sink into oblivion. On aggregate, however, the level of capital investment in the technology sector will remain high. It must be remembered that success is even harder to plan and predict in such a market environment, compared to other economic sectors. Chance plays a certain role as well.

4.2 Proposition 2: The structural transformation brought about by digitisation lowers the value of human qualifications

In the past few years, the international division of labour has put particular pressure on low-qualification workers in the industrialised nations, as simple work activities were outsourced to low-wage countries. This pressure will remain in effect because low-cost production sites will not disappear, even though wage costs are rising in China and India. Another factor that is putting pressure on incomes in the low-wage segment is the increased immigration of low-qualification workers to the industrialised nations.

Yet another factor contributing to this trend is technological progress, which makes it possible for machines, computers, or robots to perform simple activities. Naturally, the loss of jobs to technological progress is not a new development. What is new, however, is that digitisation will also put pressure on occupational activities that had previously not been threatened by technological progress. Furthermore, digitisation will increasingly have an impact on higher-qualification occupations. If everything that is technically possible today were to be consistently implemented,

the structural transformation we are currently experiencing would be much more drastic, and the consequences for labour markets in the industrialised nations would be much more severe.

To mention only one example of the many higher-paying occupations that could be threatened by technological progress, university professors today can easily »broadcast« their lectures to a worldwide audience, using currently available technology. Consequently, practically every college student in the world has the option of studying under the direction of top researchers.[28] In the future, it will be possible to educate young people with only a fraction of the academic staff required today. Students would no longer need to physically attend college, and elite universities would have unlimited admissions capacity, in theory. National borders would no longer play a role; only language barriers could still pose a problem. That being said, language proficiency has already risen considerably in our globalised world.

There are numerous occupations in the service sector that were long believed to be safe from technological progress. For example, the foreseeable introduction of driverless cars will create problems for taxi drivers, bus drivers, and chauffeurs. In our study on the healthcare market, we pointed out that nursing robots will be used to a greater degree in the future.[29] In consideration of demographic trends, the relief afforded to overworked nurses by robots may be highly desirable. On the other hand, there is no guarantee that medical engineering robots will not be used only for the purpose of standing in for humans when necessary; instead, they could eventually replace medical personnel entirely.

Already today, there are many software programs that, if deployed consistently, could lead to the disappearance of entire occupations in the medium-term future. Industrialised nations are on the verge of an intensive structural transformation. In this respect, investors should always remember that a new product or service can be highly successful even if it does not satisfy a pressing need. In the digital economy, a product or service often succeeds simply because it is technically doable (even though no human being actually had a need for it).[30] Open, globalised markets accelerate this pace of development. Whereas it used to take some time for innovations to spread from one country to another, today innovations can spread almost instantaneously, thanks to the currently available technological and commercial possibilities. Besides eliminating certain jobs, this structural transformation will also create many new occupations over the long term. Whether the world will be better or worse as a result of these developments, is hard to tell from today's perspective. Generally speaking, however, the transitional phase will be problematic because economies and workers need time to adapt.

The pressure on certain occupational groups leads us to the third proposition.

28 Even exams can be taken online, using standardised questionnaires to some extent. The required personnel expense would be drastically less than the current expense.

29 See Berenberg/HWWI (2012).

30 The invention of short-message communication is a good example. At the beginning, hardly anyone could perceive the benefit of sending unsolicited, short messages of no more than 140 characters to one's »followers« around the world. But today, even heads of government use this form of communication.

Development of the Middle Class, 1997–2010

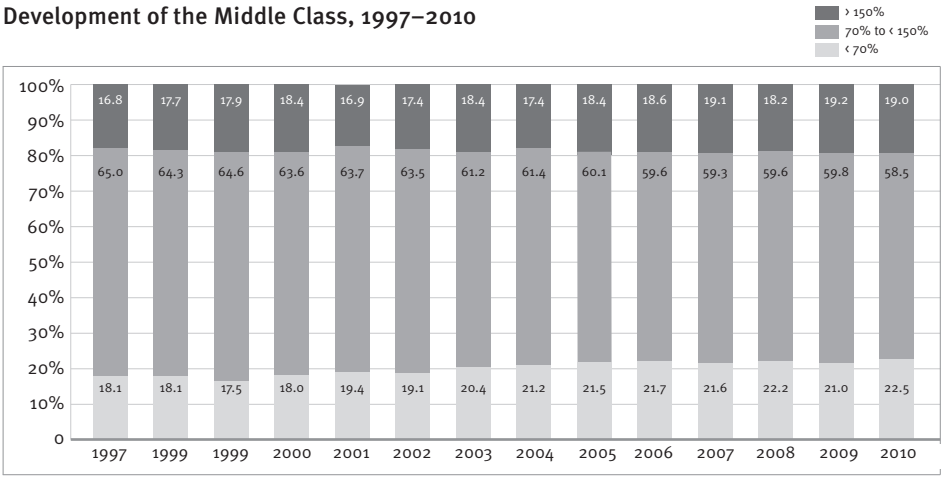

Fig. 10 Source: Bertelsmann Stiftung.

