ZEW NEWS

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March/April 2021

Research Findings
COVID-19 State Aid Leads to Insovency Backlog

Economic Policy Analysis
Digitalisation Continues to Lag in Germany

Event
#ZEWBookTalk with Gabriel Zucman

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Female Board Members Have a Positive Impact on Company Value

Women on the board of companies have a positive impact on their value. Crucially, the quota for women in corporate management primarily results in the scaling down of inefficient corporate processes. These are the findings of a study conducted by ZEW and the New Economic School in Moscow.

The German government recently passed a legal reform to bring more women onto the boards of listed and equally co-determined companies. Compared to other European countries, the boardroom quota in Germany has been set rather low and still remains subject to criticism amongst the general public. The current study analysed the effects of this quota based on data from Norway, Italy, Spain, the Netherlands, Belgium and France, where legally binding quotas of between 33 and 40 per cent apply, as well as the United Kingdom, where a 25 per cent quota is recommended. The study examined both the corporate board structure and the characteristics of its members. A further step was to investigate the effects of the quota on firms' value and operations, using financial data on the years before the quota was announced and after the compliance date had passed.

Findings from the study show that a higher percentage of women on the board positively affects company value. If the proportion of female directors grows by ten percentage points, then company value, measured by the Tobin's Q ratio, also increases by 2.1 units. Additionally, the researchers record a higher annual buy-and-hold return of 1.6 to 3.8 per cent in the annually compounded equivalent for European companies that have a higher proportion of women on their boards. These effects are not anticipated by the market when a regulation is announced. In the long-term, investors therefore also benefit from gender equality on company boards.

The researchers examined the board structure as well as board members' qualifications in detail to clarify the mechanisms behind the effects described above. Companies often do not increase the number of board members upon the introduction of this quota, but instead fill existing seats proportionately with female board members. Moreover, the qualifications of the board members do not decrease as the number of women on the board increases. Average age, experience and network size all remain the same. However, participation in board meetings rises significantly with more women sitting on the board.

Women are less prone to empire building

In a further analysis, the researchers examined the effects on company value in more detail. If the proportion of women on the board grows by ten percentage points, the ratio of market value of equity to assets increases by about 5.3 units. The researchers do not attribute this increase in the market value of equity to a higher debt-equity ratio or a higher dividend pay-out, but instead to a lower tendency to so-called 'empire building'. Empire building describes the heightened interest of leaders in external corporate growth, such as through the formation of a group or a merger as well as the increase of assets. This can negatively affect a business if it aims solely to control resources and exert greater influence, rather than seeking optimal allocation of resources, maximising profits and acting in the interests of its shareholders. In economic research, empire building has so far been attributed predominantly to male leaders. If the proportion of women on the board grows by ten percentage points, then a company is ten percentage points less likely to incur any merger-related expenses whilst business turnover remains unchanged. Furthermore, new capital assets are purchased less frequently, but no less revenue is generated from their sale. The researchers conclude from this that an increased proportion of women not only means that inefficient assets are more likely to be written off, but also that new assets are acquired less frequently. This change in behaviour is welcomed by the market and cannot be explained by a change in board qualifications, but by the fact that women are less prone to empire building than their male colleagues.

These effects do indeed go hand in hand with a temporary decrease in turnover, which causes some operational performance indicators to decline. However, the ratio of operating costs to assets does not change. Revenue-based margins and labour productivity also remain stable. As these declines are not accompanied by lower market values, this is further evidence that companies with a higher proportion of women on the board are more likely to cut inefficient assets. This becomes apparent with regard to higher enterprise value in the long-term.

Compared to earlier studies that found the quota-induced presence of women to have a negative impact on company value, the findings show that no dilemma exists in this regard. In fact, company value and buy-and-hold return are both likely to increase, and less of a prominence of empire building within the company seems to be the main reason for this. Therefore, gender diversity on the board is not only beneficial to society, but also for the economic efficiency of a company.

