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Digitalisation is helping to create employment in German businesses but is causing big changes in the employment structure.

Photo: © iStockphoto

The Future of Work – Digitalisation Creates Jobs but Needs Targeted Funding

Digital transformation is creating more jobs than it is destroying, but still poses many challenges for firms and workers alike. To ensure that the German economy remains competitive in this arena, the government needs to take action. This is the main finding of a project entitled "Digitalisation and the Future of Work", which was carried out by ZEW and funded by the German Federal Ministry of Education and Research.

Using the results of a survey on the implementation of digital technologies in German firms as well as a model-based estimation of the relevant macroeconomic mechanisms at play, the project aimed to investigate the ways in which overall employment, unemployment and wages are changing in the German labour market as a result of digitalisation. Based on their findings, the project team of ZEW researchers, who worked in cooperation with the Institute for Employment Research (IAB) in Nuremberg, was able to demonstrate that the diffusion of digital technologies in German businesses has created more employment overall, but has led to other changes, most significantly in the employment structure.

According to the study's findings, around half of German firms are already using technologies characteristic of "Industry 4.0". Many have also already combined traditional industrial production techniques with modern information and communication technologies (ICT). Though these technologies currently only make up around five per cent of these firms' means of production and just eight per cent of their office and communications equipment, the trend over the recent years clearly indicates that digital technologies are playing an increasingly important role in everyday business practices.

Recent investments in these new technologies have led to a one per cent increase in employment levels between 2011 and 2016, which is equivalent to an increase of 0.2 per cent each year. Though these technologies have a labour-saving effect, up until now they have also created more new jobs than they have replaced. The overall employment effect is therefore slightly positive. Primarily jobs that involve routine tasks are dwindling in significance as a result of digital processes, while analytical jobs such as software development or programming and interactive jobs such as medicine and dentistry are experiencing considerable growth.

Workers need to prepare for the labour market of the future

Compared to the 8.5 per cent growth in total employment between 2011 and 2014, the portion of this growth that can be attributed to new technologies is fairly small. However, simulations carried out as part of the ZEW project for the period 2016–2021 show that planned corporate investment in technology will lead to an increase in total employment of 1.8 per cent. This is equivalent to an annual increase in employment of just under 0.4 per cent each year.

Due to these overall positive employment effects, the authors of the study believe that new technologies should be promoted in a more targeted manner, citing the looming threat of a growing technology gap among German businesses. Firms that invested heavily in modern digital technologies early on are still among the leaders in their industry, while those who came late to the party are noticeably falling behind. This divide needs to be tackled in a targeted way. The study's findings also show that investment in digital technologies is a contributing factor in rising inequality. High-wage professions and sectors are the ones that are profiting the most from new technologies in the form of higher employment and wage increases, while low-paid jobs and sectors, on average, are losing out. According to the study, this trend is set to continue over the next five years.

In tackling this issue, the real challenge posed by digitalisation and "Industry 4.0" is preparing workers for the labour market of the future and in so doing improving every individual's chance to benefit from digital transformation by moving into developing sectors and professions. This could help to counteract the shortages of skilled workers in professions requiring interpersonal or analytical skills, for example. The possibility for workers to move between professions and sectors should therefore be encouraged. Worker mobility helps to reduce skills shortages in growing sectors and to curb the worsening labour market prospects for workers in shrinking professions and sectors.

The study is available to download (in German) at:

http://ftp.zew.de/pub/zew-docs/gutachten/DigitalisierungundZukunftderArbeit2018.pdf

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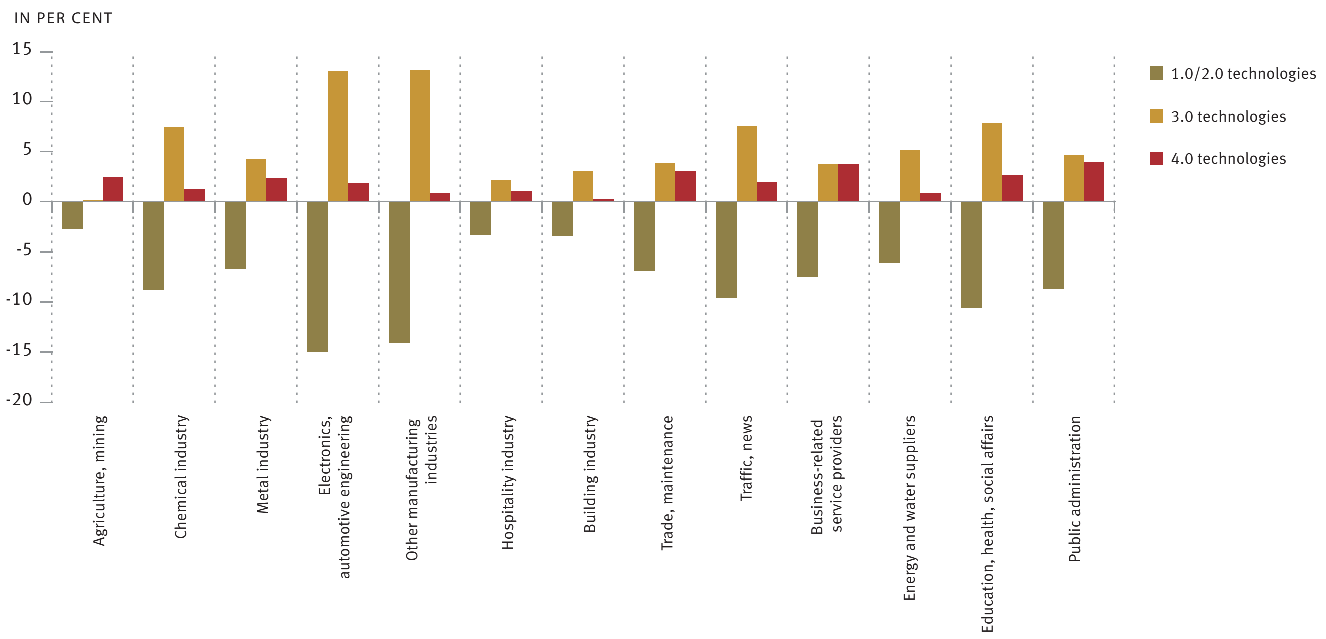
CHANGE IN THE SHARE OF TECHNOLOGY LEVELS IN THE CAPITAL STOCK BETWEEN 2011 AND 2016, BY SECTOR



