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# The OECD Needs Tougher Standards for Tackling Tax Avoidance

The Organization for Economic Cooperation and Development (OECD) needs to toughen its standards in order to more effectively prevent tax evasion through the shifting of profits overseas or to so-called tax havens. At the same time, greater international pressure needs to be exerted on the US to agree to the Common Reporting Standard (CRS), a practical instrument developed by the OECD to facilitate the automatic exchange of information (AEOI) on taxes and financial accounts across countries. Meanwhile, there is an increasing risk of the US itself becoming a tax haven for overseas assets, according to a study carried out jointly by ZEW and the University of Mannheim.

For the purposes of the study, researchers compared 41 different countries, including members of the OECD and the European Union as well as well-known international tax havens such

as the Bahamas, Bahrain, Hong Kong and Singapore, looking specifically at how the CRS was implemented in national law. The results of the study revealed considerable qualitative differences between individual countries in terms of how the CRS had been implemented in the existing legal system, with a resulting negative impact on the effectiveness of the AEOI. The exchanged data include personal details such as name, address, nationality, date and place of birth, tax identification number and information on account numbers, balances and capital gains.

The authors recommend that the OECD permit less flexibility in the terms of the legal implementation and scope of the CRS at the national level. More specifically, the current 2,600 bilateral agreements that have been made globally under the umbrella of the CRS could be streamlined into a smaller number of multilateral agreements. Also, the OECD standards would be



adhered to much more closely across the board if there were stricter universal rules for the enforcement of the CRS, such as a mandatory minimum fine for rule-breakers.

#### Risk of the US becoming a tax haven

However, the researchers also emphasised that the OECD's CRS system is still a highly promising initiative, with 100 out of 156 countries having ratified the CRS since its introduction in 2014, with more to come. According to the study, however, if the OECD wants to impose stricter standards in the future, it still needs to get the US on side. Currently, under the Foreign Account Tax Compliance Act (FACTA), all private individuals and companies in the US are required to report all tax-relevant information to the US authorities. The US is therefore not operating on the same level as the CRS in terms of the extent of the international exchange of tax information.

If the US cannot be persuaded to participate in the CRS in order to further harmonise international standards for the prevention of tax evasion, the US will develop into an increasingly attractive location for foreign individuals and companies wanting to avoid their tax obligations in their country of origin.

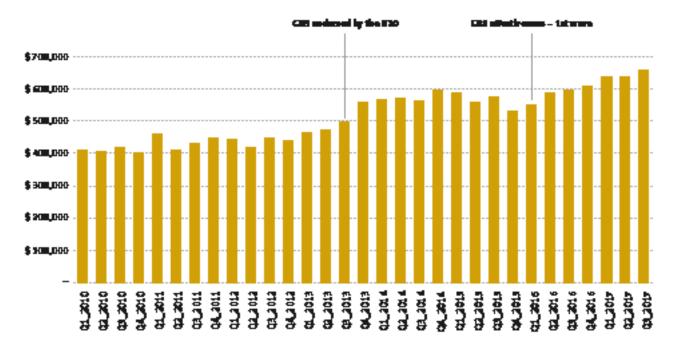
Once it became clear back in September 2013 that the CRS system would become internationally binding, the transfer of foreign assets to the US increased by 13 per cent, before climbing a further seven per cent following the first wave of ratifications of the CRS in January 2016. The researchers conclude that, globally, the US is currently the weakest link in the chain when it comes to the exchange of tax information. If the system is to really take hold worldwide and remain effective in the long term, the involvement of the US is essential.

Finally, it can be concluded that adoption, implementation and execution of the CRS represents a major step forward and a significant weapon in fighting cross-border tax evasion. Continuous efforts for further improvements made by the OECD should be supported by the countries, including the US, the professional community and the public.

The study is available to download at: www.zew.de/PU80165-1

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CROSS-BORDER DEPOSITS HELD IN BANKS LOCATED IN THE US (IN MILLION USD)



Data are from the BIS LBS and include loans and deposits held in US banks by residents of Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Cyprus, Denmark, France, Finland, Germany, Greece, Hungary, Ireland, Italy, Japan, the Republic of Korea, Luxembourg, Mexico, the Netherlands, Norway, New Zealand, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, Romania and the UK. (Those countries are selected because they represent those Eul and DECD member states for which data are available at the BIS database).

Source: ZEW

# **Economists Recommend Policies to Encourage a Sense of European Identity**

European policymakers need to do more to encourage citizens to identify with Europe. There need to be more debates on European issues and international exchanges for groups that have so far had little opportunity to visit other EU countries and who generally do not strongly identify with Europe.

Ideally, the European Union should introduce new programmes such as "Erasmus for Pensioners" or a work exchange programme ("European Waltz") allowing workers to spend several months working in another European country. An EU Citizens' Assembly should serve as a platform to discuss specific political issues and propose potential solutions. Europe could also raise its profile overseas through shared EU embassies and consulates. These are some of the main policy recommendations from a new study conducted jointly by ZEW in Mannheim and the ifo Institute in Munich.