The study can be downloaded at: *www.zew.de/PU82440-1*

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Fears over Infection Cause Screening Gap

The coronavirus pandemic has led to a decline in cancer screenings, in particular during the first wave of the pandemic in spring 2020. This could have a negative impact on overall public health, as late diagnosis can reduce the chances of successful treatment. Fear of contracting COVID-19 seems to be a major reason why patients avoid screening appointments. This finding was confirmed by survey data as well as in a recent analysis of trending Google search terms conducted by economists at ZEW Mannheim.

The number of cancer screenings has substantially decreased since the start of the pandemic. Patients decide against screenings and other preventive procedures because they worry about a possible infection with the coronavirus. Several studies conducted in Germany, the USA and Great Britain find a relation between high infection rates and low usage of preventive care.

In a combined analysis of recent international studies and Google Trends data, the ZEW economists show that demand for cancer screenings is lower when the perceived risk of infection is high. Analysing the frequency of Google search terms in Germany, the researchers found that the search frequency of "cancer screening" was lower when the frequency of "risk of infection" was high. To address this prevention gap, physicians could carry out routine tests during appointments, which would give patients a greater sense of security. Introducing routine testing in general practices – in addition to the hygiene measures already in place – could help minimise the risk of infection, e.g. in waiting rooms. This would reduce the actual as well as the perceived risk of infection and could significantly increase demand for medical services, especially in the area of cancer prevention. However, this requires that medical practitioners have access to free rapid tests – and that they are widely applied.

According to the authors of the study, it is necessary to establish a comprehensive testing system so that the capacities of outpatient care are not overloaded. It is crucial to ensure that all citizens have access to a variety of test options – self-tests, testing centres and medical practices – as soon as possible.

The expert brief is available to download (in German only) at: *www.zew.de/PU82395*

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How Does Carbon Offsetting Affect Emissions Trading Schemes?

At the 21st Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015, the Paris Agreement established the Article 6.4 Mechanism. This enables one party to fulfil part of its national climate objectives by contributing to emission reductions in another party. The exact design of the mechanism is, however, still being negotiated among all signatories.

A recent ZEW study has shed light on the short-term impacts of offsets on emissions trading schemes (ETS). In an empirical analysis, the researchers examine the experience of the EU ETS in accepting member states to use credits from the Clean Development Mechanism (CDM) to meet their targets.

On the one hand, such international cooperation on emissions trading is expected to allow efficiency gains by taking advantage of cheap abatement opportunities in developing countries. On the other hand, the effect on carbon price volatility remains uncertain. This may impact companies covered by the ETS. The EU experience provides an ideal framework to analyse this, as the EU ETS has been the largest carbon market to accept international credits.

The study shows that the price volatility of offsets is largely driven by the price volatility of European allowances and that price shocks are mostly transmitted from EU allowances to offsets. However, for the data before November 2011, knowing the credit price variations helps to better predict variations in the allowance price, whereas the opposite appears to be the case for data from November 2011 onwards. The existence of these two different regimes can be explained by changes in expectations and restrictions regarding credits and their potential use to meet emission targets within the EU ETS.

Stricter requirements for the issuance of international carbon credits needed

The possible existence of two different regimes of interaction between emissions trading schemes and carbon offsets allows to draw lessons for the design of the new mechanism. Imposing limits on the use of international credits in national or regional carbon markets mitigates the influence of the former on the latter. However, by doing so, the value of offsets and their relevance for supporting climate-related investments in developing countries also tend to be reduced.

The study concludes that stricter conditions for the issuance of international credits are needed to improve their acceptability for compliance in emissions trading schemes. This would lead to a rise in the price of these credits and maintain their relevance for investment support. Even if this were to increase the influence of offsets on national or regional carbon markets, stricter conditions for issuance are likely to strengthen the two types of policy instruments.