Reading aid: The degree of automation and digitalisation increases in the respective categories. With regard to means of production, this ranges from "manually controlled" work equipment, where workers themselves are active to a high degree (1.0/2.0 technologies), to "indirectly controlled" and "IT-supported" technologies (3.0 technologies) and to "self-regulating" machines and production sites where technologies handle work processes mostly autonomously (4.0 technologies).
Source: ZEW

Introducing a EU Finance Minister – A New Office Bringing Little Added Value to Europe

Creating the office of "EU Minister of Economy and Finance" will not be able to solve the main problems facing fiscal coordination in Europe. The EU runs the considerable risk of creating a new, impressive title with no actual substance. This could ultimately end up doing further damage to the reputation of the Eurozone, according to the findings of a recent study conducted by a team in the EconPol Europe research network and coordinated by ZEW.

The creation of a European finance minister is one of the central reform ideas for the Eurozone suggested by French President Emmanuel Macron. The European Commission envisions such a minister assuming a far-reaching role in steering and coordinating EU economic policy. Based on current plans being con-

Roberto Tamborini, Hans Vijlbrief, moderator Silke Wettach, Friedrich Heinemann and Paulina Dejmeck-Hack (l-r) discussed the pros and cons of creating the office of a European Economy and Finance Minister at the ZEW Lunch Debate in Brussels.

sidered, a European Minister of Economy and Finance would act as representative for the EU and Eurozone, not only to the rest of the world, but also within the structure of the International Monetary Fund. The minister would also be responsible for coordinating structural reforms and fiscal policy in the Member States and controlling European budgetary instruments, while also playing a considerable role in monitoring the application of the Stability and Growth Pact. The main question the ZEW/EconPol analysis sought to address was the extent to which this new office could explicitly contribute to establishing a potential European Fiscal Union in the following four areas:

Fiscal sustainability: The Stability and Growth Pact's lack of effectiveness can largely be attributed to strong political interference. The study thus recommends that the European Fiscal Board assume a more prominent role as an independent budgetary watchdog. According to the study, giving considerable influence to a politically motivated minister who is also a member of the EU Commission would be a step in the wrong direction.

European public goods: The authors of the study were not particularly optimistic that a finance minister would be in a position to reorient the EU budget to focus more on truly European public goods. The over-representation of agriculture and cohesion policy in the EU budget is the result of the vested interests of the Member States, an issue that a new minister has little chance of curtailing.

Stabilisation policy: The analysis is somewhat more optimistic with regard to the minister's potential role in coordinating stabilisation policy. At a time when new instruments for the Eurozone are being created, controlling these instruments would fall under the purview of the minister. However, the ZEW/EconPol team found it unrealistic that this "superminister" would be able to persuade Member States with healthy finances to raise spending in order to stimulate growth in other economies.

Structural reforms: The analysis also concedes that the minister could play a helpful role in improving the incentives for Member States to implement structural reforms that are conducive to growth. A new minister could ensure a more effective exchange of information between countries and also create financial incentives for reform.

The results of the analysis were also presented and discussed at the ZEW Lunch Debate "Reforming the Eurozone: Prospects and Challenges", which was held in Brussels in May and organised by ZEW in cooperation with EconPol.

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IN THIS ISSUE

A one per cent increase in the price of food would reduce households' material footprint by 3.27 million tonnes.

Photo: Photo: © iStockphoto/boggy22

Higher Food Prices Leading Households to Reduce Their Material Footprint

In the discussion surrounding sustainable consumption, one issue that is coming up more and more is the "material footprint" of individual households: the amount of raw materials required to produce all the goods consumed in one household. In the first study of its kind, ZEW researchers have found great variation in the material footprint of different types of household in Germany.

One indicator for the consumption of resources is the "material footprint". This measure is defined as the amount of raw materials – that is, biomass, minerals and fossil fuels – required to produce all the goods consumed by a region, household or individual. In calculating the material footprint, it is not just domestic raw materials that are included, but also the amount of raw materials used in overseas production and to transport the goods that are then consumed domestically. If wealthy nations such as Germany reduced their consumption of material-intensive goods, their material footprint would shrink.

The ZEW analysis compares the material footprint of different types of household in Germany and how they respond to price and budget changes. The study combines data from Exiobase, a global multi-regional input-output database with data from the EVS sample, which details consumer spending for various purposes in German households. Based on their spending as well as the number and age of household members, the households are divided into different groups. The study distinguishes between ten different types of spending: food, clothing, housing, energy, household appliances, transport, communication, health and education, recreation, and other.