4.3 Proposition 3: The middle class will continue to shrink in the industrialised nations

Globalisation has generated economic growth and strengthened the middle-income classes in many parts of the world, but it has produced the opposite effect in the industrialised nations. According to a study of the Bertelsmann Stiftung, the German middle class shrank by around 5 percentage points in the years from 2000 to 2010 (see Figure 10). A small part of these formerly middle-class people ascended to the upper class, but the greater part descended into the lower-income class.[31] These figures confirm the observations we made in Proposition 2, that globalisation increases the earnings potential of higher-income people, but puts considerable pressure on incomes on the low end of the scale. However, heightened competition with foreign workers is not the only factor contributing to the erosion of the lower middle class; other factors include changed family and household structures (single-person households and single parents) and the rise of atypical employment relationships.

In view of the structural transformation described in Proposition 2, we expect the erosion of the middle class to continue, thereby enlarging the lower-income class. One wonders what redistribution possibilities governments can still resort to as globalisation progresses further. In the last decade, many were concerned that the social welfare state could no longer be financed in a globalised world because it would become increasingly difficult to collect taxes on mobile production factors. However, such concerns have been largely dispelled in the meantime. In the wake of the financial crisis, national governments stepped up their cooperation in tax collection matters. In the meantime, options for avoiding taxes by relocating investment capital have been considerably reduced. This is a basically positive development that supports the viability of social welfare states.

31 See Bertelsmann Stiftung (2013). Bertelsmann Stiftung defines middle class as comprising all incomes that fall between 70% and 150% of median needs-weighted disposable household income. For a four-person household (two adults and two children under 15 years) in 2010, this definition covered incomes ranging from €2,370 to €5,080 per month.

On the other hand, there is good reason to worry that the functional conditions of the social welfare state are being undermined by various political and societal developments. Redistribution works especially well in small, homogeneous groups, whereas a globalised world in which national borders are increasingly irrelevant is the exact opposite of »small« and »homogeneous.« (Income) elites who are increasingly thinking and acting in global terms in their professional and private lives may develop different ideas about the need to combat poverty than earlier elites who tended to think in terms of national boundaries. In other words, today's elites could develop a greater sense of solidarity with the world's poorest, than with the poorest in their own countries. In general, an anonymous, global society could develop entirely different identification criteria and solidarity propensities than those that prevailed in the era of nation-states. Because social welfare states are based on national laws, it is unclear from today's perspective whether redistribution based on the patterns of the past can work in the future. At any rate, the ramifications of this problem are likely to place additional strain on the middle class, leading to further erosion of their ranks.

4.4 Proposition 4: The »share economy« stands to benefit

As the middle class shrinks and the lower-income class grows in size, the persons affected by these trends will react accordingly. Especially those people who will no longer be able to find full-time work in the future are likely to adopt a »do-it-yourself« strategy, using the extra time afforded by not working to offset income losses by finding ways to lower their living costs.

The now-fashionable »share economy« could well be an even more important way of offsetting income losses. A chief characteristic of the share economy is that individuals are no longer interested in owning goods, but only in the chance to use them. Numerous consumers share the use of a product that each one of them would have owned in earlier times. Generally speaking, this phenomenon is not really new, but has long been common practice among neighbours, for example, who lend tools and gardening equipment to each other. However, the Internet and digitisation make it possible to optimise and commercialise this practice. Private individuals can utilise online sharing platforms to negotiate the use of desired items with other private individuals. There are also commercial enterprises that specialise in brokering the use of various high-quality goods (think car-sharing).

Therefore, businesses must prepare for the time when their products can be used much more intensively and efficiently than in the past. As the share economy develops, the number of customers will decline, but presumably not the number of users. In fact, the number of users could even rise because the relatively low fee for »sharing« a useful object is also appealing to less affluent groups of users. In view of this trend, investors should pay close attention to the sectors in which businesses or portals offering share-economy services are established.