The study can be downloaded at: *www.zew.de/PU82012-1*

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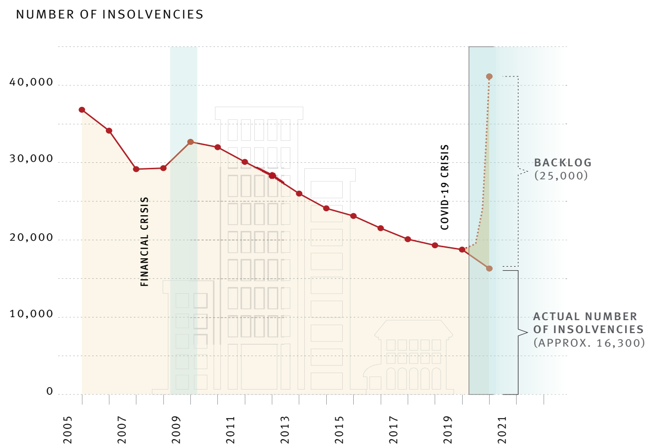
COVID-19 State Aid Leads to Dangerous Backlog of Corporate Insolvencies

In response to the first COVID-19-related lockdown, particularly small and medium-sized enterprises in Germany received easy access to extensive state aid in order to strengthen the liquidity position of cash-strapped firms. For the most part, this was done in a 'whatever-it-takes' fashion to rescue as many firms as possible from insolvency. Due to the urgency of the measures, they were implemented in an untargeted manner, which – in addition to generating direct costs in the billions – could also have negative consequences for medium-term growth opportunities and productivity development in Germany.

As a recent study by ZEW Mannheim shows, the untargeted financial support has contributed to a backlog of corporate insolvencies. In particular, very small, financially weak companies, which under normal economic circumstances would have been highly likely to file for insolvency, were kept alive without the prospect of successful recovery.

The billion-euro aid packages, together with the suspension of the obligation to file for insolvency in the months after the first lockdown, will result in a wave of corporate insolvencies after the end of the pandemic, with negative consequences for the economy as a whole. Usually, insolvencies lead to employees moving to other, more efficient and creative companies and to capital flowing away from insolvent to economically sound companies. This process strengthens productivity and innovation in the overall economy and reduces the shortage of skilled workers in stable companies. This process is, however, disrupted if companies that are unable to survive on the market without policy support are saved from bankruptcy.

BACKLOG OF CORPORATE INSOLVENCIES DUE TO COVID-19 STATE AID



Source: ZEW

Policymakers should distribute funds in a more targeted manner

The results of the ZEW study show that in the sectors particularly affected by the crisis, fewer than half as many companies filed for bankruptcy as would have been expected on the basis of pre-crisis data. According to the authors of the study, this difference is particularly pronounced for micro-enterprises with up to ten employees, while it becomes less significant with increasing company size. The study finds that this group of companies accounts for the vast majority of the backlog of about 25,000 company bankruptcies.

Furthermore, the empirical analysis reveals that the insolvency backlog among micro-enterprises can largely be attributed to companies that were already financially unstable before the coronavirus crisis. For companies that had a good pre-crisis credit rating, on the other hand, no backlog has been observed. The researchers thus recommend that as the coronavirus crisis continues, policymakers should distribute funds only after careful consideration.

The ZEW study compares the creditworthiness of companies in the pre-crisis period July 2017 to December 2019 with the COVID-19 crisis period April to July 2020 using data from the Mannheim Enterprise Panel (MUP) and covering approximately 1.5 million companies. The MUP is based on a cooperation between ZEW and the Verband der Vereine Creditreform, Germany's largest credit agency, which provides information on the creditworthiness of companies.

The study is available to download at: *www.zew.de/PU82411*

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Country-by-Country Reporting by European Financial Firms Very Opaque

Country-by-country reporting (CbCR) is being implemented very heterogeneously by EU Member States and the reporting financial firms. Instead of providing more tax transparency, the reports lack comparability and there are problems with their interpretation. The reason for this are imprecise specifications regarding the calculation and presentation of CbCR data. This is the conclusion of a study by ZEW and the University of Mannheim. The EU Commission should therefore initiate clear and uniform guidelines as well as definitions for compiling a CbCR report before extending the reporting obligation to all multinational companies.