The material footprint increases with the income level

The ZEW study shows that in 2008 the average material footprint for German households was 26.99 tonnes. While the material footprint for 95.57 per cent of all households was under 60 tonnes, in 0.87 per cent of households it exceeded 100 tonnes. Generally speaking, families with children tend to have a below-average material footprint, while single households have an above-average footprint. The greater the household budget, the larger the material footprint, with the highest-earning 25 per cent of households producing an average footprint of 49.29 tonnes, which is more than three times larger than that of the lowest-earning 25 per cent of households (16.15 tonnes).

The share of the household budget that goes on each type of expenditure varies greatly according to income level. While both poor and wealthy households spend large shares of their respective budgets on food, housing, energy, and communication, the wealthiest 25 per cent spend a particularly large share on transport. As a result, a household's material footprint tends to increase with income. For example, a one per cent increase in household budgets would add an additional 15.35 million tonnes to the material footprint of German households.

The ZEW study also simulated how the consumer spending of German households responds to price and budgetary changes. An increase in the price of food has the most substantial effect on the material footprint, with a one per cent increase leading households' material footprint to shrink by 3.27 million tonnes. While the material footprint for this good would shrink similarly across income levels, the poorest are likely to be most affected in the face of rising prices. Price increases in transport, housing, and health and education each cause the material footprint to decrease by over two million tonnes.

Based on these results, the ZEW researchers created groups of goods and determined whether price increases could reduce the consumption of each group of goods and income levels. Only in one group of goods, including recreational goods, do price changes have a considerable influence on the material footprint. Therefore, this group of goods is the most appropriate target for tax increases aimed at lowering demand and thus reducing the material footprint. Before such measures are implemented, however, more research is needed to determine how the comparatively larger footprint of wealthier households can be reduced.

The study is available to download at: *www.zew.de/PU79961*

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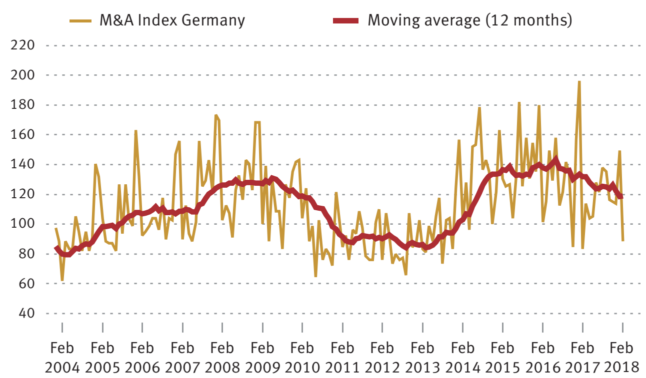
M&A REPORT

Number of Mergers and Acquisitions Involving German Firms Continues to Fall

The number of mergers and acquisitions (M&As) involving German companies has continued to fall in recent months, albeit not as sharply as last year. The first quarter of 2017 had been unusually weak, though M&A activity stabilised and remained moderate in the second half of the year. This was reflected in the ZEW-ZEPHYR M&A Index, which is published every six months. Although the highest ever single-month index value of 196 points was recorded in January 2017, the twelve-month average has been exhibiting a downward trend since June 2016, and last stood at 119 points. Strong M&A activity in January 2018, which saw the M&A Index rise to 149 index points, nonetheless helped to slow this downward trend.

ZEW-ZEPHYR M&A INDEX GERMANY



Source: Zephyr database, Bureau van Dijk, calculations by ZEW

Unlike the number of transactions, transaction volumes have increased in the past six months. This was primarily due to three megadeals with volumes of over a billion euros each. The largest of these deals was Deere & Company's 4.3 billion-euro acquisition of the German Wirtgen Group, a privately-held international company which produces road construction machinery, at the end of 2017. With this acquisition, the US company is set to become a significant player in the road construction market.

A further deal which received great public attention was the acquisition of Oetker Group's shipping division Hamburg Südamerikanische Dampfschifffahrts-Gesellschaft KG (Hamburg Süd) by its Danish competitor, Maersk Line. After owning the German container line for more than 50 years, the Oetker Group sold Hamburg Süd for approximately 3.7 billion euros at the end of 2017. The acquisition further continues the trend towards consolidation in the container shipping sector, where the five largest companies now account for more than 60 per cent of market capacity.

Finally, the Bremer Kreditbank acquired the private bank Oldenburgische Landesbank for 300 million euros from German insurance giant Allianz at the beginning of this year. This sale signals the end of Allianz's ambitions to establish an "Allianzbank". By contrast, it will allow Bremer Kreditbank's sole owner, the American financial investment firm Apollo, to strengthen its position in Germany. In the northern part of the country, many banks are feeling the effects of significant losses in the shipping industry, which has spurred speculation that Apollo may also seek to acquire the ailing HSH Nordbank.

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The **ZEW-ZEPHYR M&A-Index** measures the number of M&A transactions completed in Germany each month. It considers only mergers and acquisitions by and with German companies. It does not differentiate between the country of origin of the buyer or partner. This means that both domestic and international buyer companies are considered, provided that the target companies are active in Germany.