The starting point for the study was determining which groups of people feel a sense of European identity alongside their national identity. Surprisingly, the study found that the percentage of people who felt a connection to their European identity actually increased in the years following the financial crisis. Currently, more than 60 per cent of people across the whole of Europe identify as European. However, the analysis also revealed stark differences between different groups.

#### How to get EU citizens to more strongly identify with Europe

People who view themselves as European tend to be young, well educated, well-travelled and are in regular contact with people from other EU countries. Meanwhile, older and less wealthy people who know little about the EU and live in rural areas are less likely to identify as European. An interest in politics and satisfaction with the democratic system also made people more likely to have a sense of European identity.

Based on these findings, the study conducted by ZEW and ifo puts forward several new ideas for how to encourage citizens to more strongly identify as Europeans. If citizens identify more strongly with Europe, then they are likely to be better informed about European politics and make rational decisions. According to the authors of the study, existing programmes such as Erasmus for students tend to only reach those people for whom interacting with other European cultures is already part of their everyday life.

The study goes beyond these more general insights to develop six concrete policy recommendation that could help to promote a sense of European identity among citizens. For example, an "Erasmus for Pensioners" would offer older citizens, in particular poorer pensioners who might not have previously had the opportunity to do so, support to visit other EU countries. These would by no means be standard tourist trips, but rather a chance for participants to take part in historical or social projects. A Europe-wide work exchange programme, the "European Waltz", would also give people, particularly those working in sectors with few overseas contacts, the chance to complete a work placement in another European country.

The authors of the study also suggested the establishment of a European public broadcaster to provide more accurate and neutral information about the EU. Pan-European political consciousness could also be encouraged by having citizens vote for European rather than national party lists in the European elections. In addition, EU Citizens' Assemblies should be introduced to provide a platform for citizens to discuss specific political issues and propose potential solutions. Europe could also raise its profile overseas through shared EU embassies or consulates.

These recommendations are not about trying to boost the popularity of the EU or its policymakers, but rather about giving as many people in Europe as possible the chance to dismantle prejudices and experience Europe for what it is. Only once this is achieved, can truly balanced decisions about Europe and its future development be made.

The study is available to download at: http://ftp.zew.de/ pub/zew-docs/gutachten/EU\_Identity\_EconPol\_2018.pdf

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Q&A: How Can We Ensure Prosperity for All in the Digital Age?

## "The Social Market Economy Needs an Update"

The digital revolution is currently in full swing, transforming both our economy and our society. The full force of this development is evident from the wide variety of apps on our smart phones to the digitalisation of our workplaces. Business models are having to change at break-neck speeds to keep up with these complex markets. However, ZEW President Professor Achim Wambach is convinced that there is a way to successfully translate the main social principles of our market economy into the new digital age and thus ensure prosperity for all.

#### What makes you so optimistic that digitalisation can ultimately create prosperity for all members of society?

First of all, it is no sure thing that digitalisation will bring prosperity for all. However, digitalisation has given rise to many new business ideas that are of great use to society and have an enormous amount of potential to increase our prosperity. As well as creating new markets, digitalisation has brought new life to more established sectors and led to new innovations. This trend is only going to continue. The question now is whether lawmakers can create the right legal framework - particularly in terms of competition, labour and education policy - to ensure that these developments are to the benefit of everyone in society. You could say that the social market economy is in need of an update.

Traditional businesses are facing stiff competition from new digital models. The taxi industry, for example, is having to fight for survival in the face of car-sharing platforms like Uber, while stationary retailers are struggling to compete with Amazon. What can lawmakers do to ensure that the social principles behind our regulation of the market are not abandoned?

The government's main responsibility is first and foremost to protect competition. Ensuring fair competition over the best ideas and products is the best way to prevent individual agents from becoming too powerful and then exploiting that power, which reduces the level of prosperity for everyone. In order to encourage competition under these new conditions, we need to come up with entirely new strategies. For example, the rules can vary depending on the sector. In the taxi industry, for instance, more flexible pricing and unlimited licensing among traditional taxi companies could stimulate competition. In terms of trade, the government should not favour one form of business over another. It is however important that the authorities monitor the interdependencies between trading platforms and small online traders and punish any abuse of market power.

#### Digitalisation has triggered particularly large upheavals on the labour market. Many people fear that intelligent machines could soon take over their jobs. Are these fears at all founded?

It is true that many jobs are being "automated" as a result of digitalisation. However, there is plenty of evidence that only a small number of professions will disappear completely and that instead only individual tasks will be automated, leading the

scope of duties for many professions to change over time. Routine tasks, in particular, are likely to be increasingly taken over by machines in the future. Meanwhile, tasks that require social or creative intelligence or which involve connecting multiple things that at first glance do not appear to be related to one another will continue to be carried out by humans. Moreover, each new technology creates new jobs. The machines have to be built, operated and serviced. No machine can function alone without some kind of human support. So what we are likely to see in the future is people working together with computers and machines. Another consequence of technological progress is a reduction in production costs. This means that there is more money generating demand for new products, which will in turn create additional jobs in other sectors.

