ZEW NEWS

Research Results · Conferences & Workshops · Publications

March/April 2018

Economic Policy Analysis
Private Banks: Key Pillars of German Foreign Trade

Research Findings
Europe's Innovation Gap Is Widening

Q&A
What Potential Is There in the Smart Textile Market?

The Italian parliamentary election saw Eurosceptic parties surge in popularity.

Photo: © iStockphoto/rarrarorro

Discussion over Eurozone Reform Must Respond to Italian Election Result

After Greece, Italy is the Euro country at the highest risk of facing sovereign insolvency over the coming years. At the same time, the country is "too big to fail", meaning that from a European perspective, a disorderly financial collapse of Italy must be averted at almost any cost. A combative new government could therefore try to force the EU, or the ECB, to provide the country with additional financial resources. The ongoing debate surrounding Eurozone reform should pay close attention to this development.

At 2.3 trillion euros, Italy's absolute debt is the highest in the Eurozone, accounting for 23 per cent of total sovereign debt in the Eurozone. At the same time, the country only contributes around 15 per cent of the EU's total economic output. The associated risks are further fuelled by unfavourable debt dynamics. Despite historically low interest rates, the country's debt-to-GDP ratio has been rising fairly steadily since 2007 and, at a current level of 132 per cent of the national GDP, is well-above the Eurozone average of 89 per cent.

However, a recent ZEW analysis also highlights some of Italy's strengths, including its current account surpluses and the fact that, on balance, Italy has no foreign debt. Furthermore, the country has no significant implicit debt, which usually arises from governments making generous benefit promises to future generations. A reform-oriented government would thus stand a good chance of stabilising public finances by implementing sweeping reforms of Italy's labour market, tax system and public administration in order to raise the potential growth rate and halt the adverse debt trend by generating stronger growth.

A look at the election manifestos of the victorious parties, however, gives reason to doubt whether these necessary reforms will be introduced. Instead, the populist movements largely focus on glowing promises of increased government spending while even promising the reversal of recent structural reforms. The fact that Europe has so far failed to set up an insolvency procedure for Eurozone countries is now taking its toll and making the Eurozone vulnerable to blackmail. Since no such procedure exists, in Italy this could be taken as an invitation to provoke a European bailout rather than to introduce further reforms as a solution to the country's debt problem. If the incoming Italian government seeks out confrontation with the Eurozone, there is no way of knowing what the outcome of this will be. A populist government in Rome could cause substantial political and economic damage as it would usher in a new period of economic and political uncertainty, putting the survival of the Eurozone and the EU as a whole at risk.

Italy's election result should serve as a wake-up call

At the same time, the election result in Italy should serve as a wake-up call amid discussions over ambitious reforms to the Eurozone, including new budgets as well as stabilising and financing mechanisms. The message is loud and clear: The Eurozone needs rules and institutions that still function even when a Member State refuses to cooperate and chooses to implement irresponsible policies.

This option has so far been neglected in the debate surrounding reform of the European Monetary Union. The discussion has been dominated by the concern that the Eurozone could be impacted by external asymmetric shocks, such as a chaotic Brexit which could push Britain's neighbour Ireland into recession through no fault of its own. Another source of concern are possible new waves of panic on the government bond markets triggered by global events. There are plans for the construction of new defence instruments to address all of these scenarios, including a new "Eurozone budget" and a "European Monetary Fund", which are to be put in place to make transfers and grant loans to countries affected by recessions.

These are all reasonable ideas assuming that Eurozone countries are led by responsible governments that will not provoke asymmetric shocks themselves. The results of the Italian election show that this assumption may be incorrect. In terms of the debate over Eurozone reform, the following lessons can be learned. The Eurozone's regulatory framework must be made sufficiently robust to function even when governments are uncooperative. New instruments must be designed in such a way that any country behaving irresponsibly is credibly excluded from activating them.

Priority should be given to developing rules governing the insolvency of countries within the monetary union. The Eurozone banks need to start applying credit limits to their own country of residence that are absolutely standard for any other type of creditor. This would ensure that if the government of a Eurozone country goes into insolvency, it doesn't take the national banks down with it. Debt haircuts would become a less terrifying prospect as the restructuring would primarily be an issue for the country in question and its creditors across the globe. Only then would it be responsible to establish a European deposit insurance scheme balancing the risk across the entire EU.

Before the Italian election, the Eurozone reform debate was characterised by an almost naive belief in national governments' respect for the EU's common goals and rules. If anything good can come from the results of this election, let it be an end to this naïveté.

The complete ZEW analysis is available to download at: *http://ftp.zew.de/pub/zew-docs/policybrief/en/pb01-18.pdf*

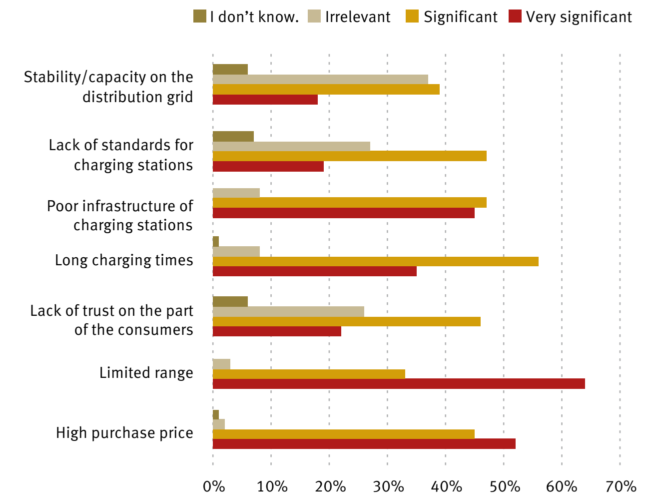
Prof. Dr. Friedrich Heinemann, friedrich.heinemann@zew.de

Growing Demand for Electric Cars Poses a Challenge for the Energy Sector

Though government goals regarding electromobility look unlikely to be met in the near future, the increasing number of electric cars on the road is posing a new challenge for our power supply. The ZEW Energy Market Barometer, a survey among experts in the energy industry, asked participants for their assessment of whether the energy sector's available capacity under current plans is sufficient and where the biggest challenges lie.