4.5 Proposition 5: Growing vulnerability to crisis

We have presented detailed arguments to support the conclusion that more intensive trade leads to more prosperity. Globalisation is a true efficiency and growth engine for the economy. We also illumined some of the downsides of trade liberalisation. There will be many winners, but there will also be losers. Even among those who stand to benefit, the benefits of increased trade will be distributed unevenly. Furthermore, the accelerated pace of structural transformation that necessarily accompanies globalisation requires a willingness to change on the part of economic actors, which is often not present.

From the perspective of economic growth alone, the verdict is decidedly positive. Global growth rates have remained fairly steady at high levels since the year 2000, and that is undoubtedly to the credit of globalisation. On the other hand, the number of »disturbances« has risen. The number and intensity of crises that have transregional, often even global ramifications have increased. This may well be coincidental. At any rate, however, we do not believe it is coincidental here, but regard the growing vulnerability to crisis of the global economy as a systematic side effect of the internationally interdependent and highly efficient global economy. Economic crises and political conflicts that would have had only regional importance in the last century often now have global repercussions.

Economic and social globalisation, along with the disappearance of national borders as barriers to the movement of people and goods, have made the global economy more crisisprone and generally more vulnerable. In 2014, the global economy was significantly impacted by the conflict between Russia and the Ukraine. The situation was exacerbated further by the terrorism of the Islamic State (IS) and fears of a global outbreak of the Ebola virus. In the mid-1990s, these three events would probably not have impacted the global economy in a serious way, because the world (economy) was not yet interconnected enough that regional problems could take on global importance.

As another example, the only reason why the Greek debt crisis escalated to the level of a systemic euro crisis was because international financial markets had become extremely interconnected. Even the US housing crisis would have remained an American problem if only the problem loans in the subprime segment had not been resold as structured financial products, thereby spreading the risks all over the world.[32] In summary, we can note that while an internationally interconnected economy is capable of generating high growth rates by virtue of maximum efficiency, it has also become more vulnerable to shocks. Thus, we can expect more frequent shocks to the global economic system.

Globalisation has also led to a certain international synchronisation of national economies. Figure 11 shows the correlation between the aggregate growth of global goods trade and the itemised growth of goods trade for the world's 50 biggest economies. The graph shows a fluctuating,

32 There are many indications that the ability of US banks to offload risks by selling loan packages to apparently ill-informed investors in the rest of the world spurred the risk propensity of US banks. Not only were the problem loans exported, the ability to export them in this way made it possible to maintain the excesses in the domestic housing market for a much longer time than would have been possible in a closed economy.

Correlation between Global Trade and the Foreign Trade of the 50 Biggest Economies
Sliding 5-year average and trend line

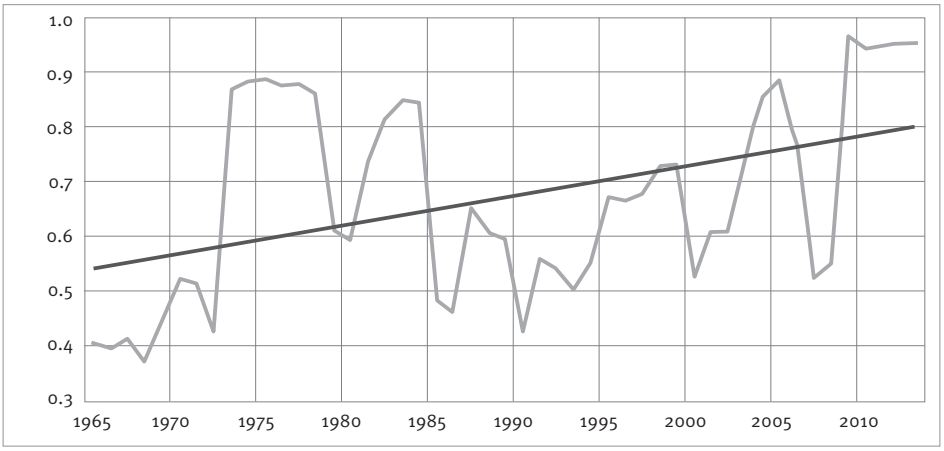

Fig. 11 Source: Own calculations, based on WTO (2014h).

but clearly rising trend line. Whereas in the 1960s the trade growth of individual economies did not correlate at all with global trade growth, trading cycles today have converged to a considerable degree. This development is driven by two trends:

1. Value chains are being integrated around the world, increasingly across national borders.
2. Emerging-market countries are becoming increasingly integrated with the global economy.

These two trends are closely related. As a result of lowered trade barriers, emerging-market and developing countries are increasingly able to take over larger sections of production processes for a wide range of goods. Thus, international value chains are in fact softening national borders.