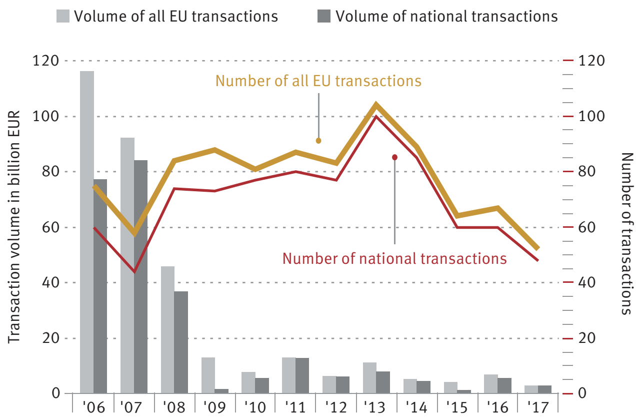
BUREAU VAN DIJK

The M&A Report is a biannual publication issued by ZEW and Bureau van Dijk. It uses the Zephyr database to report current topics and developments in global mergers and acquisitions. The Zephyr database, which is updated on a daily basis, contains detailed information on over 1.7 million mergers and acquisitions, IPOs, and private equity transactions around the world.

Sluggish M&A Activity to Foster Fragmentation in the EU Banking Sector

Since 2009, M&A activity in the European banking sector has stagnated at well below pre-financial crisis levels. While M&A transactions totalled 116 billion euros in 2006 and 91 billion euros in 2007, transaction volumes plummeted in the wake of the Lehman crisis, reaching a mere three billion euros in 2017. The majority of transactions now take place at the national level and predominantly between smaller, regional banks. International transactions at the EU level, meanwhile, have come to an almost complete standstill; since 2010, they have accounted for less than ten per cent of all M&As per annum, compared with 25 per cent in 2007.

M&A ACTIVITY IN THE EU BANKING SECTOR



Source: Zephyr database, Bureau van Dijk, calculations by ZEW

The low M&A activity has contributed to the fragmentation of the European banking sector along national lines. Even large banks tend to focus their activities in domestic markets and only enjoy a limited presence in other EU countries. This has not only impacted on efficiency; in adversely affecting capital flows and the distribution of macro-economic risks between EU countries, it has also inhibited the functioning of the European Single Market. Regulators are therefore increasingly encouraging European banks to engage in cross-border M&As – albeit with little success so far.

Regulatory impediments to M&A activities

Cross-border M&A activity is hampered by the lack of integrated regulatory and supervisory structures at the EU level. While the Banking Union and the introduction of the Single Rulebook are important steps towards simplifying transnational banking and establishing a unified banking market, national regulatory and supervisory differences nonetheless remain between the various EU countries. Furthermore, the ambiguity of the new EU regulations on the unwinding of multinational banks, the lack of a Europe-wide deposit guarantee scheme, and national differences in insolvency law have led investors to be cautious about potential acquisitions.

At present, a significant number of banks are undergoing restructuring processes. In light of contemporary challenges in the sector, many are focussing their efforts on digitalisation and developing organic growth strategies that eschew complex business models. Furthermore, transnational M&As involve significant costs, without necessarily generating exceptional synergies. And last but not least, linguistic and cultural barriers may also contribute to inhibiting transnational endeavours.

In sum, an upturn in M&A activity in the EU banking sector seems unlikely in the near future, and the introduction of the Banking Union and the low profitability of the sector will do little to change this in the short term.

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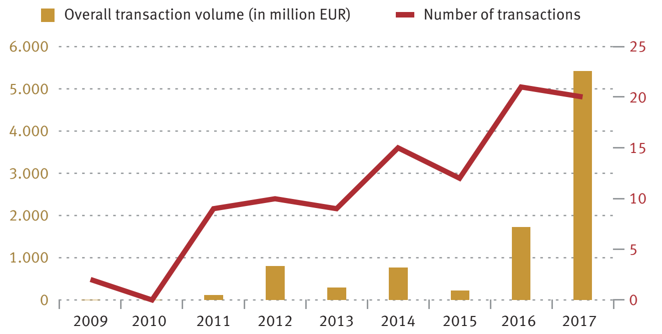
China Increasingly Investing in German Firms

Chinese investors are becoming increasingly interested in German technologies, and have been buying German companies with high-tech expertise for a good two years now. Investors have shown particular interest in the small to medium-sized technology firms often referred to as “hidden champions”. The 3.7 billion euro acquisition of the robot maker KUKA, for example, garnered particular media attention. The number of Chinese acquisitions reached 21 in 2016 and 20 in 2017 – a tenfold increase over the 2009 figures. In 2017, China was ninth on the list of countries investing in German companies. The top spots were occupied by the USA, Switzerland, and France, with 83, 41, and 40 acquisitions, respectively. In the medium term, China may well come to join these front runners.

It was not only the number of Chinese acquisitions that rose to record levels in the past two years, but also their volume, which peaked at a record sum of more than five billion euros in

NUMBER AND VOLUME OF CHINESE M&A TRANSACTIONS IN GERMANY



Source: Zephyr database, Bureau van Dijk, calculations by ZEW

2017. While China was responsible for only five per cent of foreign acquisitions of German firms in 2017, it accounted for almost 21 per cent of total acquisition volume. The fact that all of the largest Chinese acquisitions were in the technology sector highlights China's shift towards a more innovation-oriented economy. These acquisitions included ZF Friedrichshafen's Body Control Systems division, the lighting manufacturer Ledvance GmbH, the assembly systems supplier Preh IMA, and the cleaning technologies firm Dürr Ecoclean.