#### How can people who currently predominantly carry out routine tasks benefit from the prosperity created by digitalisation?

Digitalisation is revolutionising the way we work – that goes without question. Multiple studies have shown that industrial jobs that predominantly involve routine tasks are at the greatest risk of being taken over by machines. Here in Germany, this means that even traditional skilled workers are going to have to deal with these changes. Moreover, professional qualifications tend to age faster today than they used to. To ensure that workers in jobs at  $risk\ of\ automation\ can\ continue\ to\ find\ work,\ we\ need\ education$ and further education policies that are truly forward-thinking. Employers are going to have to step up. Keeping skilled workers on board also means introducing them to new tasks. However, the government also has a key role to play in improving and expanding education in technical and scientific subjects. Furthermore, apprentices and students need to learn how to solve problems on their own and how to think creatively. Universities and other higher education institutions therefore ought to increase the number of further training opportunities they offer.





#### Prof. Achim Wambach, PhD

is president of ZEW in Mannheim. As chair of the German Monopolies Commission he also advises the German federal government and legislature in the areas of competition policy, competition law and market regulation. His research interests include issues relating to competition policy and

information problems on markets. In September 2018, he published the book "Digitaler Wohlstand für alle – Ein Update der Sozialen Marktwirtschaft ist möglich", which he co-wrote with Hans Christian Müller and which attempts to show how prosperity can be achieved for all in the internet age. This interview was inspired by the the book. achim.wambach@zew.de

### Much More Than a Three Per Cent Threshold

The Italian government has announced to increase its budget deficit to 2.4 per cent of GDP in the coming year. Compared to the previous government's target of 0.8 per cent this is a substantive upward correction. It is true that the new deficit target is still below the Stability and Growth Pact's famous upper threshold of three per cent. However, an assessment from the three per cent perspective ignores the fact that the Pact is much more than a simple three per cent deficit limit. For some good reasons, the reformed Pact places far less significance on this threshold in the management of public debt.

There are now two other safeguards outlined in the Stability Pact that are intended to ensure that heavily indebted countries reduce their debt and use strong economic years to reduce their debt burden. The first of these important new rules is focused on the debt level, which has been set at a maximum of 60 per cent of the respective Eurozone country's economic output since the Maastricht Treaty. The Pact requires that countries with higher levels of debt reduce the margin between the actual debt level and this threshold by one twentieth each year. Italy has failed to meet this criterion for a number of years. The second threshold applies to the cyclically-adjusted deficit (also known as the structural deficit) and sets the limit for Italy at zero per cent. Again, Italy's deficit is currently well over the permitted level, with a structural deficit of almost two per cent. The Pact requires countries that break this rule to reduce their deficit by around half a percentage point each year until the official target is met.

In plain English, this means that the Pact requires Italy to reduce its current deficit in measurable increments over the next few years until it is down to zero per cent. This applies all the more now that the country's economy is out of the recession and has returned to normal. In years in which the economy runs as normal or does particularly well, the Pact quite rightly requires countries to implement strict consolidation measures. This is the only way to create some room to manoeuvre when it comes to an appropriate spending policy during an economic downturn. Even before the new Italian government came to power, the European Commission had drawn attention to the possibility that Italy may fail to comply with the requirements of the Pact by some margin in 2019. It should be noted that this warning was made based on the fiscal policy of the previous government. With the recent decision to increase pensions and to phase in an unconditional income support together with substantial tax cuts, the situation will only get much worse.

What should also be noted is that Giuseppe Conte's government has already reversed recent labour market reforms and is planning to scrap his predecessor's pension reforms. It was precisely these reforms that gave the Commission cause to grant Italy "mitigating circumstances". According to the symmetrical logic of the Pact, the deficit limits must be applied more strin-

gently in light of the recent reversal of these reforms. The Pact can be twisted and applied as one sees fit; maintaining a higher deficit that manages to stay just under the three per cent limit does by no means imply that Italy is playing by the rules. For 2019, a maximum deficit of no more than 1.5 per cent — with a certain degree of good will — is acceptable. The Italian government would also have to follow this up with swift efforts towards fully balancing the national budget in the subsequent years.

The fact that Italian ministers are instead focusing on the three per cent limit and do not want to hear anything about tougher rules is a smart political move that allows them to shift the point of reference. The government begins by threatening to exceed the three per cent limit and is then able to present a deficit of 2.4 per cent as a "success" and an example of them "playing by the rules". This is very much in line with the long history of Eurozone countries cherry-picking which rules to follow from the Stability Pact, publicly claiming to comply with the debt limit that is easiest to adhere to.