Furthermore, product inputs are often shipped across the same border several times, which means that the trend shown in Figure 11 is partially influenced by a statistical effect. Indeed, the trade statistics are inflated by multiple crossings of the same customs border. This circumstance also underscores the significance of trade barriers, because in modern supply chains the effects of tariff-based and non-tariff trade barriers are multiplied! This effect also illuminates the growing importance of multinational corporations to world trade. The importance of the country in which the multinational corporation actually produces things is secondary; because their production activities span national borders, trade costs are the most important factor.

Heightened participation in global trade is positively correlated with economic growth.[33] Figure 12 shows the trade and GDP growth of the biggest economies in the years 1980 and 2010. A positive correlation between growth and trade was already given in 1980. At that time, 1% trade growth correlated with roughly 0.6% economic growth. This correlation has grown somewhat over the last 30 years. In 2010, 1% trade growth correlated with roughly 0.7% economic growth, on average.

33 Although this correlation is often rather small statistically, it is also mostly positive in the scholarly literature.

Correlation Between Trade Growth and Economic Growth

Simple regression lines between trade growth and GDP growth (per capita)

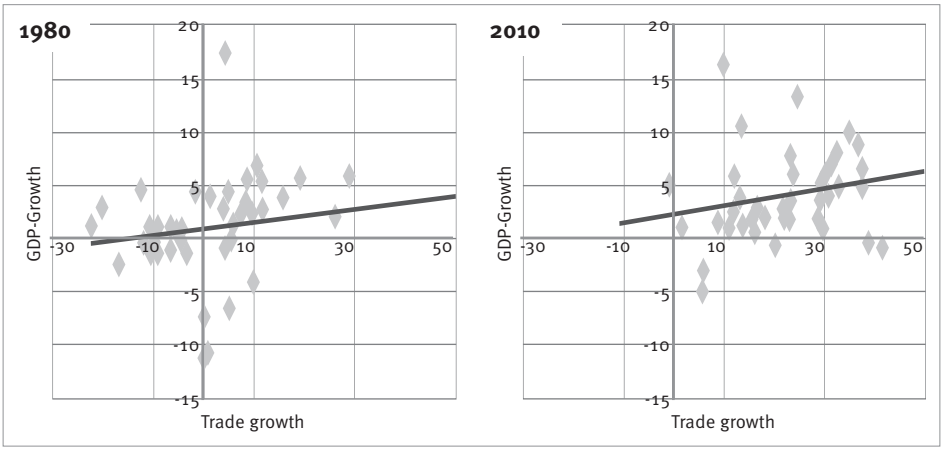

Fig. 12 Source: Own calculations, based on data of the IMF (2014) and the WTO (2014h).

Correlation of the Economic Growth of the 50 Biggest Economies

10-year correlation between GDP growth of the biggest economies and trend line.

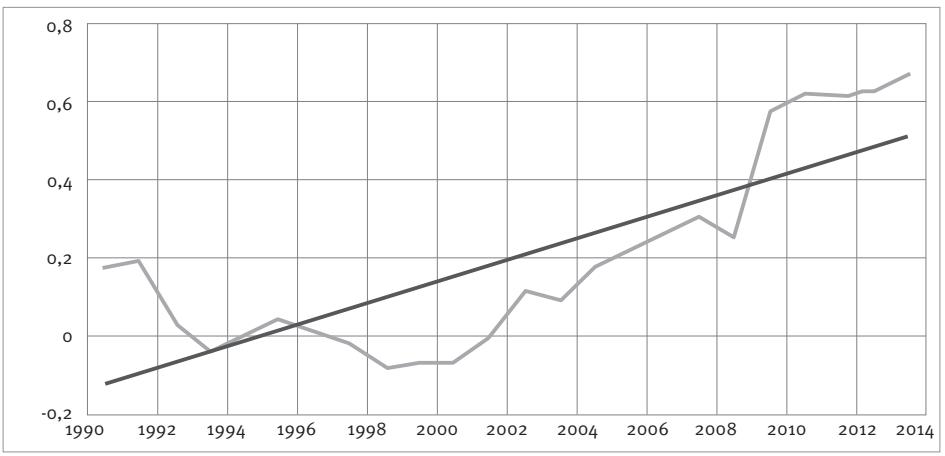

Fig. 13 Source: Own calculations, based on data of the IMF (2014).

However, the 1980 values are less dispersed than the 2010 values, suggesting that the trade and economic cycles of the various countries have converged over time. In 2010, strong trade growth is more closely correlated with strong GDP growth than 30 years ago.

