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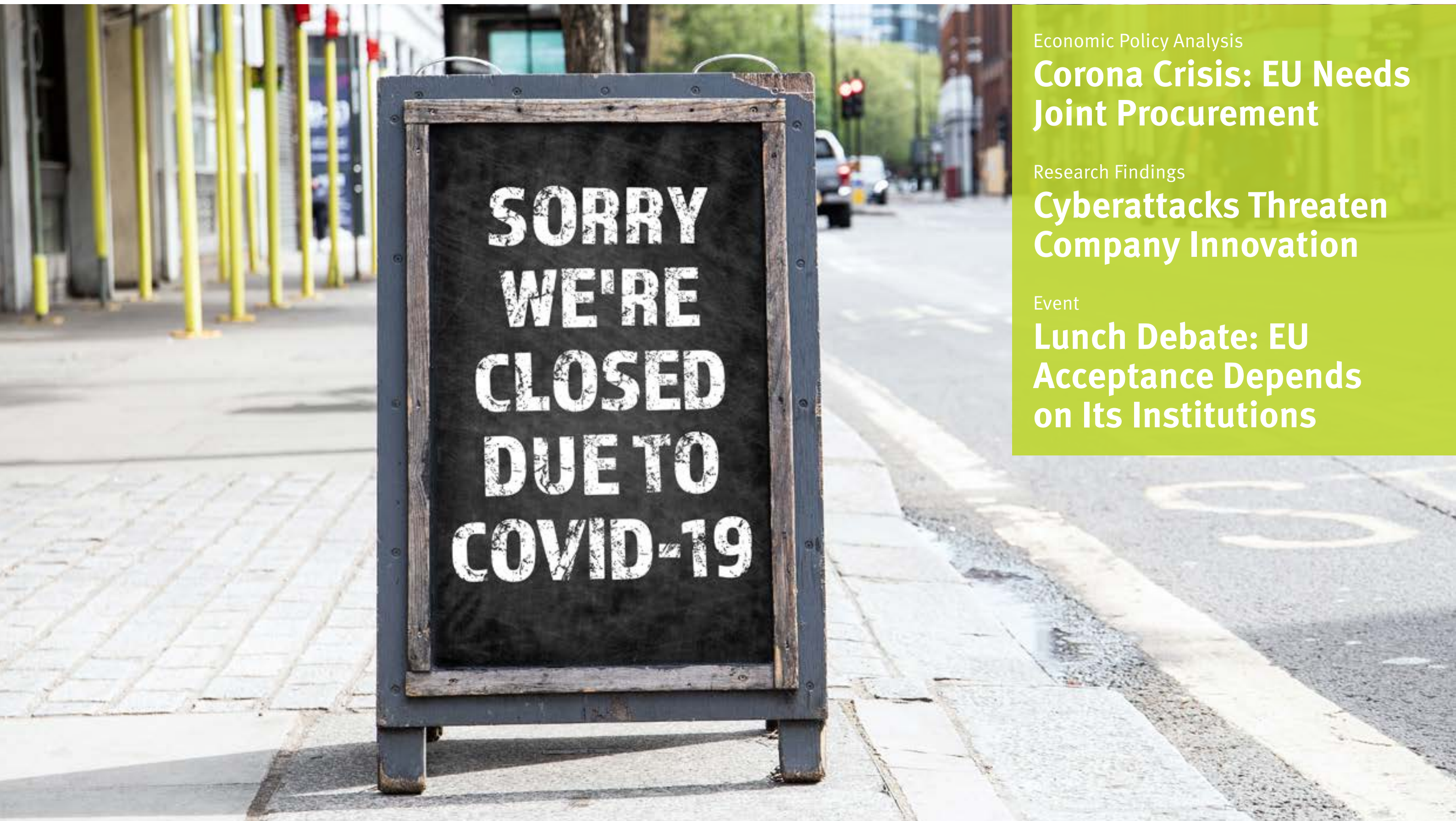

Economic Policy Analysis

Corona Crisis: EU Needs Joint Procurement

Research Findings

Cyberattacks Threaten Company Innovation

Event

Lunch Debate: EU Acceptance Depends on Its Institutions

Small companies are particularly hard hit by temporary closures due to COVID-19.

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Coronavirus Pandemic Poses Threat to Existence of Many Businesses

With the coronavirus pandemic starting to spread and take its toll on the German economy, many businesses find themselves in less than ideal conditions, as they go into the crisis with low credit ratings. Industries like the gastronomy sector, automotive suppliers and the construction sector have the highest shares of small companies with weak credit scores. These are the results of calculations conducted by ZEW and the economic research division of Creditreform, Neuss, with data from the Mannheim Enterprise Panel, which is based on the databases of Creditreform.

The German government has rolled out the heavy artillery: unlimited loans for companies who run into liquidity constraints due to the crisis, a significant expansion of short-time working grants, and the announcement of comprehensive tax deferrals to ease the situation. In addition, there are plans to suspend the obligation to file for insolvency until at least this autumn. Alternatively, this time period could also be extended until 31 March 2021. All these measures, which aim to protect businesses facing serious liquidity issues from insolvency, have become necessary in light of breakdowns of global supply chains, the rapidly collapsing demand, and employee absences due to sickness and the shutdown of child care facilities.