The German car industry has recently been the target of a great deal of criticism. For one, greenhouse gas emissions on Germany's roads increased by 1.1 per cent between 1990 and 2016, which is in direct opposition to the country's goal of reducing emissions by 40 per cent by 2020. At the same time, a number of German cities are preparing for court-ordered bans on diesel cars because levels of particulates and nitrous oxide in many areas exceed the permitted limits. As a result, electric vehicles (EVs) are largely seen as a new source of hope in the battle to curb emissions. These vehicles promise to not only reduce direct emissions produced from driving but also overall emissions. The German government has therefore declared its intention to get a million electric cars on Germany's roads by the year 2020 and six million by 2030. The government hopes to achieve this by incentivising consumers with subsidies on newly purchased electric cars. Despite this, by the end of 2017 it was estimated that there were less than 60,000 (purely battery-powered) EVs registered in Germany, while only around ten per cent of the government's 600-million-euro funding pot has thus far been claimed.

HOW WOULD YOU ASSESS THE SIGNIFICANCE OF THE FOLLOWING FACTORS AS A POTENTIAL OBSTACLE TO ELECTROMOBILITY?



Source: ZEW Energy Market Barometer Jan/Feb 2018

With this in mind, the ZEW Energy Market Barometer asked experts to assess whether, based on current plans, the energy sector has sufficient capacity for ten per cent of all cars (approximately 4.5 million cars) in Germany to be running solely on electricity by the year 2025. The ZEW Energy Market Barometer is the only panel of its kind in Germany made up of experts in the energy industry. Many of the surveyed experts predicted bottlenecks in the distribution network. While the (high-voltage) transmission grid ensures that electricity is transmitted over long distances, the (low-voltage) distribution grid delivers electrical power via the "last mile" to the point of use.

In total, 67 per cent of the experts were of the belief that the network's existing and planned capacity will not be sufficient to support such an increase in the number of electric cars unless greater investments in the network, particularly in upgrading transformers and electrical cables, are made. Nevertheless, a majority of the surveyed experts were confident that there was no need for additional investment in generation capacity (79 per cent) or transmission network capacity (73 per cent) to prepare for increasing electromobility. These findings are similar to those of a survey conducted by the French companion panel "Baromètre du marché de l'énergie" looking at the challenges of electromobility for the electricity sector in France.

The greatest barriers to the wider use of electric cars in Germany, according to the surveyed experts, are the limited range (64 per cent) and high purchase price of electric cars (52 per cent). The price of an electric car is currently several thousands of euros more expensive than that of a car with a combustion engine, although the cost per kilometre for an electric car is lower. The range of electric cars has been increasing steadily over recent years and most can now go for 250 kilometres without charging, enough to cover the majority of day-to-day journeys.

The long charging time and a poor existing infrastructure of charging stations were seen as significant obstacles by 56 per cent and 47 per cent of the experts, respectively, and as very significant obstacles by 35 and 45 per cent, respectively. Meanwhile, only around 20 per cent saw a lack of trust in electric cars on the part of consumers, a lack of standards for charging stations as well as lacking stability and capacity on the distribution network as very significant obstacles. For a quarter to a third of the experts, these obstacles were not significant at all. Overall, energy experts in Germany see electric car technology itself as well as the infrastructure of charging stations as the areas most in need of improvement.

Likelihood of a ban on cars with combustion engines difficult to assess

Several countries such as France and England have already announced plans to introduce a ban on the registration of vehicles with a combustion engine by the year 2040. In total, 40 per cent of the surveyed experts thought it likely that Germany would introduce a similar ban, with 27 per cent predicting a nationwide ban and 13 per cent expecting bans in individual cities. Meanwhile, 30 per cent did not believe that such a ban would be brought in. These responses indicate great uncertainty among the experts over this particular issue. In France, which has already announced plans for a ban, at least two thirds of the experts believed that some form of the ban would be enforced in certain cities at least, if not across the entire country.

Robert Germeshausen, robert.germeshausen@zew.de
Dr. Wolfgang Habla, wolfgang.habla@zew.de
Dr. Nikolas Wölfing, nikolas.woelfing@zew.de

IN THIS ISSUE

Discussion over Eurozone Reform Must Respond to Italian Election Result 1
Growing Demand for Electric Cars Poses a Challenge for the Energy Sector 2
EU General Data Protection Regulation – German Businesses Under Pressure to Adapt 4
Private Banks – The Most Important Partners of German Foreign Trade 5
Innovation Gap Between Countries in Europe Is Gradually Widening 6
Public Procurement Can Speed up Innovation 7
Conference at ZEW on Post-Brexit Trade Relations Sparks Heated Debate 8
Q&A: What Potential Is There in the Smart Textile Market? 9
Inside ZEW 10
Dates, Facts and Figures 11
Opinion 12

EU General Data Protection Regulation – German Businesses Under Pressure to Adapt

Merely half of the firms in the German information economy have so far dealt with the need to adapt to the new General Data Protection Regulation (GDPR), which will become binding for all businesses and public bodies operating in the EU in May 2018. A representative ZEW study has found that, due to its high service intensity, the German information economy is likely to be particularly affected by the GDPR, and is thus coming under increasing pressure to adapt to this new EU regulation.