This trend seems to be continuing, since three German automobile parts suppliers were sold to Chinese investors in January and February 2018 alone. Rumours surrounding the acquisition of clothing firm C&A, however, indicate that China's interest is not restricted to the technology sector.

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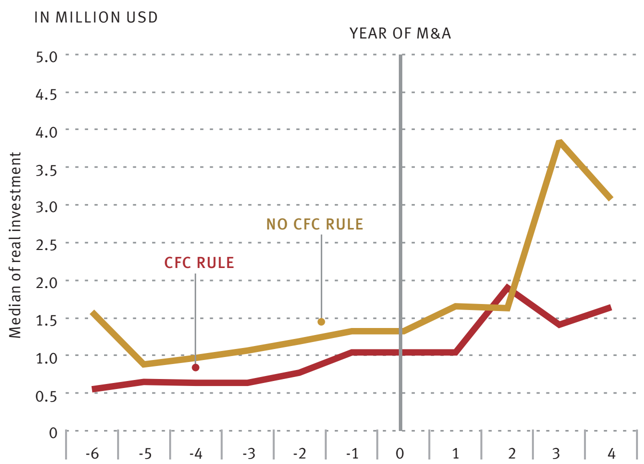
Tax Avoidance Rules Reduce Investment Following Mergers and Acquisitions

Transnational mergers and acquisitions are an important form of foreign direct investment (FDI). In 2016, for example, around 52 per cent of global FDI took the form of transnational M&As. When a company in a high-tax country is acquired by a multinational group, it may seek to reduce its capital costs by shifting its post-acquisition profits to affiliated companies in low-tax countries.

National governments have nonetheless sought to prevent such profit shifting through tax avoidance regulation, including controlled foreign corporation (CFC) rules. These rules require the profits of affiliated companies in low-tax countries to be immediately taxed in the country where the multinational group has its headquarters. This significantly reduces profit shifting opportunities for multinationals based in countries with effective CFC rules.

A recent ZEW study investigated changes in investment in tangible assets ("real investment") and in financial performance and profit levels in companies acquired by multinational groups. The study contrasted multinationals headquartered in countries with CFC rules and those located in countries without such rules.

DEVELOPMENT OF REAL INVESTMENT BEFORE AND AFTER ACQUISITIONS IN HIGH-TAX COUNTRIES



Source: Zephyr database, Bureau van Dijk, calculations by ZEW

Post-M&A investment rises in companies based in high-tax countries

The results suggest that real investment in companies in high-tax countries rises following their acquisition by a multinational group headquartered in a country without CFC rules. The same effect was not observed among companies in low-tax countries.

The study compares the effect of acquisitions on real investment in those countries with the lowest and highest corporate tax rates (12.5 per cent and 38.9 per cent, respectively). Among companies in low-tax countries, the researchers observed a 48 per cent reduction in post-acquisition real investment, compared with a 33 per cent rise among companies in high-tax countries. The latter effect was nonetheless only observed for multinationals headquartered in countries without CFC rules. Real investment in transnationally acquired companies would therefore seem to depend on whether CFC rules are in place where the buyer is headquartered.

The complete version of the study can be downloaded at: *http://ftp.zew.de/pub/zew-docs/dp/dp17062.pdf*

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In his speech at ZEW, Jens Weidmann, President of the Deutsche Bundesbank, shed light on the importance of communication as a monetary policy tool.

Photo: ZEW

Successful Monetary Policy Needs Effective Communication from Central Banks

Gone are the days when monetary policy was a largely secretive affair. How central banks communicate with the public is now an important element of monetary policy and has even become a policy tool in itself. One particular challenge the central banks face when communicating with the public are financial crises. These were just some of the issues addressed by Dr. Jens Weidmann, President of the Bundesbank, in May 2018 as part of the lecture series First-Hand Information on Economic Policy at ZEW.

Speeches such as this, the president of the German Bundesbank noted, have become an important communication tool for central banks, though this is in no way the only means of communication at their disposal. Others include the regular publication of reports, interviews and press conferences. When reading the ECB president's statement following the ECB Governing Council's regular meetings on monetary policy, for instance, so-called "ECB watchers" look for the slightest changes in wording as a suggestion that the bank may be altering its policy. And it is also what goes unsaid, that is analysed in great detail as a potential message from the bank. Mere decades ago, central banks were far less transparent in what they chose to communicate, creating an aura of mystery around their activities.

Transparency through more intensive communication

The goal behind central banks communicating more intensively with the public nowadays is greater transparency, by which banks can foster trust among the public that they are fulfilling their mission of keeping prices stable. According to Weidmann, this trust is the most valuable capital for any central bank. Effective communication can also serve as a monetary policy tool. Whenever people participate in the economy, they are looking ahead to the future, creating expectations that can be shaped by central banks through effective communication.

Weidmann pointed to the ECB's regular press conferences as a communication tool that allows the bank to explain its monetary policy decisions in detail and in near real time. The thinking behind this measure is to prepare the public for upcoming monetary policy decisions so that, when the decision does come, markets are barely taken off guard at all. Market participants can adjust their expectations regarding interest rates and inflation, and thus their behaviour, to new developments such as an unexpected increase in oil prices. The ECB then does not have to react so strongly to the changed economic environment.

Crucial, in the mind of the Bundesbank president, is communicating precise information. This means that central banks, particularly in times of crisis, should not shy away from providing necessary guidance out of fear of negative reactions from the markets. As Weidmann sees it, issues of communication represented a particular challenge for monetary policy when it came to reaching the effective interest rate floor in the Eurozone.