Through the Capital Requirements Directive IV, multinational financial firms that have either their headquarters or at least a subsidiary or branch in the EU are required to publish certain data under the CbCR. The report is intended to provide the tax authorities and the public with information on overall activity, such as subsidiaries, employees, profits and tax payments. By doing so, the EU wants to ensure greater tax transparency and curb aggressive tax planning.

The study is the first to examine the heterogeneity and (in-)transparency of the CbCR reports provided by these financial companies for 2014 to 2016. The researchers analysed the content level of the CbCR reports, such as the way reportable positions are calculated and the provision of additional information. Regarding the content level, British (41.35 points out of a maximum of 100) as well as German (38.91 points) firms are best performing, whereas Austrian (23.04 points) ones perform the worst. Regarding the readability of data, companies located in Germany (72.45 points) and the Netherlands (67.86) rank at the top. Italian banking groups rank at the bottom (60.52 points).

Whilst there is hardly any difference between the countries concerning the readability of the CbCR reports, the way in which the content has been presented certainly leaves room for improvement. 80 per cent of the companies provide no information on the scope of consolidation. More than two thirds of all reports lack information on the underlying data source or on the treatment of intra-group transactions in the calculation of profit before tax and turnover. Approximately 70 per cent of companies provide no information on the extent to which CbCR and consolidated financial statements are consistent. According to the authors of the study, the lack of clear and consistent guidelines leads to heterogeneous reporting behaviour between the different banking groups and countries. This makes it difficult to compare reports and increases the risk of misinterpretation.

British and German CbCR reports are most transparent

Companies headquartered in the UK (44.75 points) and Germany (44.43 points) achieve the highest level of transparency in the overall ranking of CbCR. The lowest rating goes to companies based in the Netherlands (32.42 points) and Austria (29.95 points). The study shows that large banking groups and those heavily involved in tax havens disclose their activities in a comparatively transparent manner. Since these banking groups presumably attract more public interest than smaller banking groups, the greater transparency in their CbCR reports could be driven by a desire to prevent false accusations of tax avoidance.

Before the EU Commission goes ahead with proposals to expand the public CbCR obligation to all multinational companies operating in the EU, regulatory loopholes identified in the study should first be closed. Generally speaking, Member States' national laws do not close these regulatory gaps and provide leeway for the reporting financial firms. Therefore, the researchers recommend that the underlying data source and the applied consolidation scope of CbCR be specified and that uniform definitions of the reportable positions be set, which should apply for all financial firms. This would be an important step to enable a consistent interpretation of the reports across different banking groups and countries and to increase the level of information in the CbCR reports. For example, the OECD template provides a standardised model that could be used.

The study can be downloaded at: *www.zew.de/PU82413-1*

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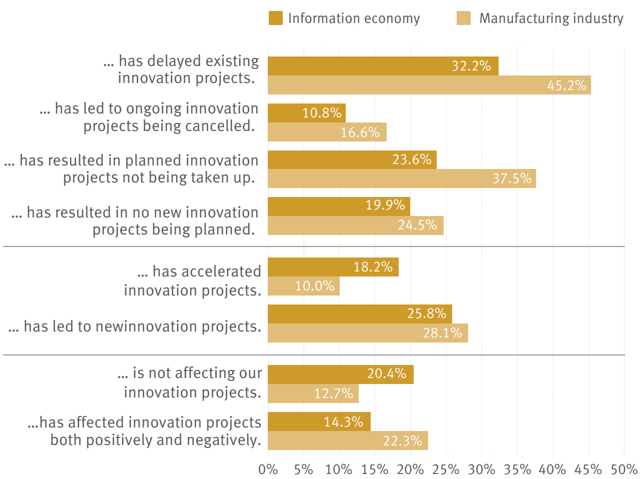
COVID-19 Hinders Corporate Innovation

The COVID-19 crisis has hit the global economy unexpectedly and hard. The lockdowns that have been imposed in Germany have brought about massive economic imbalances. To learn more about the impact of the coronavirus crisis on companies' research and innovation (R&I) activities and the reasons why such activities are affected, a special evaluation of the ZEW Business Survey was carried out on behalf of the Commission of Experts for Research and Innovation (EFI) in September 2020.