In a survey conducted in December 2017, ZEW asked approximately 700 companies in the German information economy (consisting of the ICT sector as well as media and knowledge-intensive service providers) with five or more employees whether they had dealt with the challenges and requirements of the new EU regulation. While 47.5 per cent of the businesses in the information economy confirmed that they had already dealt with the GDPR, 12.5 per cent claimed to have never heard about this regulation; 40 per cent of the companies stated that, while they had in fact heard about the new rules, they not yet made any adjustments to comply with them. The GDPR aims to protect personal data within the EU and safeguard the free movement of data within the European Single Market.

The study also revealed sector-specific results; while most ICT service providers (62.3 per cent) have already dealt with the regulations, the majority of knowledge-intensive service providers (55.9 per cent), such as law, tax and business consultancies, architectural and engineering offices, the advertising industry and market research companies, are not yet familiar with or have not yet made adjustments for the GDPR.

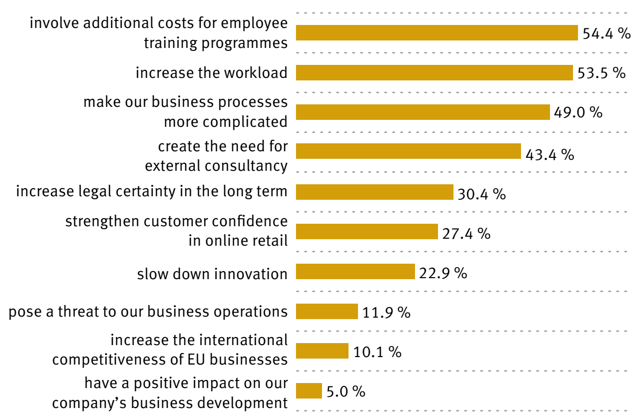
In December 2017, only about five per cent of the surveyed businesses had already implemented all the measures required by the GDPR, while around 25 per cent had implemented at least some of the measures set out in the new EU regulation. The vast majority, however, have either not yet (42.9 per cent) or only just begun (25.6 per cent) to put the required measures into practice. It is therefore all the more surprising that many companies have great confidence that they will be able to implement the requirements of the GDPR by the time the new EU regulation comes into force. According to the researchers, almost 70 per cent of the companies in the information economy expect that by May 2018, they will have fully (36.7 per cent) or at least partly (31.2 per cent) implemented the provisions set out in the new data protection regulation.

Firms expect the new regulation to result in extra costs

Furthermore, companies in the German information economy believe that the introduction of an EU-wide data protection framework will involve great organisational and personnel costs. More than half of the companies expect the enforcement of the regulation to result in additional costs for employee training schemes on the one hand, and a higher workload on the other. Only a small minority of the surveyed companies expect the new GDPR to have a positive effect on the competitiveness of EU companies on international markets (10.1 per cent), or on their own business development (5.0 per cent).

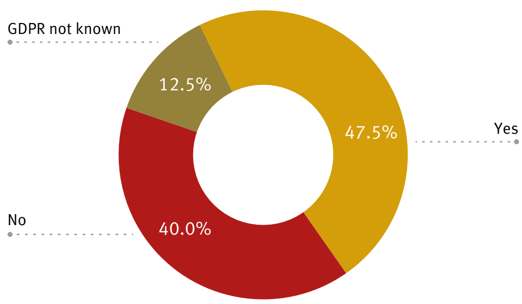
Prof. Dr. Irene Bertschek, irene.bertschek@zew.de
Dr. Jörg Ohnemus, joerg.ohnemus@zew.de

THE INTRODUCTION OF THE NEW GENERAL DATA PROTECTION REGULATION (GDPR) IS LIKELY TO ...



Reading aid: 54.4 per cent of businesses in the German information economy expect the introduction of the GDPR to result in additional costs for employee training programmes.
Source: ZEW Business Survey on the Information Economy 2017

HAVE YOU ALREADY DEALT WITH THE CHALLENGES AND REQUIREMENTS OF THE GDPR?



Reading aid: As of December 2017, 47.5 per cent of the companies in the German information economy had already dealt with meeting the challenges and requirements of the new EU GDPR.
Source: ZEW Business Survey in the Information Economy 2017


Photo: ©istockphoto.com/suriyasilsaksom

Private Banks – The Most Important Partners of German Foreign Trade

With an export volume totalling 1.2 trillion euros, Germany ranks among the global big players when it comes to foreign trade. In 2016, Germany once again managed to increase its exports and came in third after the United States and China in terms of highest absolute exports. As has been found in a recent study conducted by ZEW on behalf of the Association of German Banks, private banks play a significant role in this success.

Based on information contained in the Mannheim Enterprise Panel (MEP), researchers analysed the most important banking relationships of German firms and documented private banking clients' share of the total export volume from German companies. The study also investigated the size of the private banks' market shares among so-called "hidden champions", that is, firms that are not necessarily large or well-known, but lead the global market in certain niche sectors.

The results of the study clearly confirm the findings of a similar previous study carried out in 2011, which found private banks to be the German export industry's most important partner. According to the most recent data available from 2015, private banking clients made up a total share of 88 per cent in relation to total export volume. This puts the group of private banks well ahead of institutions in the savings and cooperative banking sectors. Dividing the observed companies into size classes based on turnover or geographically according to state produces the same results, namely, that clients of private banks account for the majority of foreign trade. Private banks lead the field, not just among large companies, but among small and medium-sized enterprises (SME) as well. However, the market share of private banks still increases considerably with firm size.