Following a strategy known as "forward guidance", the ECB Governing Council therefore began to give some indication of how interest rates would be developing as far back as July 2013. In order to relax their monetary policy, despite the restrictions imposed by the interest rate floor, the ECB ultimately embarked on an expansive asset purchase programme. According to the latest prognoses released by the ECB, the inflation rate in the Eurozone will increase by around 1.7 per cent by 2020, that is, by a percentage that more or less fits the ECB's definition of price stability. According to Weidmann, it is therefore not surprising that the financial markets have for some time been anticipating the end of net asset purchases by the end of this year, which would represent the return to normal monetary policy.

Market participants anticipate the first interest rate hike to come sometime around mid-2019, which Weidmann does not find entirely unrealistic. In the coming weeks and months, the ECB Governing Council will have to get to grips with how to prepare the public for this return to normal monetary policy through statements and other forms of communication. In this kind of situation, being well prepared is extremely important.

The talk was followed by a discussion between ZEW President Professor Achim Wambach and Dr. Jens Weidmann as well as a Q&A session. Questions focused, among other things, on how inflation targets are discussed in the ECB Governing Council and how they are then communicated to the public, monetary policy challenges resulting from the in some cases vast economic differences between the Eurozone countries, as well as the effects of the ECB's expansive monetary policy on Germany.

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Q&A: Do Driving Bans for Diesel Cars Make Economic Sense?

An Urban Road Pricing Scheme Is an Efficient Solution to Traffic-Related Air Pollution

Following a ruling from Germany's Federal Constitutional Court, cities in Germany can impose bans on diesel vehicles in order to comply with EU-wide limits on nitrogen dioxide (NO2) levels. Hamburg has now become the first city in Germany to introduce such a ban, while other cities are considering to follow suit. Diesel car owners affected by the ban may also be faced with getting their cars modified and installing new software updates. ZEW environmental economist Dr. Martin Kesternich discusses the most practical measures, from an economic point of view, for reducing air pollution and traffic, and for implementing carbon dioxide (CO2) avoidance measures in the transport sector in a cost-efficient manner.

Are these diesel bans an efficient means of curbing air pollution levels in German cities?

Driving bans in German cities will probably have a certain impact on the local environment. The social costs brought about by these bans will, however, be disproportionately high and unfairly distributed among drivers. The ban will penalise all diesel car drivers – and only these drivers – without creating any incentive for drivers of non-diesel cars to reduce the number of journeys they make.

What other alternatives are there to reduce the number of cars on inner-city roads and thus improve the overall air quality in cities?

One efficient solution to the problem of air pollution caused by vehicles is an urban road pricing scheme. Road pricing should be strictly tiered according to the level of exhaust emissions the vehicle produces, regardless of the type of fuel or technology it uses. Vehicles with higher emissions would pay a higher tariff. This also means that the road toll increases when traffic levels – and thus pollution levels – are high. The main point, however, is that those affected by the toll would have a choice; they can decide if travelling into the city by car is worth the cost, or if it might be preferable to look for alternatives. In contrast, by imposing vehicle bans cities are taking this choice away from drivers and creating a fait accompli.

Speaking of alternatives, what about the proposal to make local public transport free?

The current political discussion between the federal government and the potential trial cities for the introduction of free public transport, including Mannheim, indicates that the necessary investment in infrastructure is rated as important. At the same time, cities would lose the revenue from ticket sales, which in the case of Mannheim currently amounts to around 80 million euros a year. Furthermore, we could expect to see potential unwanted substitution effects, such as those seen in Tallinn in Estonia where local public transport has been free since 2013. Here it is mainly people who were already taking the bus or train before, or who previously got around by bike or on foot that began using the free public transport more often. This kind of change in behaviour is something we want to avoid. In general, however, there are few long-term examples of these measures in practice that have been studied empirically. We believe there is still plenty of research that needs to be done in this area.

What are the macro-economic consequences of imposing these diesel bans?

One main consequence is that diesel vehicles will drop in value, including those that are never, or only rarely, driven in cities. In addition, there are also the costs associated with having to refit current diesel vehicles. On the other hand, we will see a certain positive impact on the local environment, though this – as I mentioned above – comes at a high cost. As well as local air pollutants, we should also be looking at CO2 emissions in the transport sector, which are also damaging to the environment. Of course, when it comes to tackling global climate change, reductions in CO2 emissions can be made in any industry. Therefore, from an economic perspective, it makes sense to reduce emissions in those industries where it is cheapest to do so. Due to the existing energy taxes on mineral oil, reducing CO2 emissions in the transport sector is relatively costly. Policymakers therefore need to think outside the box. In order to be cost-effective, climate policy should focus more heavily on CO2 avoidance in the sectors included in the EU Emissions Trading Scheme (ETS) or have the transport sector integrated into the ETS.

Dr. Martin Kesternich

is deputy head of the ZEW Research Department "Environmental and Resource Economics, Environmental Management". His research interests encompass experimental and empirical approaches in the fields of environmental and behavioural economics. He has, for example, conducted research examining how the costs associated with reducing CO2 emissions in the intercity bus service industry should be distributed between customers and providers so as to provide customers with an incentive to make use of the option to offset their individual emissions with a small fee. Martin Kesternich was also a visiting researcher at the Yale School of Forestry & Environmental Studies. At the 2017 UN Climate Change Conference in Bonn, he organised a panel discussion on energy saving behaviour in private households.