About 345,000 companies with poor credit scores

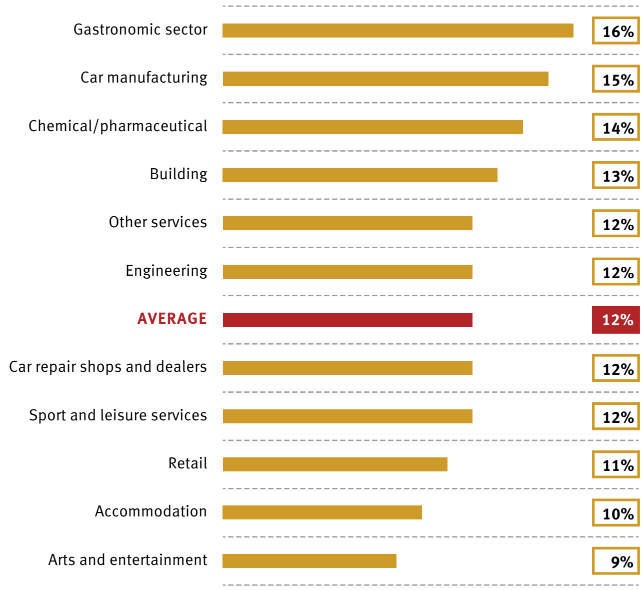
This determination shown by the federal government was urgently needed. Despite the long period of economic prosperity, many companies are ill-equipped to handle what could become the gravest economic crisis of the post-war era. More than ten per cent of private companies older than three years that have just grown out of their infancy stage have weak or poor credit scores. This affects approximately 345,000 companies, which employ 1.5 million workers.

Smaller firms affected in higher numbers

Many sectors are characterised by a disproportionally large share of companies at risk of bankruptcy. This is particularly true for the gastronomy sector, where 16 per cent of companies with less than 50 employees (almost 24,000 companies) have a weak credit rating. The same applies to automobile suppliers (15 per cent) and the chemical and pharmaceutical industries (14 per cent).

As far as businesses with 50 or more employees are concerned, the situation is completely different. For these companies, the share of firms at risk of insolvency is much lower, with the gastronomy sector once again coming top of the list,

PROPORTION OF ENTERPRISES OLDER THAN 3 YEARS WITH LESS THAN 50 EMPLOYEES AND HAVING AT MOST A WEAK CREDIT RATING, BY SECTOR

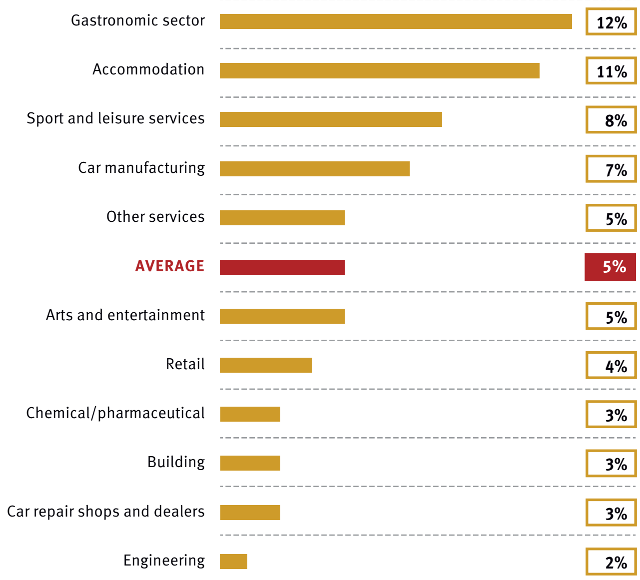


Source: Mannheim Enterprise Panel

followed by the accommodation sector, and sports and leisure services. A considerable share of hotel and leisure companies in the latter two sectors had already been on the verge of insolvency before the crisis.

These results reflect the structural problems currently facing the German private economy before the coronavirus crisis, as they shed light on the situation at the onset of the crisis. These sectors will, however, be affected by the economic standstill in very different ways. Larger purchases, maybe even holiday trips, can to some extent still be postponed. This is, however, less likely when it comes to business trips, and cinema and

PROPORTION OF ENTERPRISES OLDER THAN 3 YEARS WITH 50+ EMPLOYEES AND HAVING AT MOST A WEAK CREDIT RATING, BY SECTOR



Source: Mannheim Enterprise Panel

concert visits. Above all, leisure, sport and cultural service providers are expected to be particularly hard hit by this temporary halt in demand.

Depending on how long the economy remains on lockdown, this could shrink their annual turnover by 30 to 40 per cent. These disruptions can even throw companies with previously good credit records into insolvency if they do not receive support. According to the researchers, the federal government was right to decide against setting any limits. Preserving business structures through a temporary lean period makes more economic sense in the long run than letting essentially healthy firms go into bankruptcy, which would then have to be re-established and rebuilt after the crisis.

Young companies face higher bancruptcy risk than older ones

The study results outlined above do not include the approximately 440,000 young companies in the private sector that are less than four years old, which currently employ around 1.2 million workers. As newcomers to the markets, these companies already face a tense financial situation, with their products and services still having to establish themselves on the markets. For companies with radically new products, this is always problematic – even when there is no crisis. Firms first have to convince potential customers of the benefits and take longer to penetrate the market. It is therefore to be expected that these young companies will face much greater risks than older ones.

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Lack of Qualified Personnel Becomes a Major Barrier to Innovation

Skills shortages are stifling the innovative potential of German companies. This effect is particularly pronounced among companies experiencing a lack of vocationally trained workers, forcing many companies to abandon innovation projects. There is a particularly high demand for specialists in the areas of production or IT. On the other hand, a lack of academic staff is less often to blame for the failure of innovation projects. If the German economy is to maintain its capacity for innovation, policymakers and businesses will have to invest more heavily in vocational training.

The study was conducted jointly by researchers from ZEW and the Augsburg University of Applied Sciences on the basis of data collected between 2017 and 2019 as part of the German Community Innovation Survey (CIS). The study shows that innovative companies are particularly affected by the lack of skilled workers, with 43.8 of the most innovation-intensive businesses reporting skills shortages. In the overall economy, this share amounts to 39.6 per cent of businesses.

The skills shortage is much more pronounced in innovation-intensive companies, as they are particularly dependent on qualified professionals. At the same time, the lack of qualified professionals also limits the scope for further innovation. As the study shows, firms faced with a shortage of vocationally trained workers are more likely to abandon innovation projects. Companies with a high share of employees with an academic degree, on the other hand, are less likely to experience difficulties finding suitable candidates for their vacancies. These companies are also less likely to abandon innovation projects when experiencing a lack of academic staff. This indicates that the shortage of professionals in academic occupations is less of a hindrance to innovation activities, because these companies seem to have better procedures in place to deal with scarce labour supply, e.g. contacts to university professors.