#### The Stability Pact will be further damaged

The EU Commission is responsible for enforcing the Stability and Growth Pact. What we need now from the Commission are swift clarifications that make clear that Italy is in violation of the Pact if it does not further reduce its deficit while serious reform reversals are occuring. Whether the Commission can muster up the courage to do this is unclear. There are fears that the European elections in May 2019 will see a surge in popularity for populist groups. A common argument is that taking Italy to task over its deficit could drive voters even more into the arms of parties like Lega and the Five Star Movement. This is the Pact's real handicap; the responsibility for enforcing the Pact lies with the Commission, which does not have sufficient neutrality to apply the rules of the game in a truly objective way but applies comprehensive political arguments prior to its decision. A fiscal rule that is applied in such a politicized fashion lacks credibility.

The current budgetary conflict with Italy therefore also has significant implications for the future of the Stability Pact. Though the Pact may be complex, it also offers a balanced framework of rules with a certain degree of flexibility and sense of proportion in terms of economic policy. If the Commission backs down now, the credibility of the reformed Pact will be further damaged and the political calculation to stem the rise of the populists in this way is not convincing. If the Commission gives in, this is tantamount to saying that European governments that adopt a confrontational, populist strategy can do whatever they want. What better way for populists to win voters onside ahead of the upcoming European elections.

A former version of this article first appeared in "Die Welt" on 16 September 2018.

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# Germany's Tax Attractiveness Pales in International Comparison

International tax competition is increasingly concentrated on companies with high intangible assets. Meanwhile, decision-makers are increasingly implementing measures to counteract this mode of tax competition frequently perceived as excessive and unfair, leading to additional costs for all companies in Germany. As a result, the German tax system is becoming less and less attractive compared to other countries. There is a need for action to counter the risk of declining international competitiveness.

A ZEW study on behalf of the Foundation for Family Businesses in Germany and Europe analyses developments in international tax competition as well as the effectiveness of fiscal countermeasures. The findings of the study show that competition has grown significantly in the past decades. This holds particularly for the field of corporate taxation. This development becomes most evident in the increase in the competitive pressure resulting from tax cuts in several countries. The most recent example here is the "Tax Cuts and Jobs Act" resolved by the US government, which has brought about a nationwide reduction in the corporate tax rate from 35 per cent to 21 per cent. While a number of other industrialised countries have either announced or already implemented tax reductions, Germany — which is already a high-tax location — is becoming one of the highest-taxed countries in the world.

#### A rising number of EU Member States offer patent boxes

The intensifying tax competition has also manifested itself in the form of "smart tax competition". In this form of tax competition, fiscal instruments are designed to attract targeted, highly mobile activities. As a result, countries are developing tax systems that have a strong bias towards intangible assets. With reduced profit tax rates resulting from patent boxes and tax benefits for R&D investments, these tax schemes are particularly tailored to the needs of research-intensive and innovative businesses.

The fact that tax competition is increasingly focused on these companies is also reflected in the rising number of EU Member States offering patent boxes. While there were only two Member States that had introduced patent boxes in 2000, patent box regimes are now in force in a total of 14 EU countries. This trend benefits companies with digital business models in particular.

On the other hand, German family businesses, which tend to have higher tangible assets and a higher proportion of value added from traditional business models, are less likely to benefit from this development.

In order to curb excessive tax competition, policymakers have introduced a number of fiscal countermeasures. One of the most prominent measures is the BEPS (Base Erosion and Profit Shifting) project initiated by the OECD, which aims to address tax practices perceived as unfair. However, with the unilateral adoption of licence barriers and the current debate revolving around the introduction of an obligation to report abusive and overtly aggressive tax planning schemes, Germany is "over-fulfilling" the implementation requirements resulting both from the multinational strategies adopted at the EU level and within the framework of the BEPS project. In case of the German licence barrier, the tax deductibility of business expenses for international licence payments is particularly limited. When it comes to the obligation to report tax planning arrangements to tax administrations, there is also the risk that Germany will far exceed the OECD minimum standards, which could also include purely national arrangements. The additional burden resulting from overachieving the BEPS targets would affect all companies. Family businesses could be put at a disadvantage, since the potential economic benefits from tax competition are relatively low for these companies compared to the additional costs.

As a result of Germany becoming an increasingly less attractive tax location, the preferential treatment of firms with digital business models in tax competition and the fact that the fiscal countermeasures apply to all companies in Germany, the tax environment for family-run businesses is running the risk of becoming less and less competitive. To counter these developments, the study authors recommend a review of the corporate tax burden in Germany. Reducing the corporate tax burden, for instance, would not only strengthen the competitiveness of businesses but also discourage firms from shifting real investments abroad.