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FRAME Conference on the Role of Public Research in Innovation

To what extent does innovation impact economic growth? Can public research foster innovation through the diffusion of knowledge? And how can policymakers encourage sustainable innovation and growth? These are some of the questions discussed by researchers and politicians from across Europe attending the FRAME Mid-Term Conference held at ZEW. During the conference, participants discussed the latest research findings from projects carried out as part of the FRAME Project, which is sponsored by the EU Commission as part of the Horizon 2020 programme. One focus of the conference was conveying these findings to agents based at government ministries and central banks who may want to implement the presented modelling approaches in the future as a means of backing up their decisions. ZEW economist and FRAME project member Dr. Maikel Pellens showed that joint research based on R&D contracts between private companies and Fraunhofer research institutes still exhibit positive employment effects even a number of years after the project in question has ended. Bart Verspagen, director of UNU-Merit and professor at Maastricht University, delivered a keynote speech focusing on the impact of public research spending on productivity growth in OECD countries.

Professor Bart Verspagen giving a talk at the FRAME Conference.

Digitalisation in Germany – How to Catch up with Silicon Valley

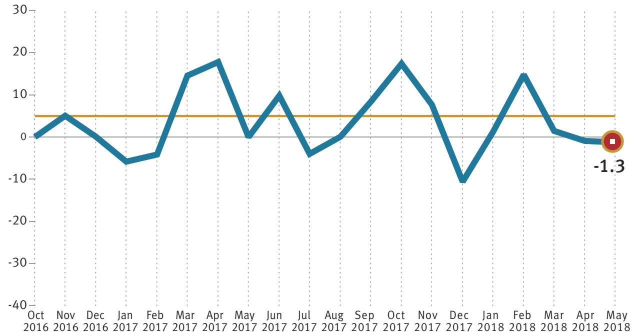
What can Germany learn from the example of Silicon Valley, and how can the country use its resources to avoid falling (further) behind in the technological race to the top? Finding new strategies and digital solutions for German businesses was the focus of an event organised jointly by ZEW and the Baden-Württemberg Ministry for Economic Affairs, Labour and Housing held at the BW Bank in Stuttgart. In his presentation, ZEW President Professor Achim Wambach explained how digitalisation is leading to structural changes whereby existing markets are being shaken up by the entry of new, innovative competitors. Andreas von Bechtolsheim, founder of Sun Microsystems, pointed out in his lecture that it is generally easier for US firms to grow comparatively quickly because the US market is much bigger and more homogeneous than its European counterpart. Dr. Nicole Hoffmeister-Kraut, the Baden-Württemberg Minister for Economic Affairs, stated that, while catching up with the US in terms of the commercial sector may no longer be an option, in the industrial sector this may still be a possibility. The event was concluded by a lively panel debate, which provided some additional perspectives to those presented in the opening lectures.

Manager Training Programme “Fit for Partnership with Germany” at ZEW

From April to May 2018, ZEW played host to a group of managers from Vietnam attending the training programme “Fit for Partnership with Germany”. In total, 21 managers from companies in various sectors of the Vietnamese economy took part in the training programme whilst fostering new and existing contacts with German businesses. This is the fifth time the programme has been run by ZEW on behalf of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the German Federal Ministry for Economic Affairs and Energy (BMWi). The training programme organised by the BMWi is part of Germany’s foreign trade policy. It aims to prepare managers from a total of 19 different partner countries worldwide for entering into business and cooperating with German companies. Part of the programme involves spending four weeks with experts in the ZEW Service Department “Knowledge Transfer and Qualification Programmes”. Afterwards, managers serve as multiplicators in their native countries, strengthening external trade with Germany.

The participants of the manager training programme “Fit for Partnership with Germany” at ZEW.

Economic Outlook for China Remains Almost Unchanged



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

According to the most recent survey conducted in May 2018, the economic outlook for China dropped by 0.3 points to minus 1.3 points. The current reading of the CEP indicator, which reflects the expectations of international financial market experts with regard to the economic development in China over the coming twelve months, seems to suggest that the current economic situation will likely remain unchanged until well into the year 2019. Although at 25.0 the reading for the current economic situation in China is 5.3 points lower than for the previous month, this is still a fairly positive assessment and well above the average reading of 2.9 points. The financial market experts polled in the current survey predict real GDP in China to grow by 6.7 per cent in 2018 and 6.5 per cent in 2019. Expectations regarding China's exports have recovered slightly following a steep decline over the previous few months. The corresponding indicator currently stands at minus 10.6 points, 8.9 points higher than in the previous month. The indicator, however, still remains significantly below the long-term average of 18.9 points. This shows that fears over a potential trade war between the US and China have continued to have a dampening effect on expectations.