The study also shows that companies engaging in a broad range of innovation activities usually post openings for staff with different qualification levels. The same is true for companies that have experienced a skills shortage in the past. According to the authors of the study, we are currently witnessing a technological change. In order to respond to this change, different skills will be needed. It is not enough to just increase the number of students at universities. Vocational skills are also crucial for a firm’s innovative potential. The German economy will need the right combination of both academic and vocational qualifications to drive forward innovation.

A major obstacle for innovative processes is the shortage of vocationally trained workers in the areas of production and information technologies. It is vital to increase social recognition and financial incentives so as to encourage more people to choose a vocational education in these areas. Policymakers will have to implement measures to offset the negative effects skills shortages have on the innovation activities of companies. This is the only way to ensure future productivity growth, and therefore also greater prosperity.

The study is available to download at: *www.zew.de/PU81544*

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LABOUR SHORTAGE IN GERMAN FIRMS 2017

Labour shortage indicators	% of all firms	% of all innovation active firms
Laborshortbroad	39.6	43.8
Laborshortnarrow	20.1	19.1
AcademicLS	13.3	20.0
VocationalLS	28.6	33.7
UnskilledLS	21.4	21.6

Source: German Innovation Survey 2018, weighted data

Laborshortbroad is a broad indicator for labour shortage including vacancies that could either not be filled or filled only with delay or not with the desired personnel. The narrow definition of labour shortage (Laborshortnarrow) only considers vacancies that could not be filled at all. AcademicLS, VocationalLS and UnskilledLS are variables capturing labour shortage in academic qualifications, vocational qualifications and unskilled occupations, respectively.

IN THIS ISSUE

EU Acceptance Depends on Its Institutions

From left: ZEW economist Professor Friedrich Heinemann, moderator Jennifer Rankin, political scientist Professor König and Marcel Haag from the EU Commission discussing the institutional design of the EU at the ZEW Lunch Debate

How satisfied are citizens with the distribution of power at European level? Can acceptance for the EU increase by making decision-making processes more transparent? These questions were discussed at the ZEW Lunch Debate on "Public Support and Institutional Reform – What Is the Right Way to Go?", which took place on 20 February 2020 in Brussels at the State Representation of Baden-Württemberg to the EU. A general consensus was that people wanted to have a say in Europe, including through their national governments.

"Since the Maastricht Treaty, citizens' approval of the EU has steadily declined," stated Professor Thomas König from the University of Mannheim and the Collaborative Research Center for Political Economy of Reforms in his keynote speech. This observation is the starting point for a study carried out in 13 EU Member States, the central results of which Professor König presented to the approximately 70 guests from the realms of politics and science. For the study, the researchers presented various EU institutional arrangements to the participants and asked them to evaluate each one. "The population rejects the Commission's current monopoly on legislative proposals," Professor König explained.

Commission's exclusive right of initiative unpopular among EU citizens

There is agreement among all the countries considered in the study on many points, including how citizens want their governments to be involved in EU legislative initiatives. Europeans are satisfied with the current bicameral legislative system of EU Parliament and Council, and they also support majority decisions by its Member States. However, the European population clearly rejects the EU Commission's exclusive right of legislative initiative, with different views emerging about the distribution of power in the EU's judiciary: "While in many countries the respondents view the European Court of Justice's power to impose sanctions for violations of EU laws as positive, participants from Sweden, Austria, Denmark and the Czech Republic would like to see increased judicial responsibility for their own national courts," Professor König explained.

Legislative reform could improve public opinion

The design of the European institutions preferred by the respondents differs from the current design insofar as the Commission, the Council and the Parliament have a shared right of legislative initiative. "A reform of the legislative initiative would bring about a great improvement in public opinion compared to the status quo – if that's indeed what the EU wants. It's a political decision," stressed König. "Simply strengthening the power of the European Parliament in order to increase the legitimacy and acceptance of the EU is definitely not what the public desires."

In the subsequent panel discussion Thomas König was joined by ZEW economist Professor Friedrich Heinemann and Marcel Haag from the European Commission, with Jennifer Rankin, Brussels correspondent for The Guardian, moderating. With reference to the keynote, Haag argued that since the British vote on Brexit, approval of the EU seems to be increasing, especially in countries such as Sweden and Poland. He also pointed out that the study only looked at input legitimacy, i.e. the question of how transparent and democratic political processes are. In the past, however, the focus of the EU had been on output legitimacy, i.e. on the direct benefit for the population. "It was about the added value that the EU was offering its citizens," said Haag, underlining his position.

Strengthening both input and output legitimacy

Professor König countered: "The problem with output legitimacy is that it decreases in economic crises, as we could also observe during the financial crisis. But I'm still convinced that we can increase both approval and output." If public acceptance is not increased, decision-making processes will become increasingly difficult: "The Maastricht Treaty promises more transparency. We should not be surprised, then, that approval is declining after more than 20 years of doing just the opposite," emphasised König.

Heinemann suggested that the electoral system for the European Parliament be examined in a further study, with questions such as: Should every vote count equally in the European elections? Should there be transnational party lists? He regretted that the EU Parliament had voted against the proposal to fill the seats freed up by Brexit via transnational lists. "These MEPs would have a cross-national view of Europe," said Heinemann. "Regarding negotiations on the Multiannual Financial Framework, the European Parliament is defending the currently prevailing principle of agricultural subsidies and cohesion funds. Parliamentarians place their national constituencies above European added value as far as the allocation of funds is concerned. Members of transnational lists, on the other hand, would rather ask themselves whether a particular solution would really be beneficial for all Member States."