The study is available to download (in German only) at: https://www.familienunternehmen.de/media/public/pdf/publikationen-studien/studien/Internationaler-Steuerwettbewerb\_Studie\_Stiftung-Familienunternehmen.pdf

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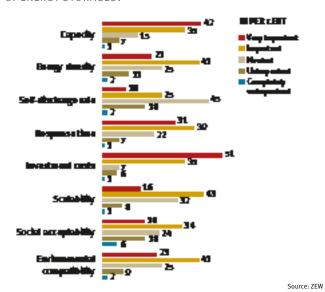
# The Energy Sector Sets Its Sights on **Battery Storage for the Future**

To ensure the widespread use of renewable energies in electricity generation, some kind of storage solution is necessary. Batteries and heat accumulators are set to play a particularly prominent role in this area over the coming decade. Along with investment costs, the environmental sustainability and social acceptance of these solutions are important factors in their successful further development, according to the latest ZEW Energy Market Barometer, a survey carried out among energy market experts in Germany.

Energy storage systems are a key technology when it comes to balancing out the fluctuating supply of wind and solar energy into the electricity grid in a cost-effective manner and thus serve to further the development of green energy. Many storage technologies are currently still in the test phase and as a result are still not widely used. According to the assessment of the experts surveyed for the purposes of the ZEW Energy Market Barometer, however, the situation could look very different in ten years, with 75 per cent of the experts predicting that the capacity requirements of energy storage systems will continue to rise.

The experts saw the greatest potential for development in battery storage and heat accumulators, with 70 per cent anticipating that batteries will experience the greatest increase in storage capacity over the next ten years, while 47 per cent thought the same was likely to happen with heat accumulators (survey participants could choose multiple options). According to 46 per cent of those surveyed, the linking of the energy sector with the heat and transport sectors, also known as powerto-heat or power-to-gas technology, is also likely to play an in-

HOW IMPORTANT ARE THE FOLLOWING CRITERIA FOR THE USE OF ENERGY STORAGES?



creasingly prominent role. According to the authors of the survey, the fact that the experts are expecting a considerable expansion in the capacity of battery storage solutions could be due to the fact that batteries can be deployed relatively flexibly and can easily be scaled up or down. In addition, their use in other sectors, such as the automotive industry, could result in significant cost reductions. Few experts predicted an expansion of pumped storage or compressed air reservoirs, while none expected any further development of flywheel generators or magnetic storage systems. In the case of pumped storage or compressed air reservoirs, the authors of the study consider environmental conditions as a key limiting factor. Meanwhile, technology and cost seem to be the main issues restricting the use of flywheel generators and magnetic storage systems.

#### Sustainability and social acceptance as key factors

According to the surveyed experts, investment costs are the most important factor in the widespread implementation of energy storage systems. Also considered as relevant factors are the capacity and reaction time of the given storage system, that is, how quickly the stored energy can be made available for use. Alongside economic and technological factors, the surveyed experts also viewed the sustainability and social acceptance of storage technologies as a key factor in their further development.

This could become an issue if storage technologies are shown to cause damage to the environment through their production or use. In particular, the production of batteries involves the use of rare earths, the extraction of which requires vast areas of land and leaves a considerable environmental footprint. Even in areas where the development and expansion of pumped-storage plants might be an option, this is often met with resistance from local residents and environmental activists.

In the view of the surveyed experts, however, the greatest obstacles to the more widespread use of storage technologies in the energy sector are the high costs (80 per cent) and the lack of public investment incentives (62 per cent). Technical barriers were named as an obstacle by 23 per cent of the survey participants.

Other options for making energy supply more flexible include flexible power plants whose output can be changed relatively quickly, load control in industry, and grid expansion to compensate for regional differences in power generation and consumption. These options are considered important or very important by more than three-quarters of all respondents.

The Energy Market Barometer can be downloaded (in German only) at: http://ftp.zew.de/pub/zew-docs/zn/ schwerpunkte/energiemarkt/Energiemarkt0818.pdf

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### **EU Money for Farmers Only in Exchange** for Environmental Public Goods

The European Union is in danger of squandering more than 250 billion euros in farming subsidies in the coming years without getting anything in return in terms of environmental, climate or animal protection. This is the urgent warning from a recent study jointly produced by the Bertelsmann Stiftung and ZEW.

The starting point of the study is the European Commission's proposal for the Common Agricultural Policy (CAP) in the next Multiannual Financial Framework (MFF) for the years 2021 to 2027. Under this proposal, over these seven years a total of 265 billion euros will go straight into the pockets of European farmers in the form of direct payments. This means that more than a third of total available funds in the EU budget are earmarked for agriculture and are therefore not available for other purposes.



According to the authors of the joint study, these direct payments from the EU to agricultural companies cannot be justified from a social policy perspective. There is no form of means testing for the distribution of these funds and the amount farmers receive is calculated according to the area of their land used for agricultural purposes. As a result, the policy is in its very approach not suited for providing targeted support for the farmers in greatest need.

A different, much more important approach used to justify income support for EU farmers is to compensate farmers with payments from the EU in exchange for taking steps to protect the environment and to improve animal welfare. Seen this way, the CAP payments would serve as a reward for farmers for providing these public goods. However, the study argues that EU agricultural policy with its current focus does not provide any notable incentives encouraging environmentally sustainable farming or better protection of animals.