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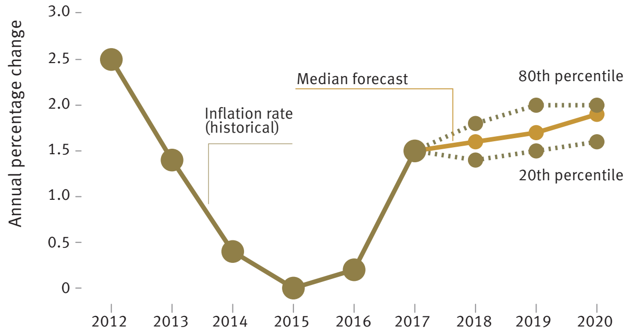
Financial Market Report – Inflation Rate Approaches Two Per Cent Mark



The figure shows the forecast of the annual growth rates regarding inflation in the Eurozone.
Source: ZEW Financial Market Report June 2017

The inflation rate for the euro area surprisingly dropped to 1.2 per cent in April 2018, falling slightly from 1.3 per cent compared to March 2018. According to financial market experts, however, inflation is likely to pick up again over the next few months. This is the result of both the regular trend forecast and the special question of the ZEW Financial Market Test, in which expectations regarding inflation in the Eurozone have gone up sharply. The corresponding indicator currently stands at 66.5 points, 12.5 points higher than in the previous month. Around 68 per cent of respondents expect inflation to increase, while just 30.5 per cent expect the inflation rate to remain steady, and 1.5 per cent predict inflation to drop. This change in inflation expectations may partly be due to the increase in crude oil prices, which have already risen by about seven per cent in May. The median forecast for inflation expectations for 2018 and 2019 is 1.6 per cent and 1.7 per cent, respectively. With experts expecting inflation to hit 1.9 per cent in 2020, the inflation rate will be just below the two per cent mark, a value that fits the European Central Bank definition of price stability. The major macroeconomic changes of recent months seem to have no impact on inflation forecasts.

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Tenth ReCapNet Conference

ZEW is pleased to invite submissions for the tenth ReCapNet in Mannheim on 8–9 November 2018, organised by the ZEW Network on Real Estate Markets and Capital Markets (ReCapNet). The main theme of the conference will be "Price Formation, Liquidity and Transparency in Real Estate Markets". We solicit papers on these and related areas at the intersections of real estate finance and real estate economics. We are very happy to welcome Professor David Geltner of the MIT as our keynote speaker. Interested researchers are invited to submit a full paper to recapnet@zew.de no later than 15 July 2018.
For further information please visit: *www.zew.de/VA2513-1*

Fifth Annual MaTax Conference

The fifth Annual MaTax Conference will be held on 4–5 October 2018 at ZEW, Mannheim. We welcome submissions on any topics broadly related to tax research, including papers from economics, law, political science, other disciplines, and interdisciplinary contributions. The conference focuses on applied and empirical papers addressing topics such as business taxation, tax avoidance and evasion, tax harmonisation in the EU, and taxation of the financial sector. Professor Michelle Hanlon of the MIT and Professor Wojciech Kopczuk of Columbia University will be giving the keynote lectures.
For further information please visit: *www.zew.de/VA2448-1*


Photo: ZEW

The EU Single Market – 25 Years of Success with Room for Improvement

In January of 1993 Europe officially began its experiment with a common market. Now, 25 years later, we can say with certainty that it's been a resounding success. Accounting for more than 500 million consumers, the European Union (EU) represents the world's largest common economic region. In 2017, it made up 16.5 per cent of global GDP, with a significant potential for growth going forward.

Europe's common market rests on four basic freedoms: the free movement of goods, services, labour and capital. By eliminating trade barriers in these areas, the EU has increased its volume of trade to almost 3 trillion euros. Furthermore, economic integration has contributed to economic growth and job creation in the EU. According to the EU Commission's own estimates, the common market added 2.2 per cent to GDP growth between 1992 and 2006 and created 2.75 million jobs.

Though Brexit will weaken the common market, it is all but assured that Britain will continue to be an important trading partner, participating in the market much like Iceland, Norway and Liechtenstein (via the European Economic Area) or Switzerland (via the European Free Trade Association) do. In addition to its direct economic benefits, the single market system brings with it institutional advantages. One such advantage is a common EU trade policy. If EU Member States had to negotiate individually with third-party countries, their small economic size relative to, say, the US and China would put them in a weaker position. Indeed, it was Europe's unified economic front that allowed it to secure robust consumer protection laws, strict environmental standards and favourable economic conditions for European companies when negotiating the terms of CETA, a free-trade agreement between Canada and the EU.

Another institutional advantage arises from the EU's common competition policy, which is designed to ensure a level economic playing field and forestall market distortions. The common policy transfers responsibility for the monitoring and enforcement of antitrust law in many instances from national jurisdictions to the EU Commission. It also entrusts the Commission with the control of state aid, i.e. the prevention of unfair market conditions due to selective government support. A common framework also helps enforce antitrust rules in companies outside the EU. A prime example is the EU's decision to charge Google a recording-breaking 2.4 billion euro fine for violating EU competition law. It is highly improbable that Member States acting individually against Google could have achieved such a forceful result.

Another elemental feature of the European Single Market, of course, is its common currency, and it too has proven beneficial. In addition to curtailing foreign-exchange risks, the euro prevents currency wars within Europe, which could weaken the countries' acceptance of the common market, among other undesirable outcomes.

For all the benefits of the single market, however, there's still room for improvement. In particular, action must be taken to help reduce the economic disparities between Member States. The EU Commission estimates that the elimination of existing trade barriers and the completion of the digital single market could increase GDP by up to 415 billion euros per year. The removal of cross-border barriers to services and better financial market integration could also yield positive results. Finally, a more harmonised energy market is needed to increase the efficiency of energy supply and the likelihood of reaching climate targets.

Despite the challenges it faces, the common market has been highly effective and is the key to Europe's thriving in the global economy. If it didn't already exist, we'd have to invent it.

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