Questions from the audience were also taken up for discussion. Shouldn't the goal of European integration be prioritised before institutional design? Heinemann responded that the development of the EU depended on how its institutions were designed; the former was not determined independent of the latter. "Everyone's talking about European added value. To achieve that, you need the right institutions in place."

Find a picture gallery of the event at: *www.zew.de/AM7057*

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Cyberattacks Threaten Company Innovation

A secure digital infrastructure is a crucial prerequisite for innovation in information and manufacturing companies. This is the result of a survey conducted by ZEW on behalf of the Commission of Experts for Research and Innovation (EFI). The survey was part of the ZEW Business Survey in the Information Economy for the third quarter of 2019 and examines how companies assess the threat of cyber risks, and their significance for innovative activity.

Cyberattacks are a growing threat that poses major challenges for companies.

Increasing the interconnectedness of products and processes in the course of digitalisation also means leaving more room for digital attacks on companies and institutions, a growing threat that poses major challenges for companies. In fact, 85.1 per cent of companies in the information economy and 70.8 per cent of companies in the manufacturing industry currently rate the importance of IT security for their company as "high" or "very high"; the number is as high as 94.5 per cent in the information economy and 91.4 per cent in manufacturing for companies with at least 100 employees. For the next three years, 48.8 per cent of companies in the information economy and 56.7 per cent of companies in the manufacturing industry expect an "increase" or "sharp increase" in the threat of cyberattacks.

The danger of a cyberattack is already slowing down company innovation in Germany insofar as innovation projects are being delayed, postponed, or not pursued at all. Overall, about 36 per cent of the companies surveyed said that the threat of cyberattacks affects their innovation activity. Negative effects on innovation activity are particularly pronounced in companies expecting an "increase" or "sharp increase" in exposure to cyberattacks over the next three years. Existing innovation projects in the information economy, for example, are delayed in 42.9 per cent of the companies with negative expectations – in contrast to the 23.1 per cent of companies that do not expect the threat to increase. In the manufacturing sector, existing innovation projects are delayed in 39.2 per cent of the companies who expect their vulnerability to increase (sharply), while the figure is only 22.3 per cent in companies without this expectation. By slowing down innovation, the threat of cyberattacks has indirect negative effects on Germany's economic growth.

The surveyed companies are pursuing different approaches in order to minimise cyber risks, with the majority of them (76.4 per cent of companies in the information economy and 66.4 per cent in the manufacturing industry) increasing their IT security investments, while nearly as many companies already rely on IT training for their staff. For minimising cyber risks, 36.4 per cent of companies in the information economy and 31.4 per cent of companies in the manufacturing industry are recruiting qualified IT personnel.

Significantly fewer companies are taking more drastic measures, such as relocating innovation projects from abroad to Germany or reducing the degree of digitalisation of their innovation process – a reaction particularly pronounced in small manufacturing companies at 19.2 per cent. But this behaviour is definitely worrisome overall, as a reduction in the level of digitalisation can limit the very potential for innovation opened up by digitalisation.

The short expertise is available to download at: *www.zew.de/PU81502-1*

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Coronavirus Pandemic: EU Joint Procurement Now More Important Than Ever

On 24 March, the EU Commission informed the public about the positive outcome of the initiative for the joint procurement of masks, gloves, and other protective equipment to combat the COVID-19 pandemic. It is the second time this type of acquisition has been carried out since the EU Member States signed the Joint Procurement Agreement (JPA). The first tender of this kind was in March 2016, when several Member States jointly agreed to purchase protective equipment to cope with the Ebola outbreak.

The JPA is a voluntary deal between Member States to purchase medical equipment together in response to a cross-border health threat. The agreement came five years after the 2009 swine flu pandemic and subsequent discussions on possible remedies, with all 27 EU countries having gradually signed the deal since then. As all Member States are currently severely affected by COVID-19 and may be faced with millions of European cases in the coming months, this tool should now be used extensively. The JPA has two main objectives: coordinating faster access for buyers to a larger number of suppliers, and achieving lower prices. Once the crisis is over, these two dimensions will ultimately be decisive in assessing the effectiveness of the JPA. However, three critical aspects of its design, namely centralization, publicity, and buyer's discretion, are of particular importance.

Centralization of purchases beneficial, provided that buyers are competent

First, the JPA prescribes highly centralized purchases: the EU Commission is the official contracting authority that conducts EU-wide tendering. If a specific cross-country health threat occurs, the signatory Member States may decide to participate voluntarily in a given joint procurement process. A steering committee, whose members are appointed by the Member States participating in the joint procurement initiative and whose meetings are chaired by EU Commission representatives, will then decide on the details of the purchase. The centralization of public procurement has shown to be beneficial, provided that buyers are competent enough. Especially in complex procurement processes that have to be carried out in a limited time, such as in the case of medical supplies during a pandemic, the competence of the purchaser is crucial. And it is to be expected that the procurement processes will become even more complicated and necessary in the coming weeks, as the demand increases and the need for medicines, in addition to medical equipment, grows.

Second, once a procedure committee establishes the awarding procedure of the contract, the invitation to tender is then well advertised in the Official Journal of the EU. A high level of publicity is vital for competitive procurement outcomes, and the JPA fully exploits this potential. After the contract has been awarded and the evaluation committee has screened the offers, each Member State participating in the process acts on an individual basis, agreeing with suppliers on the conditions for the procurement of the items.

Third, discretion could ultimately be decisive in this process. For example, the JPA gives the steering committee leeway in choosing the type of tendering procedure (i.e., open or restricted procedure, contest, negotiated procedure, or competitive dialogue). Concerning the scoring rules, price and quality have so far been the most critical factors for the evaluation committee when selecting suppliers. In the joint procurement process of 24 March, for example, the speed of delivery of face masks was the decisive factor in screening offers. This component accounted for 35 per cent in determining the most favourable bid. The members of the committee aligned with the EU Commission's mandate to increase the efficiency of the process; they chose the most suitable award procedure and, in particular, the optimal weighting of the quality criterion.