Based on a large literature the study concludes that the current ecological conditions rather serve as an alibi for the EU to legitimise these large subsidies without actually changing agricultural production methods.

#### There should be a clear value-for-money logic in direct payments to farmers

In light of these sobering findings, the study presents two main policy recommendations to turn the direct payments into a true form of compensation for the provision of European public goods. Firstly, the "eco-schemes" sketched out by the European Commission in its reform package ought to be given greater priority and further fleshed out over the course of the upcoming negotiations. According to the authors of the study, the basic idea behind these regulations – that farmers should receive money for going above and beyond the legal minimum standard for environmental and animal protection – is the right one. The study demands a clear value-for-money logic when making direct payments to farmers. Farmers should only receive this money if they can provide evidence that their performance in protecting the environment or promote animal welfare is above the legal minimum standards.

Secondly, there should be mandatory requirements for all Member States regarding the share of direct payments going towards the eco-schemes. The study strongly rejects the Commission's proposal that Member States make these decisions voluntarily. Making such commitments to environmental protection voluntary will lead to a "race to the bottom" in terms of environmental standards. Specifically, Member States should be required to spend at least 50 per cent of their direct payments from the EU on eco-schemes.

The authors are also sceptical of the Commission's promise that the new CAP will be simpler and lead to less bureaucracy. Given that in the future the direct payments need to serve as a reward for farmers for providing certain public goods, recipients will be required to provide watertight evidence that they have implemented the necessary measures. This will be impossible without some kind of paper trail. The desire to make these payments simpler is ultimately a desire to receive money without having to do anything in return. The CAP cannot continue this way in the future.

The study is available to download at:

https://www.bertelsmann-stiftung.de/fileadmin/files/BSt/ Publikationen/GrauePublikationen/EZ\_Reflection\_Paper\_3.pdf

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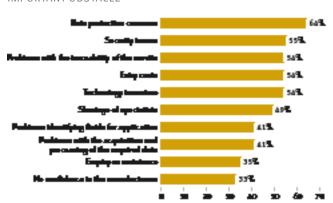
# AI Technologies Have Excellent Growth Prospects in the Long Term

Just under five per cent of firms in the German business economy are already using artificial intelligence (AI) technologies in 2018. This share is more than twice as high as it was in 2017. A further two per cent of companies are planning to introduce such technologies in the near future. Despite the fact that user rates have been low, it is likely that the development of AI applications will accelerate considerably in the future. While 16 per cent of companies have identified AI technologies as a matter of key importance, 31 per cent expect to have AI solutions implemented by 2028.

These are the findings of the DIGITAL Economy Monitoring Report 2018, conducted by ZEW in collaboration with Kantar TNS on behalf of the Federal Ministry for Economic Affairs and Energy. For the report, researchers analysed the digitalisation level of companies in the German economy as well as business attitudes towards artificial intelligence.

The results indicate that the level of information regarding Al technologies is significantly higher than user rates would suggest, with around one third of companies stating that they are well or very well informed about Al. 25 per cent of German firms are either already making use of Al; are planning its implementation; have been dealing with it; or at least consider it important for them. The group of companies that are familiar with Al also have high expectations towards Al and its applications.

AI: DATA PROTECTION CONCERNS ARE THE MOST IMPORTANT OBSTACLE



Al experts only. 64% have concerns regarding data protection when it comes to implementing Al into business processes or models. Source: ZEW

Around 75 per cent of companies that are well-informed about Al expect these technologies to have a positive or a very positive impact on their own competitiveness within the next five to ten years. Merely four per cent of these companies have a pessimistic outlook, while 22 per cent are uncertain about the effects of Al. In terms of flexibility at the workplace and product quality, firms have very high expectations regarding Al. Around 70 per cent of the companies that are familiar with artificial intelligence expect the effects of Al to be positive or very positive.

#### The effects of AI on employment yet remain uncertain

Opinions regarding potential employment effects resulting from these technologies vary, however, considerably. While 41 per cent of companies expect the demand for workers to decrease due to AI, 35 per cent expect demand to increase. Given these diverging opinions, approximately 25 per cent of companies that are well informed about AI have difficulties in assessing how AI will impact the demand for jobs within the next five to ten years.

Companies in Germany are placing great expectations on artificial intelligence. According to the report, uncertainties remain, however, with regard to what these technologies will be able to do and what implications they might have.

#### Companies express concerns about AI technologies

When it comes to integrating AI systems into business processes or models, over 60 per cent of those companies that are familiar with AI have expressed concerns about potential risks for data security (see figure below). Furthermore, more than half of the AI experts see security issues, the lack of transparency regarding the results of AI systems, high initial costs and not yet sufficiently developed solutions as relevant or very relevant obstacles. Around 50 per cent of the companies familiar with AI stated that the lack of qualified workers is significantly impeding the implementation of AI technologies.