Hidden champions contribute to foreign trade success

A further focus of the study was the role of private banks in relation to German "hidden champions", a term which refers to companies that are largely unheard of in the public consciousness, but are nonetheless global market leaders in their respective sectors. In line with a previous ZEW study, the classification of "hidden champion" was given to companies with less than 10,000 employees that are active on a global level, have a high market share in their primary sales markets and have grown at an above average rate over the past five years compared to other companies in the same sector.

Based on data from the Mannheim Innovation Panel (MIP), which is conducted annually by ZEW, the majority of hidden champions identified by researchers were small or medium-sized companies. Between 2008 and 2014, 90 per cent of these companies had less than 250 employees, while 77 per cent brought in turnover of less than 50 million euros. The extremely high export quota of these companies indicates that, in relation to their size, they contribute disproportionately to Germany's foreign trade success. Not only are these hidden champions highly export-oriented, they are also highly innovative. For instance, steady investment in research and development is more of a priority for these companies and they are more likely to successfully introduce new product innovations to the market than otherwise similar companies that are not hidden champions.

Private banks play a key role in supporting SMEs

An analysis of the most important banking relationships of Germany's hidden champions revealed that, between 2008 and 2014, on average 61 per cent of companies used private banks as their principal bank. Also in the case of hidden champions, private banks tend to have a bigger market share the larger the size of the client. Surprisingly, private banks are also the leading provider of banking services among very small firms with up to ten million euros in turnover and with 5 to 49 employees. From these findings we can conclude that Germany's private banks play an extremely significant role in supporting companies operating internationally – and this applies for both large and small-to-medium-sized enterprises.

This piece originally appeared on the Association of German Banks' blog on 12 February 2018.

Frank Brückbauer, frank.brueckbauer@zew.de
Prof. Dr. Sascha Steffen, s.steffen@fs.de

Innovation Gap Between Countries in Europe Is Gradually Widening

National governments respond very differently to economic crises in terms of spending on research and development (R&D). This has created an innovation gap between the countries of Europe that is growing ever wider, according to the findings of a study carried out by ZEW.

According to the study, innovation leaders both inside and outside the EU pursue a counter-cyclical spending strategy for publicly funded R&D, while so-called innovation followers – generally strong, but not leading innovators – and moderate innovators tend to take a pro-cyclical approach. Furthermore, short- and long-term financing conditions such as budgetary surpluses and public debt have been shown to influence government R&D expenditure.

The financial and economic crisis has shown that the gap between innovation leaders and innovation followers is gradually widening.

For the purpose of the study, ZEW researchers examined how countries respond to periods of economic crisis in terms of public R&D spending – measured as government budget appropriations. Using panel data on 26 member countries of the Organization for Economic Cooperation and Development (OECD) in the period between 1995 and 2015, the researchers analysed how government R&D spending changes over the course of the business cycle measured in terms of real gross domestic product (GDP). They found that, on average, governments organise their R&D spending in a strongly pro-cyclical manner. According to the researchers' calculations, the average growth rate of public R&D spending is 2.5 per cent lower during an economic crisis than at other times. Conversely, a one per cent increase in real GDP leads to a 0.2 per cent rise in government R&D expenditure.

Leading innovators tend to increase public R&D expenditure during periods of crisis

In terms of R&D spending strategies, there are, however, enormous differences between the individual OECD countries. Mainly European countries like Germany, Denmark and Sweden, as well as non-EU countries such as the United States, Australia,Canada and South Korea, are considered innovation leaders who invest in R&D on a counter-cyclical basis. This means that these countries actually increase public R&D expenditure during periods of crisis, with an average increase, according to ZEW calculations, of 2.9 per cent. On the other hand, there are innovation followers like France, Austria and the United Kingdom or moderate innovators like Spain, Portugal and Italy that pursue a pro-cyclical budgetary policy, cutting back drastically on public R&D spending during economic crises.

The study also found that an increase in a country's budgetary surplus equivalent to one percentage point of the real GDP leads to short-term growth in public R&D expenditure of up to 0.8 per cent. Growing public debt has, by contrast, contributed to a steady decline in public investment in R&D over the two decades observed in the study.

Innovation gap in Europe threatens to make the productivity gap even wider

The financial and economic crisis starting in 2007 has shown that the gap between highly innovative and less innovative countries in Europe is gradually widening. Innovations are the result of research and development, and both are important drivers of productivity and growth. The innovation gap in Europe, however, threatens to make the productivity gap between European countries even wider. Given the global decline in productivity, which has been ongoing for some years, governments should not be shying away from making big investments in R&D.

This is, however, made more difficult by the fact that high levels of debt are putting increased pressure on governments to consolidate their budgets, which make cuts to public investment in research and development all the more likely.

The study can be downloaded at: *www.zew.de/PU79798-1*

Dr. Georg Licht, georg.licht@zew.de

If public procurement contracts explicitly address the development of new technologies, this may increase the innovation activity of businesses.

Photo: © iStockphoto/PhonlamaiPhoto

Public Procurement Can Speed up Innovation

In Germany, public procurement is a successful instrument for speeding up the introduction of innovative goods and services in companies. This is the result of a study carried out jointly by ZEW, KU Leuven and Maastricht University. If tender calls in the public sector are explicitly targeted at the development of new technologies, this can bring about a general increase in the innovation activity of German businesses.