A well-functioning JPA will necessarily need a high level of publicity, be aligned with the specific needs, and be competently implemented. We are confident that the JPA as a whole will be successful, given that maximum publicity accompanies it and that competence goes hand in hand with alignment to specific needs. As the pandemic spreads rapidly across Europe and heated debate continues, we should remember the principle of solidarity that underlies the EU. In these complicated days in which streets are emptying out and hospitals filling up, temporarily less affected countries have been providing uncoordinated assistance to those currently hardest hit.

This is not enough, however, as the needs for basic medical equipment (yielding capacity shortages in hospitals) will continue to shake the EU Members States asymmetrically. The coronavirus crisis will come in waves, as every pandemic. We do not want to imagine the scenario of Member States competing against and outbidding each other to acquire ventilators, gloves, masks, and face shields, which are all running short. Instead, we want the European Union to respond to the pandemic jointly and effectively. The launch of the JPA can take charge of gathering the required supplies and direct them to where it is needed most; in doing so, it has the potential to reinforce the credibility of the EU institutions by showing that Europe can stand united in the face of emergencies. If the EU now succeeds in ensuring the efficiency of centralized healthcare purchasing, this will be an essential step in demonstrating the capacity of its institutions.

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The OECD has put forward its own proposals for comprehensive global corporate tax reform. Photo: ©istockphoto.com/MicroStockHub

Levying a Uniform VAT Eliminates the Need for Global Tax Reforms

To prevent the introduction of national digital taxes and maintain uniform international tax policy standards, the OECD has made proposals for a global corporate tax reform. Besides being highly complex, these proposals entail avoidable costs for businesses and tax authorities, and go well beyond what is necessary to achieve an appropriate tax level for multinational digital companies. According to tax experts of ZEW and the University of Mannheim, it would be more advisable to rely on already existing tax systems.

As digitalisation progresses, new forms of value creation emerge. Many countries believe that this allows internationally operating digital companies such as Amazon, Google or Facebook to minimise their tax burden through aggressive tax planning. At the same time, especially those market states which are mainly on the demand-side of digital products and services feel disadvantaged in terms of tax revenues from digital transactions. In order to put a stop to this, and also to get a fair share of taxes from companies in the digital economy, many countries are planning to introduce national digital taxes.

To prevent this from happening, the OECD has put forward its own proposals for comprehensive global corporate tax reform, which go far beyond a more appropriate tax level for globally active digital companies. In order for market states to generate higher tax revenues from digital transactions, it would be a much simpler and more efficient solution if the value added tax (VAT) were instead systematically levied on digital services, transactions in the sharing economy as well as non-monetary transactions.

Proposal could increase tax competition between OECD member countries

The OECD proposal is essentially based on two pillars. On the one hand, the market states are to receive a greater share of the tax revenue than in the past. For this purpose, the consolidated profits of the companies are divided into routine and residual profits, of which the countries then receive different shares. The authors of the study are particularly critical of the OECD's intention to tax companies by distributing a marginal part of their residual profits among countries in proportion to the share of turnover generated in the respective countries. To implement this type of turnover-based distribution, tax authorities need to be able to pinpoint the jurisdiction where the turnover was generated. In the case of multinationals, this is only known to the company headquarters. The competent tax authorities thus have to invariably report the taxable share of turnover to the countries entitled to these tax payments. This is a very complex procedure, which will most likely make an additional competent supranational authority necessary. Creating a taxable nexus based on sales, with no need for a physical presence, would extend the taxing right to all types of businesses, even to exports.

The second pillar of the OECD proposal aims to mitigate the risk of companies shifting their profits to low-tax countries. The proposed coordinated approach to introduce a global minimum tax and a deduction disallowance is, however, not limited to digital companies and well out of proportion with the intended goal of ensuring a fair taxation for digital businesses. Implementing this proposal could in fact make it less attractive for companies to shift their profits and move their registered headquarters to low-tax countries. On top of this, the proposal could also increase tax competition between OECD member countries, with the coordinated minimum tax rate setting a lower limit to competition. In addition, the risk of double taxation would also rise if all countries try to expand their access to the tax base of multinational enterprises.

The tax experts conclude that unless the potential weaknesses of the OECD proposal are addressed through global standards, it would be more effective to implement measures based on existing tax systems. They therefore call for expanding the concept of withholding taxes and shifting the focus to VAT, a pragmatic solution that could be implemented quickly to overcome pressing tax issues in the age of digitalisation.

The study is available to download at: *www.zew.de/PU81512-1*

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Q&A: Should the Eurozone Create Corona Bonds in Response to the Crisis?

"Establishing Corona Bonds Would Pave the Way for a Comprehensive Bailout"

The COVID-19 pandemic has shaken economies around the world. While the German Bundestag has adopted a rescue package that will be financed through deficit spending, other eurozone states, such as Italy and Spain, have less room for financial manoeuvre due to high existing debt levels. Accordingly, Italy and Spain have been leading calls for the introduction of 'corona bonds'. In this Q&A, ZEW public-finance expert Friedrich Heinemann, explains why corona bonds are not the right tool in the current crisis.

What are corona bonds exactly?

A large number of corona-bond models have been proposed, as was the case ten years ago in the debate surrounding eurobonds. These models all have one thing in common, however: They envision the EU or eurozone countries collectively issuing bonds for which all Member States would accept joint and several liability. This liability would be more extensive than that associated with ESM or ECB loans. Member States are only partially liable for assistance provided through the ESM; no single state is responsible for the full amount. Furthermore, liability on government bonds purchased within the eurosystem is limited by the fact that only national central banks purchase their country's bonds. By contrast, the corona bond would introduce collective liability for the public debt of Member States – a form of liability that does not yet exist in Europe.

What effects could corona bonds have on the eurozone?