The DIGITAL Economy Monitoring Report 2018 is available for download at: http://ftp.zew.de/pub/zew-docs/gutachten/ ZEW\_MonitoringWirtschaftDigital2018\_en.pdf

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#### ZEW Strongly Represented at EEA-ESEM 2018 in Cologne

ZEW presented itself successfully at this year's 33rd Annual Congress of the European Economic Association (EEA), which took place at the University of Cologne from 27 to 31 August and ran in parallel with the 71st Annual European Meeting of the Econometric Society (ESEM). During the five-day event, ZEW researchers held a total of seven talks and lectures, during which they presented their latest research findings relating to labour markets, market design and corporate taxation.

The topics of these talks include the effects of a rising number of asylum seekers on crime rates, the influence of administrative border reforms at the subnational level on the local economy, as well as the behaviour of bidders in a first-price sealed-bid auction in which they have limited information on the bids of other participants. In addition to the presentations, ZEW also hosted an information stand at the congress where participants had the opportunity to catch up on career, collaboration and training possibilities at ZEW, and where they were informed about the institute's latest research findings. The list of more than 1,400 participants who attended the 2018 EEA-ESEM in-



This year, approximately 1,400 participants took part in specialist lectures and scientific sessions at the EEA-ESEM congress.

cluded leading international researchers as well as members of the executive board of the European Central Bank and the Federal Reserve Bank of New York.

#### **ZEW Strengthens Research Cooperation with Fudan University in Shanghai**

ZEW and Fudan University have agreed to continue their monthly monitoring of China's economic development and have expanded their cooperation in the area of fiscal policy issues. After five years of successful collaborative partnership, the two institutions now signed an agreement in Mannheim and Shanghai, setting the course for a fruitful cooperation for a further five years. The cooperation with Fudan University in Shanghai began nearly five years ago with the first edition of the joint "China Economic Panel (CEP)" survey. This monthly survey reflects assessments of international experts on China regarding the economic development, monetary conditions, and growth in regional economic centres like Beijing, Shanghai, Hong Kong or Guangzhou, as well as the development of capital markets. The survey

results are then used for macroeconomic projections and reliable assessments of China's economic development.

In addition to continuing the CEP survey, ZEW and Fudan University will also set a new focus on joint research projects in the coming five years of cooperation. Plans include, for instance, studies on FinTechs and their regulation in China, as well as projects investigating the development of "green" investment markets and their possible contribution towards a more sustainable economic future.

Another aim of this collaboration is to encourage exchange between ZEW economists in Mannheim and researchers from Fudan University in Shanghai, especially through scientific conferences and extended research stays.

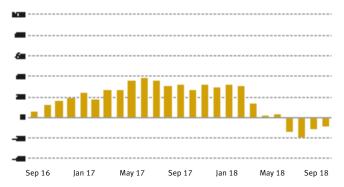
#### Chinese Professors Pursue Qualification Programme at ZEW

Professors in the Chinese Master's programme of International Business visited ZEW to participate in the "MIB Faculty Programme". This is the second time that ZEW has offered this twoweek academic qualification programme since its successful launch in 2017, allowing the institute to build on the diverse research collaboration with renowned Chinese institutions. The aims of the programme, attended by professors from 18 Chinese universities, are to foster the exchange of ideas with German researchers, to strengthen their intercultural expertise as well as organisational skills for presentations and seminars, to deepen their knowledge of European markets and associated institutions, and to provide them with an overview of current developments in the field of business administration.



The programme participants with the training experts of the "Knowledge Transfer and Qualification Programmes" Service Department at ZEW.

#### **Eurozone: Economic Expectations** Improve Once More

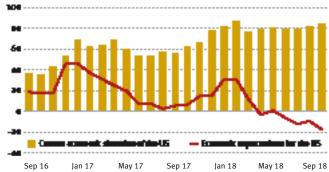


Balance of the positive and negative assessment of financial market survey participants regarding the economic

The ZEW financial market experts have once again adjusted their economic expectations for the Eurozone upwards, with the corresponding indicator climbing 3.9 points to a level of minus 7.2. This amounts to an increase of 11.5 points within the space of two months. Despite this sharp increase, the indicator remains well below the long-term average of 24.7 points. The increase from this month is likely the result of the US's new trade agreement with Mexico, which has led to a cooling-off of the international trade dispute instigated by the US. The ZEW financial market experts likely viewed this as a sign that there may be further agreements made between the EU and the US, bringing the current trade dispute to an end. The indicator for the economic situation in the Eurozone also improved, climbing 1.7 points to a level of 31.7 points. This can be attributed to the renewed decrease in unemployment rates in the Eurozone.