The analysis shows that the COVID-19 crisis has had a negative impact on a majority of German companies with regard to their innovation activity. For example, approximately 32 per cent of companies in the information economy and 45 per cent of companies in the manufacturing industry have delayed existing innovation projects. Furthermore, a substantial amount of businesses have reported that they have not initiated previously planned projects (24 per cent in the information economy and 38 per cent in the manufacturing industry) or have not made any plans for new innovation projects (20 per cent in the information economy and 25 per cent in the manufacturing industry). Far less frequently have companies reported that they completely abandoned innovation projects already underway (11 per cent in the information economy and 17 per cent in the manufacturing industry).

IMPACT OF THE COVID-19 PANDEMIC ON COMPANIES' INNOVATION ACTIVITIES.



Sector-specific extrapolation on the question: "What impact does the COVID-19 pandemic have on your companies' innovation activities? The COVID-19 pandemic ...". Example: In 24 per cent of the companies in the information economy, planned innovation projects have not been taken up.

Source: ZEW Business Survey in the Information Economy 2020, EFI Report 2021

Besides the predominantly negative effects of the coronavirus crisis, however, positive developments in innovation activity can also be observed. For example, approximately 26 per cent of companies in the information economy and 28 per cent of companies in the manufacturing industry have reported that the effects of the crisis have resulted in new innovation projects being initiated. For 18 per cent of companies in the information economy and 10 per cent in the manufacturing industry, the crisis has even led to an acceleration of innovation projects. Reduced availability of financial resources is stated by companies as being the most common reason for the negative impact on innovation activity. Specifically, this applies to approximately 79 per cent of the negatively affected companies in the manufacturing industry and 64 per cent in the information economy. Moreover, many companies have become aware of a falling demand for innovative products and services. Again, this pandemic-related negative effect is more frequently reported by companies in the manufacturing sector (50 per cent) than by those in the information economy (35 per cent). Companies have also cited further restrictions brought about by the pandemic, such as supply difficulties for materials and intermediate inputs, as well as reduced availability of R&D staff and R&D cooperation partners. In addition to this, there has been restricted use of R&D premises, lack of access to data relevant for innovation as a result of working from home, and limited suitability of companies' own digital infrastructure and equipment for working under certain pandemic-related conditions.

Further measures should have a clear focus on R&I

As the pandemic goes on, these developments may lead to a long-term weakening of the German R&I system. The government has provided important political impetus by introducing short-term aid measures and economic stimulus programmes, which both also support the research and innovation system. For its long-term competitiveness, further measures should be designed with the greatest possible focus on R&I.

The Commission of Experts therefore welcomes the government's package of measures, the so-called 'Zukunftspaket'. It includes substantial investment in education, research and innovation, as well as in future technologies such as artificial intelligence, hydrogen technology, and quantum technology.

The study is available to download at: *www.e-fi.de/fileadmin/Assets/Gutachten/2021/EFI_Summary_2021.pdf*

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The ZEW Business Survey

The ZEW Business Survey in the Information Economy was conducted among approximately 1,410 companies. In order to guarantee that analyses were representative, the participants' answers were extrapolated to the number of all companies in the sectors considered. The survey is regularly carried out among companies with at least five employees in the sectors of information and communications technology, digital services and knowledge-intensive services. All of the aforementioned sectors together form the information economy. The survey for the EFI Commission in September 2020 was expanded to companies in the manufacturing industry.