Providing the adequate framework for the public procurement of innovations was one of the goals of the German Procurement Law Amendment Act of 2009. Thanks to the implementation of the act, Germany was able to secure its position as a forerunner in the field of public procurement in the European Union. Previous procurement regulations had made it difficult for government bodies to specify the innovation level of procured products or services as a selection criterion.

Public Procurement of Innovation (PPI), which in this context refers to public tenders that define the development of innovations as a binding selection criterion, was introduced as part of the legal amendment of 2009. Its aim is to promote the development of innovative goods and services whilst stimulating demand for innovations in the German economy.

Public procurement helps to increase a firm's turnover

On the basis of data from the Mannheim Innovation Panel (MIP) – a survey which has been conducted by ZEW on an annual basis since 1993 and comprises data on more than 20,000 firms – researchers analysed the share of turnover of 3,410 German firms generated from selling innovative products and services in 2012. With regard to the impact of public tenders that explicitly cite the implementation of innovation among their selection criteria on the total turnover generated by a firm with new products and services, the results of the study have shown that PPI can in fact result in an increase in turnover for firms that were awarded such public procurement contracts. In 2012, PPI increased these companies' turnover by a total of 13 billion euros, corresponding to 0.37 per cent of German GDP. This increase was thereby not driven by a rise in government expenditure since no significant increase took place around that time. At the same time, the researchers did not observe any comparable positive effects in firms with procurement contracts which do not specify innovation-related award criteria.

The findings of the study also indicate, however, that PPI had no significant effect on the share of market novelties. Instead, the positive impact of PPI is attributable to incremental, or gradual, innovations, which are not completely new to the market but the result of adaptations made to existing products. Making adaptations to products is not only associated with fewer risks but is also less prone to failure. In light of these results, the researchers stress the need for stronger incentives for public procurers and improved risk management in the public sector.

Risk aversion among public procurers still quite high

Public procurers can be held accountable for failures in the procurement process. The benefits of the successful procurement of innovative products are, however, shared by all of society. According to the researchers, the great individual risk faced by public procurers is thus disproportionate to the benefits reaped by a much broader group of stakeholders. As a result, there is a high risk aversion among public procurers.

In 2014, the European Union passed revised public procurement directives, which are based on the German model. Despite the fact that the implementation of the new EU procurement directives is currently only making slow progress, based on the observations made in Germany, a similarly positive growth effect in other Member States can be expected.

Furthermore, the results of the study also hold for countries well beyond the borders of the EU. Many OECD countries are still facing regulatory obstacles when it comes to integrating the development of innovations into the public procurement process. The use of PPI as a strategic policy instrument to promote innovation has therefore been limited to only a small number of countries so far.

The study can be downloaded at: *www.zew.de/PU79693-1*

Prof. Dr. Dirk Czarnitzki, dirk.czarnitzki@kuleuven.be
Dr. Paul Hünermund, p.hunermund@maastrichtuniversity.nl

Conference at ZEW on Post-Brexit Trade Relations Sparks Heated Debate

The UK's impending departure from the EU means a reshuffling of the trade policy cards held by both sides. A range of economic and legal arguments can be made to support alternative views on who will ultimately profit from the Brexit negotiations, and in what form. At the conference "Trade Relations after Brexit: Impetus for the Negotiation Process", held in early 2018 at ZEW, economists and policymakers debated the most efficient way forward in the Brexit process.

The two-day event, which was jointly organised by the Mannheim Centre for Competition and Innovation (MaCCI) at ZEW and the University of Mannheim, as well as the European Research Centre for Economic and Financial Governance (EURO-CEFG) at the universities of Leiden, Delft and Rotterdam, brought together international experts from research institutions and the European Parliament. Over the course of a number of presentations and panel discussions, the attendees analysed the negotiating positions of Great Britain and the EU, and also explored the future of trade relations while considering the potential impact on the economy on a macro-level and on specific industries.

Professor Wolf-Georg Ringe of the University of Hamburg suggested that the handling of Brexit in EU law is sure to be creative and flexible, as was the case for the Greek bailouts and banking crisis in Italy. Some members of the audience took issue with this argument, and the discussion ultimately turned to the normative effects of Brexit in connection with the lax application of self-imposed rules within the European Economic Area.

In his talk at ZEW, Professor Stefaan Van den Bogaert of Leiden University recommended the adoption of a free trade agreement between the EU and the UK following Brexit.

On the issue of immigration, directly opposing arguments were posed by Professor Patrick Minford from Cardiff University and Elmar Brok MEP, who is the foreign policy coordinator of the European People's Party (EVP). Minford asserted that in comparison to the EU, the UK would profit enormously from Brexit, as it would experience less immigration to its low-wage sector. This would lead to higher wages, which would particularly benefit poor British households. Furthermore, Brexit would mean more extensive trade with Commonwealth countries.

By contrast, Elmar Brok argued that Brexit would not limit immigrants from entering the British social security system, and that Britain already has tools at its disposal as an EU member to limit such impacts. Alongside the US, the EU – and particularly Germany – would remain Britain's most important trading partners, Brok asserted. By way of example, Brok noted that the German state of North Rhine-Westphalia conducts twice as much trade with the UK as all of India.

The free trade agreement between the EU and Switzerland as a model for future relations

In his presentation, Professor Clemens Fuest, president of the ifo Institute and former president of ZEW, stressed that Brexit would set precedents with long-term consequences that would be nearly impossible to predict. Fuest noted that, while there are various scenarios for managing Britain's departure from the EU, all of which have negative effects, the impact would be most severe for Poland, Ireland and the UK, depending on the solution that is implemented. A "hard" Brexit would have significant negative effects, as it would not only impair the flow of goods, but also disturb other transactions, thus creating enormous costs, Fuest argued. He noted that while economists can use models to approximate the costs of a disorderly Brexit, these models are hardly capable of taking the full complexity of reality into account.