Corona bonds were proposed as a means of financing the fiscal costs of combating COVID-19. Whether their use would actually be restricted to this purpose is questionable, however. If corona bonds were introduced, this would further depress the willingness of investors to purchase the debt of countries potentially at risk of default. A vicious circle could develop in which countries such as Italy become dependent on fresh capital injections from the EU to repay maturing national debt obligations. But the broader question, typically left undiscussed, is as follows: How should Europe handle unsustainable debt levels in Member States? In essence, corona bonds would solve the problem of unsustainable debt through redistribution, by transferring this debt to solvent Member States. Establishing corona bonds would thus mean paving the way for a comprehensive bailout of insolvent nations by other eurozone states.

Is there another option for stabilising highly indebted countries during the crisis?

During this immediate phase of the crisis it is essential to provide highly indebted countries with a large volume of liquidity, without imposing strict conditions. A chaotic default on the part of eurozone states would be a disastrous event given that we are standing at the doorstep of the most severe recession in EU history. The ESM should be the tool of first choice for providing needed liquidity. The ESM is an effective and proven tool. It also features clear rules and a veto mechanism to protect Member States from one-sided deals. Past experience with extending assistance to Ireland, Portugal and Spain has demonstrated that it can be deployed on a temporary basis, without becoming a permanent life support system. Only Greece is still dependent on liquidity infusions from the ESM; however, there are strict conditions attached this assistance. Countries that draw on the ESM know that they can count on help for one or two years, but that long-term support will entail considerable limitations to their national sovereignty.

How should we address unsustainable debt in eurozone states from a long-term perspective?

This is perhaps the most difficult question that Europe will face in the coming years. There are essentially three options: first, solvent states can foot the bill by providing a bailout; second, creditors can be forced to take a haircut; and third, a special tax can be levied on particularly wealthy groups in the insolvent nation. These options could also be employed in combination. However, none is without significant risks, whether political or economic. Given the current environment of uncertainty, it would be virtually impossible at present to arrive at a balanced, rational and well-informed decision concerning how to restructure sovereign debt. Accordingly, our aim should be to simply buy time and delay negotiating a deal on this difficult issue until the pandemic has subsided and markets are calm. By contrast, the establishment of corona bonds would constitute a fait accompli that would almost inevitably culminate in a bailout funded through redistribution from less indebted states.

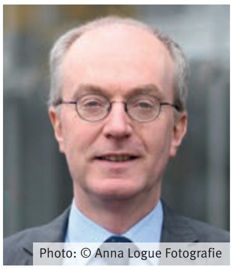
Photo: © Anna Logue Fotografie

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Apps with market power are more likely to collect sensitive user data than apps operating in more competitive markets.

Photo: © iStockphoto.com/ViewApart

Apps in Less Competitive Markets Collect More Privacy-Sensitive User Data

Data play a crucial role in digital markets, including the market for mobile applications. At present, however, app markets are dominated by a few, highly successful and mostly free apps. Apps with high market shares operating in a weak competitive environment are more likely to collect large amounts of privacy-sensitive user data and share them with third parties. This is the result of a joint study conducted by ZEW Mannheim, the University of Zurich and the University of East Anglia.

The study investigates how the lack of competition is related to the collection of privacy-sensitive user data in online app markets. To this end, the researchers analysed and collected information on approximately 1.5 million apps and their competitive environment in the Google Play Store on a quarterly basis between October 2015 and January 2018. The researchers also developed innovative measures to quantify competition and data collection in online markets.

For every app, the Google Play Store suggests other apps that are similar in terms of their content and function, a feature the researchers used to map a network of relevant competitors. The apps' market shares were then determined based on the number of their installations and ratings. Finally, the permissions requested by an app allowed the authors of the study to specify the extent to which an app has access to user data. In total, the researchers identified a total of 25 privacy-sensitive permissions, which included access to location data and users' contacts.

Free apps more likely to collect particularly large amounts of data

The results of the study indicate that almost one third of the more than 30,000 app markets identified in the study are highly concentrated, meaning that this market is dominated by only one or two apps. The researchers also found that more than half of the apps request at least one privacy-sensitive permission from their users.

The results further demonstrate that apps operating in such highly concentrated markets with high market shares are also more likely to gather more user data than apps operating in more competitive markets. This finding remains robust even in cases where some of these permissions are crucial to the functioning of the app, e.g. in the case of location data, which are indispensable for the functioning of navigation apps. This relationship has been shown to be particularly strong for applications that are free of charge.

It is, however, not only data collection that is of interest to app providers. Applications that are active in concentrated markets and have a high market share are also more likely to share data with third parties, such as advertising companies and social networks.

Data are increasingly becoming a means of payment in the mobile app market

The increased collection of data and resulting loss of user privacy is related to the application's market power. In the mobile app market, user data have become the new means of payment of many digital goods and services. Data thus play a central role not merely for apps but ultimately also the success of many digital companies, as evidence suggests that data collection, and the associated loss of privacy, increases with a firm's market power.

For competition authorities, the study also highlights the importance of the protection and portability of data in online markets. This is, for example, also reflected in the decision of the German Federal Cartel Office, which views Facebook's data policy as an abuse of its dominant position in the social networks market.

The complete study is available to download at: *www.zew.de/PU81433-1*

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Artificial Intelligence Is Key Driver of the Fourth Industrial Revolution

We are currently experiencing the fourth industrial revolution, as the radical breakthrough of artificial intelligence (AI) has taken digitalisation to a new level. This was the main message of the talk held by Professor Sabina Jeschke, member of the Management Board for Digitalization and Technology at Deutsche Bahn AG, at ZEW as part of the event series "First-Hand Information on Economic Policy".