Photo: © iStockphoto.com/Phynart Studio

Digitalisation in Germany Continues to Lag

The coronavirus pandemic has ruthlessly laid bare Germany's digitalisation deficits. The news has come as a shock to many, but it is also a wake-up call: data are crucial for research just as digital technologies are crucial for innovations that help the economy – and Germany in general.

The COVID-19 crisis has provided an urgent impetus for action. The question is how best to channel the energy. There's been no shortage of proposed strategies and measures. The German federal government's recently released digitalisation strategy is a multipronged approach comprising several individual strategies such as the 'Broadband Strategy', the 'Artificial Intelligence Strategy', 'National Skills Strategy' and, most recently, the 'Data Strategy'. The state has also passed a number of related laws such as the Online Access Act, the Open Data Act and the Digital Health Care Act, as well as the so-called 'Zukunftspaket' as part of the federal economic stimulus package relies heavily on digitalisation and innovation. But despite the important steps that Germany has taken, much remains to be done before it can become a modern digital society.

A fundamental understanding that digital technologies are the foundation for many innovations and thus also for productivity growth and competitiveness is essential here. The innovative potential of digital technologies can also contribute to solving major societal challenges. For example, a digital platform for planning personal transport can provide a new business model for start-ups, but it can also conserve resources. Another example is the use of standardised digital systems in the public health care sector. Besides enabling a rapid exchange of information and increasing efficiency, such systems could save lives, even in times when the world is not in the midst of a pandemic.

What needs to happen now

The prerequisite for a digital transformation of the economy, state, and society is high-performance infrastructure. The backbone of digital infrastructure is fast, nationwide broadband and secure clouds for storing and harnessing data. The data itself is a crucial part of the infrastructure – as a valuable resource in research. The new knowledge it generates can be of vital importance for handling crises such as the current COVID-19 crisis, for helping the economy by enabling the development of new services and business models, for keeping businesses internationally competitive and for making evidence-based, informed policy decisions. Digitalisation needs specialists who can develop and implement digital applications, and it requires digitally competent people who are able to use them, whether in a company, a public institution or society in general. Education is therefore key. Schools, vocational institutes and professional development programmes must teach skills in the use of hardware, media and data as part of their basic curriculum. This is the only way people can keep pace with technological change in their professional and private lives.

Digitalisation should finally be made a priority

The great complexity of digitalisation requires efficient coordination, however, and this means making improvements to existing governance structures or establishing new ones. A ministry for digital technology, for example, could assume a coordinating function at the federal level, helping to manage digital activities and measures across institutions in a more targeted fashion. But it is important to keep in mind that nobody can do the detailed work for those institutions; they have to do it themselves. The work is often tedious and requires the conviction and perseverance of entire teams. Germany's data strategy calls for the appointment of a chief data officer in each government ministry responsible for combing through data, editing the data according to a standard and making it accessible for researchers and policymakers. Creating opportunities for business leaders and digital experts to take part in politics and for politicians to experience the realities of the private sector and technology can also inspire new solutions.

Of course, authorities and institutions will have to determine and test their own strategies. It is thus important that they finally make digitalisation a priority and improve the networks that link them. For it is here that the ultimate strategic goal lies.

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Q&A: What's the New 'Health Care Markets and Health Policy' Group Working On?

"The Conflict Between Broad-Based Health Care and Limited Resources"

The health economy is not only of considerable economic importance to Germany. Health services are also an essential part of the provision of public services for its citizens. At the start of 2021, ZEW set up the Project Group "Health Care Markets and Health Policy". ZEW economist Dr. Simon Reif explains in the following interview what exactly health economics is, where we encounter it in our day-to-day lives and what research questions the project group is pursuing.

What exactly does health economics deal with?

Health economics is a fairly new discipline which explores the economic constraints that the health care sector is faced with. These include issues regarding the access to health care facilities, the procurement of health care products and the design of health care markets. Health economics research has become even more important in the wake of the COVID-19 pandemic, as it has, of course, far-reaching effects on all these topics. We examine the conflict between broad-based health care and limited resources. Supply and demand do not follow the rules of traditional markets, where price determines whether a good is consumed or not.