Drawing on the example of Poland, Professor Stefaan Van den Bogaert of the European Research Centre for Economic and Financial Governance drew attention to the fact that while some EU Member States benefit from EU subsidies, they fail to assume responsibilities in other policy domains, such as the refugee crisis. These problems were adding fuel to the Brexit negotiations, Van den Bogaert asserted. Concerning the trade regime that would apply following Brexit, he recommended the adoption of a free trade agreement similar to that with Liechtenstein and Switzerland, so that certain trade privileges could remain in force. However, this would come hand-in-hand with a significant administrative burden, Van den Bogaert conceded.

Niklas Dürr, niklas.duerr@zew.de
Felix Kretz, felix.kretz@zew.de

Q&A: What Potential Is There in the Smart Textile Market?

“The Textile Industry Is Among the Most Cutting-Edge Innovative Sectors in Germany”

With potential uses ranging from fashionable everyday clothing and sportswear to applications in medicine, the military and the construction sector, it’s no surprise so-called “smart textiles” are on the rise. ZEW researchers Dr. Jörg Ohnemus and Dr. Fabienne Rasel have produced a report on the smart, or intelligent, textile industry in Germany on behalf of the German Federal Ministry for Economic Affairs and Energy. In this interview, Jörg Ohnemus offers some insights on this new market, including its future prospects and potential innovations.

What exactly does the term “smart textiles” mean?

Smart textiles are a subcategory of what is known as wearable technology. Smart textiles usually feature electronic components which are actually woven into the thread, or are characterised by specific physical properties. The fibres in smart textiles have new surface, protective and intelligent features that previously were not available in textile form. For instance, they can gather and relay information, light up, generate heat, heal wounds or monitor a person’s heart rate, breathing and body temperature.

There are a number of companies, including start-ups, that have already developed products involving smart textiles. Well-known examples include the US textile manufacturer Levi’s, who have created a smart jacket for urban cyclists in collaboration with Google, and sporting goods manufacturer Nike with their smart shoes which have intelligent laces. That being said, today smart textiles are most commonly used in medicine or in the military.

What distinguishes the intelligent textile market from other markets?

First of all, the smart textile market consists of companies from various sectors, such as the textile industry, the electrical engineering sector and the information and communication technology sector. With the availability of new materials and technical possibilities opening up many new opportunities in the design and use of (everyday) clothing, this market has also attracted many fashion designers under the umbrella of “fashion tech”.

What has the development of this market looked like thus far and what are its future prospects?

Until now, definitive figures on the development of this still relatively new market, particularly in Germany, have been few and far between. According to recent ZEW calculations, the size of the global market for intelligent textiles in 2017 was roughly 1.3 billion euros.

On the whole, growth projections for this sector of the economy are optimistic. We expect the global market size to reach almost 4.7 billion euros by 2022 and over 41 billion by the year 2030. The estimated size of the current market in Germany is around 230 million euros. By the year 2030, we expect this figure to be almost twenty times higher. While according to experts from academia, organisations and private companies the German textile industry has been slowly disappearing over the past 100 years, there is now hope that digitalisation and the astounding developments in smart textiles will reverse this trend and in doing so save jobs in this sector. Like the German economy overall, the intelligent textile sector is strongly export-oriented and is often at the cutting edge in terms of technology. Germany is one of the leading economies worldwide particularly in terms of the supplier industry, for example, for conductive yarn or miniature sensors, and medical technology.

The main drivers for growth include the production of protective clothing for the military as well as textiles for medical applications, with the sport and fitness and fashion sectors also playing a significant role. There is also great market potential in the production of intelligent textiles, which frequently involves the collaboration of companies from different sectors of the economy. We expect to see a considerable boost in the development of production methods within the next two years at most.

The development of these smart textiles requires far-reaching innovations. Is the German market prepared for this?

The textile industry is among the most cutting-edge of all Germany’s innovative sectors, on a similar level to mechanical engineering. The percentage of companies in the sector that have implemented product or process innovations has been on the rise in recent years and in 2015 was as high as 55 per cent. Although it is not possible to make any concrete statements on the extent of innovation activity involving intelligent textiles, we can assume that this sector is in a strong position to compete at both the national and international level.


Photo: ZEW

Dr. Jörg Ohnemus

is deputy head of the ZEW Research Department “Digital Economy”. The main focus of his research is the diffusion of information and communication technologies at the sector and firm level both in Germany and worldwide, with a particular interest in the innovation and productivity effects of their various applications. He also works intensively with Germany’s cultural and creative industries, helping to produce an annual monitoring report on the sector, among other projects.

joerg.ohnemus@zew.de

IMF Experts Yackovlev and Chen Visit ZEW

In early 2018, Tingyuen Chen and Irene Yackovlev from the International Monetary Fund (IMF) presented the IMF research paper “Inequality and Poverty across Generations in the European Union” at ZEW. In their speech, the IMF economists shed light on the effects of unemployment and the long-term consequences of insufficient social protections for young people in Europe. The gap between the generations in Europe has increased considerably compared to the years before the global financial crisis. While the relative poverty of young and elderly people was very similar before the crisis, the past few years have seen a significant increase in the poverty risk among young people. According to the IMF study, this development can mainly be attributed to labour market and fiscal policies. After presenting their findings, the IMF economists discussed potential political solutions which could help to reduce inequality and poverty across generations in Europe. For instance, the IMF economists proposed that investments be made in education and further training. This would help young Europeans to build up their skills and improve their chances of finding employment in the future.