In her lecture entitled "3 Shades of Artificial Intelligence – 5G and Quantum Computing Setting the Stage for Next Generation AI", Jeschke provided an overview of the current and future developments in the field of AI. In front of around 130 guests, she explained that information is the driving force behind this fourth industrial revolution and that the focus is currently on developing technical systems that are capable of learning. In this context, the interconnectedness of systems will be of crucial importance. According to Jeschke, Germany has the potential to become a major player in AI. "I believe, however, that this is not yet enough," she concluded her speech. For the video of the event, please see: *https://youtu.be/Jn4haZvl9mE*

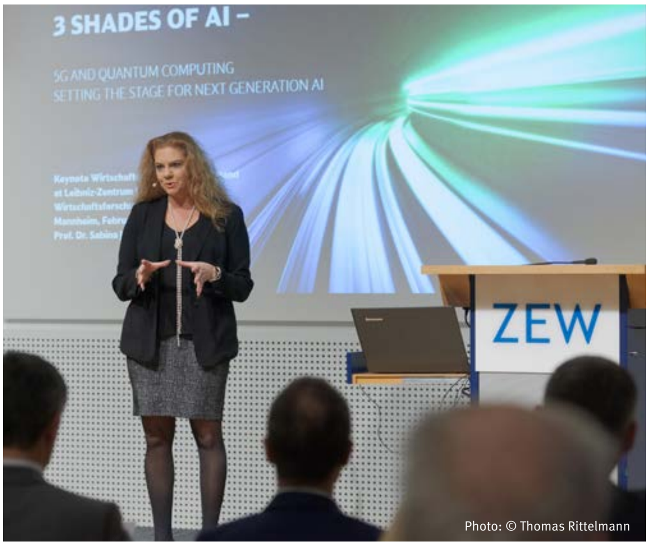


Photo: © Thomas Rittelmann

During her presentation, Professor Sabina Jeschke gave an overview of current and upcoming developments in the field of artificial intelligence.

University of Strasbourg and ZEW Intensify Their Cooperation

ZEW and the University of Strasbourg, one of France's universities of excellence, officially sealed their long-standing cooperation today. Professor Catherine Florentz, Vice-President for Research and Doctoral Education at the University of Strasbourg, ZEW President Professor Achim Wambach and ZEW Managing Director Thomas Kohl signed the cooperation agreement in Strasbourg. The cooperation between the ZEW Research Department "Social Policy and Redistribution" and the Bureau of Theoretical and Applied Economics (BETA) of the University of Strasbourg has been extremely successful for years. The institutions therefore intend to further intensify their cooperation in research and teaching, enabling researchers from the University of Strasbourg and ZEW to explore new research opportunities and to cooperate in the field of scientific teaching. In addition, joint events such as international workshops and conferences are planned for the future. Cooperation regarding the training of young scientists will also be strengthened.

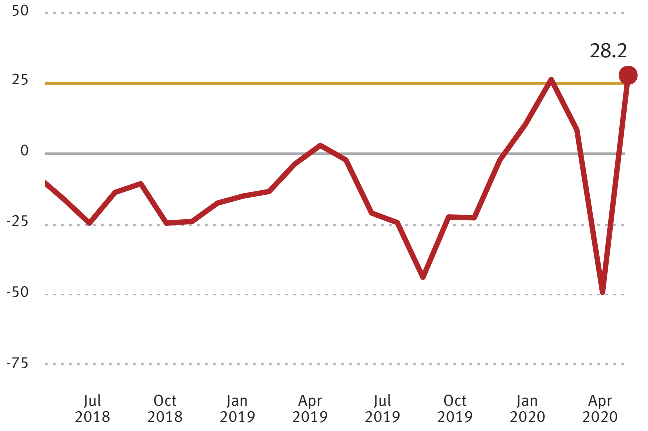
Volksbank Weinheim Stiftung and ZEW Grant Research Award for the Seventh Time

The Volksbank Weinheim Stiftung in cooperation with ZEW granted the research award "Future World of Work" for the seventh time. Dr. Steffen Viete received the best doctoral thesis award for his "Empirical Essays on Digitization, Work Organization and Firm Performance", while the prize for the best master's thesis in economics went to Katia Gallegos Torres' work on "The Electoral Winners of Refugee Migration in Germany: Evidence from a Natural Experiment and Subjective Beliefs". With the research award, ZEW and the Volksbank Weinheim Stiftung honour theses that combine academic excellence with practical relevance and that stand out through both an empirical focus and an original topic. Steffen Viete's doctoral thesis deals with the effect of digital change on firm productivity and on labour conditions. Katia Gallegos Torres examines in her master's thesis how the influx of refugees influenced the success of populist parties and the attitudes of citizens.

Photo: © Marco Schilling

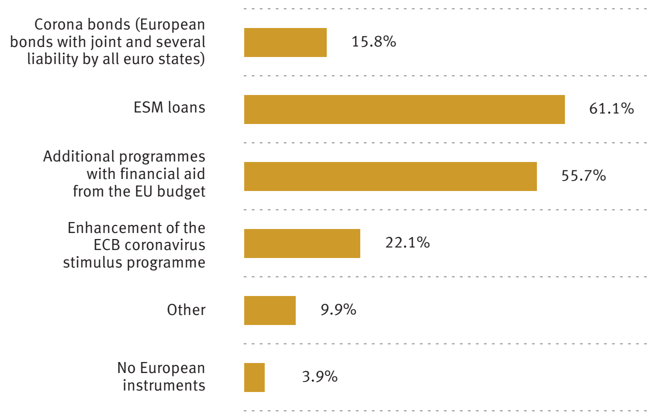
Volksbank Weinheim's executive board member Klaus Steckmann, winners Dr. Steffen Viete and Katia Gallegos Torres, ZEW Managing Director Thomas Kohl and spokesperson for Volksbank Weinheim's executive board Carsten Müller (l-r).