Health insurance often means that there are virtually no utilisation costs for the insured. The question then is why some services, such as medical screenings, are underused. Patients are very free in deciding which type of treatment they receive. So a way must be found to distribute the scarce resource of health services sensibly. The need for such measures means that the health care market is highly regulated. From a health economic perspective, we therefore examine how such regulations affect supply structures and costs.

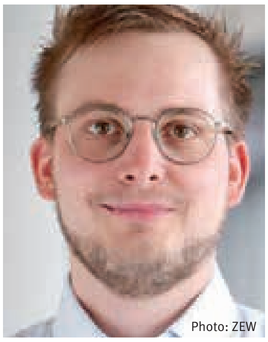
Photo: ZEW

Dr. Simon Reif

is a health economist and has headed the Project Group "Health Care Markets and Health Policy" at ZEW since January 2021. He completed his PhD at FAU Erlangen-Nuremberg on the supply of medical services. His research interests are behavioural economic and institutional factors influencing the provision of medical services as well as determinants of individual health. His current research projects deal with strategies for the evaluation of digital health applications and the design of hospital payment systems. simon.reif@zew.de

One of the research topics the project group deals with is the reimbursement of hospital care. What does this research topic entail?

Basically, this research topic aims to shine a light on the incentives in reimbursement systems. What impact does a certain type of reimbursement have on the actual service that is provided? We often come across this issue in strongly regulated markets, also with regard to the financing of hospitals. In the reimbursement system in Germany for example, operations are more likely to be paid compared to conservative alternatives. Our research aims to identify existing problems. Is the high rate of surgeries in Germany actually a result of the reimbursement system? Or could it be due to the fact that patients simply prefer to undergo surgery? These are the research questions that we pursue and to which we would like to provide answers for. Depending on how our findings turn out, appropriate political measures will be necessary.

Let's talk about digitalisation in the health care system. What still needs to be done?

The market for digital health is relatively new and very dynamic. A key question is: what is generally on offer and how can treatments be supported by digital methods? Germany is often criticised for lagging behind in terms of digitalisation in its health care system. However, there are success stories such as patient-centred health care services.

Germany is the first country that has paved the way for health app providers to be included in mainstream health care through the Digital Healthcare Act (DVG). Since the end of 2020, the first health apps have been released which may be prescribed by doctors. This is pioneering work, since there is also a completely new approval process of such apps in Germany.

It is not that easy to provide proof of the benefit of a digital service so that the health insurance companies cover the corresponding costs. How can it be empirically shown, for example, that the burden of illness for the patient or relatives is lowered through the use of an app? As part of our research, we are working with start-ups as well as health insurers to understand how these apps can function better in the health care system and how resulting benefits can be empirically tested. Our research aims to show how new digital treatment methods support holistic health care models. In case of doubt, it also aims to show where the same effect can be achieved more effectively with pen and paper.

We are also working on a project which deals with the pricing of such apps. Traditional pricing models fall short when it comes to digital apps. We are in the process of developing a concept on how to achieve optimal pricing for a product that is dynamically evolving.

#ZEWBookTalk with Gabriel Zucman

Do all Americans pay a fair amount of tax? Not at all. On the contrary, there is a huge disparity in the taxation of average workers and the taxation of the wealthy, especially the super-rich, according to UC Berkeley Associate Professor Gabriel Zucman. On 10 March 2021, the economist presented his new book 'The Triumph of Injustice: How the Rich Dodge Taxes and How to Make Them Pay' virtually at ZEW Mannheim, which he wrote together with Emmanuel Saez. Zucman is also leading the newly established European Tax Observatory that has commenced its work in 2021. ZEW President Professor Achim Wambach moderated the third edition of #ZEWBookTalk.