IMF economist Irene Yackovlev at the ZEW Research Seminar: Inequality and poverty are having an impact on Europe’s socio-economic climate.

Horizon 2020 Project FRAME Supports Policymakers in Creating Innovative Solutions

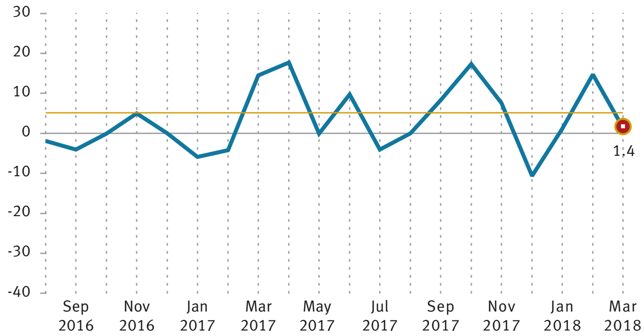
How can we stop global warming? How can we avoid economic crises? And what does the ageing population mean for the global economy? These are just some of the challenges that societies in Europe are facing, and innovative solutions are needed to cope with them. The EU-funded Horizon 2020 project FRAME (short for: Framework for the Analysis of Research and Adoption Activities and their Macroeconomic Effects), which is coordinated by ZEW and led by a number of internationally renowned institutions, tackles these challenges by deepening our understanding of the determinants of knowledge diffusion. This way, FRAME aims to help policymakers find better solutions to current issues. More specifically, FRAME investigates which factors facilitate the diffusion of knowledge from the public domain across all economic agents to innovate and sustain economic growth at the European level. The project investigates these issues by providing sound economic analyses to serve as the basis for research and innovation policies on key variables such as productivity, output, job creation and unemployment.

RWE Boss Schmitz Discusses Germany’s Energy Transition at ZEW

The energy sector is currently undergoing a transformation. An opening-up of the markets, a mix of different energy sources and new levies have brought about sweeping changes to the sector in recent years. Energy providers are having to break out of old patterns in order to manage the balancing act between guaranteeing supply and ensuring both sustainability and affordability. These are just some of the issues that were addressed by Dr. Rolf Martin Schmitz, CEO of the private energy supplier RWE, during the latest event in the lecture series “First-Hand Information on Economic Policy” at ZEW. One of his main points was that representatives from science and industry must bring their expertise to the table of political debate in order to ensure the success of the energy transition on the national level. This is the only way that practical solutions for the phase-out of nuclear energy and coal can be found in an objective and politically neutral manner. He emphasised securing energy supply as the key here – from the perspective of both the government and private firms.

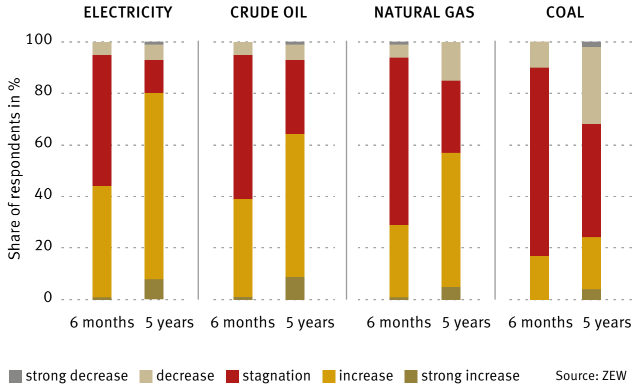
RWE CEO Dr. Rolf Martin Schmitz delivering his speech at ZEW on the current progress and challenges of Germany’s energy transition

Economic Outlook for China Experiences Dramatic Drop



The CEP Indicator reflects the balance of the symmetrically weighted positive and negative assessments regarding the macroeconomic environment in China over twelve months. Source: ZEW/Fudan University

Experts Expect Long-Term Increases in Energy Prices



Economic expectations for China experienced a considerable drop in March 2018, with the CEP indicator falling by 13.3 points to 1.4 points compared to the previous month. The CEP Indicator reflects the expectations of international financial market experts regarding China's macroeconomic development over the coming twelve months. The experts' assessment of the current economic climate is also less positive than in the previous month, with the corresponding indicator dropping 8.6 points to 23.7 points. This figure, however, still indicates a largely positive assessment of the economic situation. The euphoria in the face of the exorbitant growth of 6.9 per cent exhibited by the Chinese economy last year seems to have evaporated. At 6.6 per cent, the forecast given by our experts with regard to real GDP growth in 2018 is largely in line with the official target of the Chinese government. The experts' assessments relating to growth in Chinese exports remained constant in relation to the previous month. This is surprising given the increasing likelihood of a trade war between the United States on one side and the European Union and China on the other. It remains to be seen how the current tensions will impact China's growth and exports over the coming months.

Dr. Michael Schröder, michael.schroeder@zew.de

Current trends suggest that prices for all energy sources will increase within the next five years. While prices for electricity, crude oil and natural gas are expected to go up, coal prices should to a large extent remain stable. Just over half of the participants in the latest ZEW Energy Market Barometer, a survey carried out by ZEW among energy market experts, predicted global increases in crude oil and natural gas prices over the next five years. Meanwhile, just under 30 per cent expected prices to stagnate. Although far fewer of the surveyed experts predicted price increases compared to the results of the survey conducted six months ago, the majority of experts still expected to see an upward trend in prices. A similar trend is visible regarding electricity prices in Germany, with 72 per cent of the surveyed experts expecting a long-term increase and eight per cent even predicting a strong increase. By contrast, just 13 per cent expected prices to stagnate within the next five years. When it comes to global coal prices, however, the 24 per cent anticipating higher prices is almost balanced out by the 32 per cent predicting a drop in prices. Meanwhile, 44 per cent of the experts expected prices to remain stable. With regard to short-term predictions, however, prices are largely expected to stagnate for all energy sources.