The economic cycles of individual countries have become increasingly synchronised. Figure 13 shows the correlation between the GDP growth of major economies with world GDP growth. In 2013, the correlation was almost 0.7, meaning that 70% of the observed countries moved in the same economic direction. Around the year 2000, economic cycles were largely uncorrelated.

Base Interest Rates

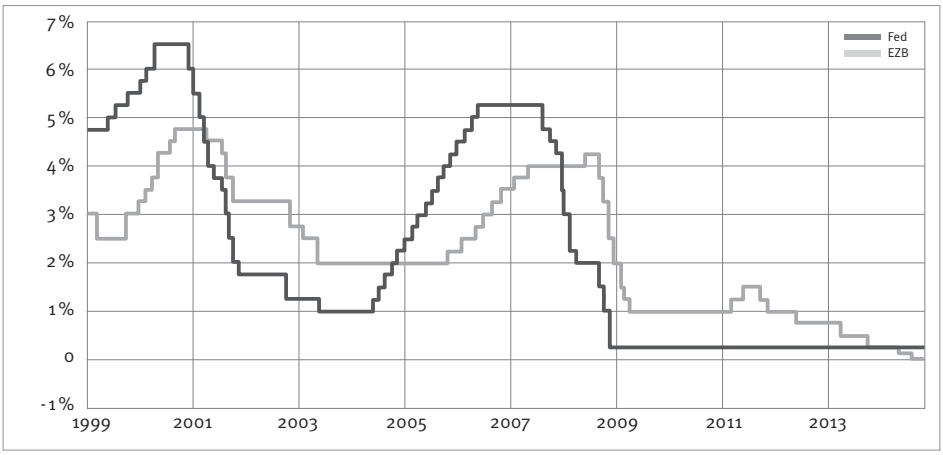

Fig. 14 Source: Own calculations, based on data of the IMF (2014).

Thus, worldwide economic cycles are increasingly convergent. Conversely, this means that individual economies are more dependent on each other due to the trade between them. Of all the trend lines presented in Figures 11 to 13, the synchronisation of economic cycles is most clearly in evidence. Certainly, there are also other reasons for the growing synchronisation of economic cycles, but that also means that even small trade liberalisation steps will enable more and more countries to participate in global trade due to the increasingly more differentiated cross-border supply chains, and as a result worldwide economic growth will become increasingly harmonised. The synchronicity of economic cycles exacerbates the basic problem addressed in this section, namely the vulnerability of the global economy. Economic downturns will not be mitigated by stabilizing factors from foreign trade.

An especially pressing challenge for the globally interconnected, highly efficient, but also vulnerable global economy will be to develop precautions and measures to contain »disturbances« before they blow up into major crises. The concept of error tolerance is employed in various areas of life besides economics. The idea is to keep a system stable even when unforeseen events occur. Unfortunately, virtually no research on error tolerance has been conducted in the field of economics, to our knowledge, and therefore virtually no solution proposals exist. One can be fairly certain, however, that such protection will not be free of cost. Making the economy more error-tolerant would entail the necessity of forgoing possible short-term profits in many instances, if the profit-making activity involves incalculable risks.[34] But it also means being able to isolate disturbances where they occur, so as to prevent the effects of the disturbance from spilling over to the global economy. Precisely this has been the principal aim of the financial market and banking regulation reforms in the last few years. It is especially important to resolve the »too-big-to-fail«

34 Dirk Meyer (2007), one of the few economists who has published works on the subject of error tolerance, writes: »The conscious decision not to exploit any and all productivity reserves for the sake of short-term potential target amounts (income), can be employed in the service of a development-open future that allows for various alternatives.«

problem of the banking system by increasing the error tolerance. If the failure of a single bank can throw the entire financial and economic system into turmoil, the system is poorly designed from the standpoint of regulatory policy and obviously not sustainable.

As long as the system is not inherently error-tolerant and stable, governments must be able to intervene in case of emergency. Considering the high levels of public debt in many countries, the scope of available policy responses is extremely limited at the present time. Furthermore, there is very little dry powder left when it comes to monetary policy. Because the base interest rates of the major central banks are close to zero (see Figure 14) and central banks are additionally pursuing unconventional policy measures to counteract the consequences of the global crisis, no further help can be expected from the side of monetary policy. Therefore, the earliest possible exit from the monetary policy emergency mode and a return to solid public finances are all the more important. After all, governments and central banks should be able to act the next time the interconnected global economy sustains another shock.

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