Improvement Expected, But at an Extremely Low Level



Source: ZEW

Financial Market Experts Largely Reject Corona Bonds



Compared to other instruments, ESM loans receive the most approval from the financial market experts surveyed.
Source: ZEW

The ZEW Indicator of Economic Sentiment for Germany has risen by 77.7 points in April 2020, now being valued at 28.2 points. The financial market experts are beginning to see a light at the end of the very long tunnel. The assessment of the current economic situation, however, has worsened dramatically, with the corresponding indicator dropping to a new reading of minus 91.5 points, 48.4 points lower than in March. This constellation of values currently witnessed for expectations and the assessment of the current situation roughly corresponds to that seen in April and May 2009 during the financial crisis. Financial market experts' sentiment concerning the economic development of the eurozone has also considerably improved, bringing the indicator to a current level of 25.2 points for April, 74.7 points higher than in the previous month. By contrast, the indicator for the current economic situation in the eurozone declined by 45.4 points, falling to a current reading of minus 93.9 points.

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According to the ZEW Financial Market Survey conducted in April 2020, only 15.8 per cent of the respondents view the so-called corona bonds favoured by Italy and several other southern EU countries as an appropriate instrument for stabilising the economies of the affected euro states. Most of the financial market experts (61.1 per cent) are in favour of ESM loans, which are linked to conditions for the borrower countries. 55.7 per cent consider additional aid from the EU budget as a suitable instrument to counter the crisis. When asked about the measures taken so far to reduce the economic impact of the coronavirus pandemic, the participants stated that they generally welcome the economic aid measures adopted by the German government. 38.8 per cent rate the aid package adopted in Germany as very positive, 95.8 per cent at least see a positive effect on the economy. Similarly good, but somewhat less euphoric, is the experts' assessment of the aid package passed by the US government.

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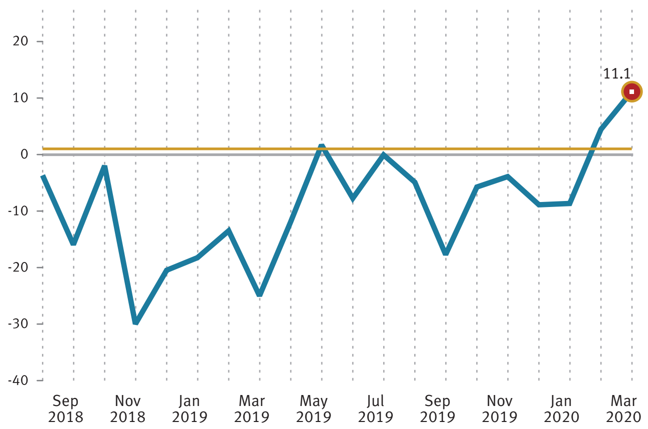
Growth Forecasts for China Down Again



Balance of the symmetrically weighted positive and negative assessments regarding the macroeconomic environment in China in twelve months. Survey period: 9–18 March 2020
Source: ZEW/Fudan University

The coronavirus pandemic continues to leave a deep mark in the growth forecasts for China for 2020 and 2021, with the growth forecasts for real gross domestic product (GDP) dropping heavily again after an already significant decline in the previous month. This follows from the March survey among international financial market experts for China on basis of the China Economic Panel (CEP). The experts lowered their forecasts for GDP growth in the current year to only 4.3 per cent, compared to 5.4 per cent in the previous month and 5.9 per cent in January. According to current forecasts, China's real GDP is expected to increase by 2.1 per cent in the first quarter of 2020 and by 4.2 per cent in the second quarter, as compared to last year's first and second quarters. According to the financial market experts, the situation will only start to gradually improve in the second half of 2020, with the survey participants then expecting a return to almost 'normal' growth rates of 5.5 per cent in 2021.

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A Brief Moment of Reflection

The world has changed dramatically over the past few weeks: countries everywhere have issued exit restrictions, many companies have halted operations, stock exchange markets are in turmoil, economic forecasts range from bad to terrible, and governments have approved unprecedented rescue packages. The first phase of economic crisis management – stabilising companies, markets and the state – is on the right track in Germany. The federal government has employed several strategies that proved to be helpful during the financial crisis of 2008/09, such as instituting short-time work schemes and granting loans and loan guarantees to companies. The particular challenge posed by the coronavirus pandemic lies in handling the enormous number of applications for assistance, which dwarfs those experienced during the financial crisis.

What is new are Germany's measures to help small businesses and self-employed workers, who can now receive direct grants from federal and state programmes. Unlike the 2008/09 financial crisis, which at first hurt banks and several major companies, the economic shutdown precipitated by the coronavirus pandemic affects everyone straight away.

Another new development is that the federal government is keeping open the option of partly nationalising large companies. During the financial crisis, Germany took this step only in the banking sector, as it did with Commerzbank. Now it is considering the purchase of ownership stakes in companies selling real-sector goods and services. The recently established Economic Stabilization Fund reserves up to 100 billion euros for this purpose. The recovery of the post-crisis economy will much depend on companies' levels of debt and state ownership; restructuring, at any rate, will be difficult. The crucial factor is how much capital each company receives and under what conditions. Experience from the financial crisis shows that a panel of experts tasked with the development of criteria for allocating funds and of plans for rolling back aid measures after the crisis may prove helpful in this respect.

Europe has now also come up with a joint response. At the European level, the ECB has massively expanded its bond-buying programme and has pumped extra liquidity into the banks. This will help Italy, Spain and other highly indebted countries get their interest rates under control. Increasing the European Investment Bank's funds to provide loans for companies, and introducing a wage-subsidy scheme across Europe, are having a targeted effect in those regions that are particularly hard hit by the crisis. Furthermore, the European Stability Mechanism (ESM) is being activated to provide assistance to countries with high debt levels.

Now with the first phase of the emergency measures underway, we can take a moment to look forward. Over the next days and weeks Germany will begin preparations for phase two: reopening businesses and rebooting the economy. Both medical and economic expertise will be needed to find the right measures and the right timetable for their introduction. This will demand careful stewardship of the economy and health care system.

President of ZEW, Prof. Achim Wambach, PhD

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