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#### **USA:** Renewed Decline in Expectations



Balance of the positive and negativ assessment regarding the current economic development and the economic Source: ZEW Financial Market Report Oct 2018

After seeing a slight improvement in August 2018, economic expectations for the United States worsened once again in September 2018, with the corresponding indicator dropping 7.9 points to the minus 17.2-points mark. This is not much higher than the indicator's previous low point of 22.9 points reached in August 2011. Though the United States managed to sign an agreement with Mexico on how to revise the 24-year-old NAFTA deal, the lack of any other agreements in the continuing trade dispute is likely responsible for the renewed decline in the expectation indicator. According to the questioned financial market experts, however, these trade disputes have a rather negligible effect on the current economic situation in the United States. In September 2018, the corresponding indicator went up for the second month in a row, climbing 2.5 points and thus reaching a new threshold of 84.1 points.

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As part of the ZFW Financial Market Survey, around 350 financial experts from banks, insurance companies and large industrial enterprises are surveyed on a monthly basis regarding their assessments and expectations of important international financial market data.



#### **ZEW Lunch Debate in Brussels**

The EU Commission has recently put forward a proposal for the next Framework Programme "Horizon Europe", setting ambitious goals for the European research and innovation agenda. Against this background, our Lunch Debate will focus on the impact of R&I in Europe. How can we bridge the gap between academia and industry? And what are the enabling factors for encouraging the diffusion of innovations? These are just some of the guestions addressed in the upcoming ZEW Lunch Debate "Beyond Horizon 2020: Translating Public Research into Innovation" at the Representation of the State of Baden-Württemberg to the European Union on 17 October 2018.

For further information visit: https://www.zew.de/VA2684-1

#### **ZEW Workshop on Policy Preferences**

ZEW and the Collaborative Research Center SFB 884 "Political Economy of Reforms" at the University of Mannheim are pleased to announce the workshop entitled "Understanding Policy Preferences Using Experimental Methods", which will take place on 17 and 18 December 2018. The event aims to improve the understanding of the formation of policy preferences and of public opinion towards policies. Papers presented at the workshop should help to improve the design of evidence-based policies that take the preferences and attitudes of the electorate into account. The keynote will be delivered by Professor Stefanie Stantcheva from Harvard University.

For further information visit: https://www.zew.de/VA2570-1



### Brexit - No Deal Is Not an Option

As the end of 2018 approaches, the UK and the European Union still need to negotiate the details of Brexit. However, any kind of agreement still seems a long way off. It is of the utmost urgency that some of these details be clarified - EU citizens living in the UK, British citizens living in

Europe as well as business on both sides of the Channel have been waiting long enough.

A number of studies have pointed to the potential economic risk of more strictly regulated trade between Britain and the EU. According to various studies looking at a number of scenarios ranging from a hard to a soft Brexit, Britain is likely to face economic losses amounting to somewhere between a 0.6 and 7.5 per cent reduction in GDP by 2030. Germany's GDP is expected to decrease by only 0.1 to 0.3 per cent. This relatively small drop is unsurprising given that, despite Britain being Germany's fifth biggest trading partner, only around 6.6 per cent of German exports actually went to the UK in 2017. What these studies do not take into account is the possible upheaval in Northern Ireland or the fates of many EU and British citizens.

In terms of the negotiations, the EU-27 seem to have done everything right. The negotiations were delegated to the European Commission, who appointed Michel Barnier as the EU's chief negotiator with a clear mission going into the talks. The EU prioritised various aspects of the negotiations - first the withdrawal agreement and then negotiations over future cooperation according to the principle that in negotiations you should always deal with the issues you see as most important first and then address the issues that are important to your negotiating partner after. This means that the negotiating partner is generally more willing to agree to a deal in the first part of negotiations.

Finally, the EU pursued the negotiating strategy of "burning bridges" with the refrain: "The four freedoms of the EU - free movement of persons, goods, services and capital - are not negotiable". The phrase "burning bridges" can be traced back to Hernán Cortés, who, after arriving in Mexico in 1519, burned his

own ships to make it clear to his men and to the Aztecs that there was no going back. The same applies to the four freedoms – it's all or nothing,

It is often said that negotiations involve creating a cake that is then divided between the negotiating parties. The negotiating strategies of delegation, agenda setting and burning bridges are often used to sway the results of the negotiations in your favour, that is, to get a larger slice of the cake. However, they generally do not help when it comes to actually reaching an agreement. On the contrary, the excessive use of such tactics makes it more likely that negotiations will collapse without any agreement being reached. This is the risk facing the Brexit negotiations as they currently stand.

One might have expected, given the severe economic repercussions of a "no deal", that the British would try to avoid this option at all costs. However, thanks to pressure from hard-line Brexiteers a "no deal" is a real possibility.

If the negotiations were to collapse without any agreement made, this would further drive a wedge between the UK and the EU. The EU-27 would be well advised not to let things go that far. What the EU needs to do is adjust its negotiating strategy. While the four freedoms are part of all EU treaties, they are not compulsory for international treaties. They are also not an economic necessity. The extent to which the Member States can delegate responsibility for the negotiations also has its limits. It is ultimately the leaders of the EU-27 countries that are responsible for the EU's negotiating strategy and the end result of the negotiations and they will be judged based on that result.

A longer version of this article appeared on 24 September 2018 in the "Süddeutsche Zeitung".