Robert Germeshausen, robert.germeshausen@zew.de

12

Workshop: Matching Practices in Europe

ZEW is pleased to invite submissions for the 15th Workshop on European Matching Practices in Mannheim on 12–13 October 2018. The workshop will bring together researchers working on the various aspects of assignment and matching in education, labour and related markets, with a view to actively foster interactions between the various approaches used in this area of research and to share expertise on the actual functioning of these markets in Europe. Researchers who wish to present their work at the workshop are invited to submit a paper by sending an e-mail to matching2018@zew.de no later than 31 August 2018.
For further information please visit: *www.zew.de/VA2481-1*

Conference: Dynamics of Entrepreneurship

ZEW is pleased to announce the fourth International Conference on the Dynamics of Entrepreneurship on 18–19 June 2018. The aim of this conference is to discuss recent scientific contributions on the interdependencies between finance, human capital, and innovation and investment activities of young firms, as well as on public policies which promote these activities. Theoretical, empirical, and policy-oriented contributions from all areas of entrepreneurship research are welcome. Interested researchers are invited to submit a paper to entrepreneurship2018@zew.de no later than 8 April 2018.
For further information please visit: *www.zew.de/VA2493-1*

Germany's Federal Cartel Office – 60 Years of Protecting Competition

Happy birthday to the German Federal Cartel Office! As the Federal Cartel Office turns 60 this year, it can look back on a long history of successes. But now is not the time for the Office to rest on its laurels. The mission of the Office is to enforce the Act against Restraints of Competition (GWB), which forms the basis of Germany's antitrust laws, and in doing so protect competition. The GWB sets out rules for the main instruments for protecting competition: anti-cartel enforcement, abuse control, and merger control. However, the GWB was not welcomed from all sides before it was passed. As the leading advocate of legally determined competition regulations back in the 1950s, Ludwig Erhard did not have an easy task facing up to the voices of protest coming from German industry. The GWB was eventually passed in 1957 and came into effect on 1 January 1958.

Since then, the Federal Cartel Office has established itself as the highest body regulating competition in Germany. Today, more than 1,200 corporate mergers are filed in the Cartel Office's nine different decision divisions each year. As a result of the introduction of the leniency programme, anti-cartel enforcement has grown in importance enormously in recent years, forcing the Cartel Office to add three new decision divisions since 2005. Abuse control to prevent certain companies from dominating the market has also become more prominent thanks to the Cartel Office's investigations into Facebook on the suspicion that the internet giant was abusing conditions in the collection of data from third parties.

Despite the Federal Cartel Office's 60 years of experience fighting constraints on competition, things cannot remain business as usual. Radical changes lie ahead, with the digitalisation of the economy presenting new challenges for competition law and its enforcing bodies.

For example, platform markets, a hallmark of the digital economy, tend to get monopolised due to their network effects. Furthermore, the fact that data, the raw material of the digital economy, is disproportionately in the hands of existing dominant companies makes it difficult for new competitors to enter the markets. The new dynamics of these markets also demand completely different reaction times from the authorities. In the internet age, you have to be fast, or at least faster than before.

In the US, there is already a debate over whether competition policy of a completely different calibre is needed. Behind such concerns is the fact that the contribution of the 100 largest companies to total value added jumped from 30 per cent in the 1990s to 46 per cent in 2013. By comparison, in Germany, where the economy is more strongly shaped by small and medium-sized enterprises, this figure is only 16 per cent. Furthermore, since the end of the financial crisis, the US companies have been reporting sharp increases in profit margins in almost all sectors, which can be explained by the increased market power of these companies. This development can also be observed in Germany, albeit to a somewhat lesser extent. In other European countries only just beginning to recover from the crisis, the growth of company profit margins is currently even less alarming.

It is debatable whether it is technological progress that is primarily responsible for the increases in these companies' market power – often referred to as winner-takes-all technologies – or lax merger control making it easier for companies to eliminate the competition by buying out their competitors.

Whatever the cause, what is certain is that merger control as well as abuse control targeted at dominant companies must continue to develop and adapt to deal with new market structures. The 9th Amendment to the Act against Restraints of Competition approved last year represents a first step in the right direction. In the meantime, the Federal Cartel Office has plenty of work to get on with for the next sixty years.

ZEW

Zentrum für Europäische Wirtschaftsforschung GmbH

Centre for European Economic Research

ZEWnews English edition – published bimonthly

Publisher: Mannheim Centre for European Economic Research (ZEW),
L 7, 1 · 68161 Mannheim · P.O.Box 10 34 43, 68034 Mannheim · Germany · Internet: www.zew.de, www.zew.eu
President: Prof. Achim Wambach, PhD · Director: Thomas Kohl

Editors: Gunter Grittmann (V.i.S.d.P) · Phone +49 621 12 35 - 132 · Telefax +49 621 1235 - 255 · E-mail gunter.grittmann@zew.de
Sarah Tiedemann · Phone +49 621 12 35 - 135 · Telefax +49 621 1235 - 255 · E-mail sarah.tiedemann@zew.de

Full or partial reprint: please indicate source and forward a copy