"How much do the various income groups pay in tax in the US?" This was the first question that Gabriel Zucman asked at the start of his talk. Since the tax reforms introduced by former US President Donald Trump, billionaires in the United States have been paying lower tax rates than average workers for the first time. The effective tax rate of the 400 richest US Americans is currently 23 per cent, which includes both corporate tax and real estate tax. By contrast, the working class and middle class each pay a tax rate between 25 and 30 per cent. "Contrary to popular belief, the US tax system is not currently progressive. In fact, there is a flat tax that has a regressive effect on the super-rich," explains Zucman to approximately 200 viewers streaming the event live.

Why are the super-rich in the US paying such a small amount in taxes? On the one hand, this is due to the fact that capital income is only taxed at a very low rate. On the other hand, the wealth of the super-rich increases almost exclusively through the growth in the value of their stocks and company shares, and this growth remains income tax-free in the US. Tax on wages has, however, increased amongst average workers over the years. In addition to this, consumption taxes place a much heavier burden on low-income earners than on high earners. Zucman is particularly critical of subtle decline of corporate taxation in the US. "While the share of corporate income tax in state tax revenue has fallen drastically since the 1950s, the share of personal income tax has remained largely the same."

Tax competition is not a principle set in stone

In the further course of his talk, Zucman elaborated on ideas for a fair and democratic tax system to counteract excessive accumulation of wealth among the rich. "A great amount of wealth comes with a disproportionately high amount of influence and power, which can be detrimental to a democracy." First of all, Zucman proposed that globalisation be linked with tax justice. A plan must be developed to stop corporate tax evasion and destructive tax competition between countries, and not only in the US. "International competition in which companies are lured with low corporate tax rates is often depicted as being unavoidable within the scope of globalisation. This is not the case. A negative tax competition is not a principle set in stone." Future negotiations, such as trade agreements, would have to contain a tax agreement by all means. It would be possible, for example, to set a lower limit for corporate taxation of 25 per cent as a precondition for further trade liberalisation. At the same time, sanctions could be enforced as defence mechanisms against non-cooperative tax havens. Switzerland is a perfect example in showing how this can work.

What does a modern and democratic tax system look like?

In view of the US tax system, Zucman called for a return to a more progressive form of taxation as was the case beforehand. The development of the last 40 years, in which the rich have become increasingly rich and the poorest income earners increasingly poor, has to be counteracted. According to Zucman, a modern and democratic tax system has to rely on increased taxation of wealth. The aim should not only be to curb extreme wealth growth, but also to generate revenue for the welfare state in the US. This could be achievable through a tax on wealth of two per cent for all US Americans with assets amounting to more than 50 million US dollars. For all those with assets of more than one billion dollars, the taxation would be three per cent. "Such a wealth tax of two to three per cent can stabilise the disparity in wealth in the US at a level last seen in 1980," says the economist.

The subsequent discussion with ZEW President Achim Wambach focused, amongst other things, on the question of whether or not international tax competition is necessary, as some countries have little to offer besides low taxes. Additionally, there was a debate on what advantages Europe would have regarding the crackdown on tax evasion and profit shifting to tax havens, as well as what a fair form of taxation could look like and whether tax on wealth could also be a sensible option for Germany. Gabriel Zucman concluded by saying that there are no external or technical constraints that make tax justice impossible. Tolerating tax evasion is rather a political decision. There are, however, a wealth of possible options which could lead to a fairer form of taxation. We would only have to choose one of them.

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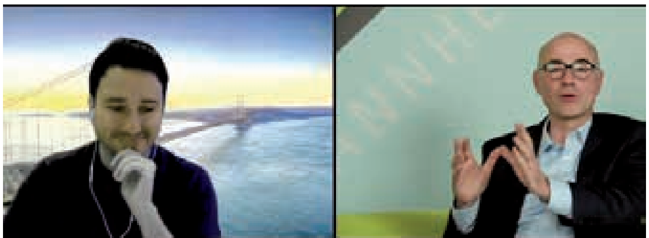
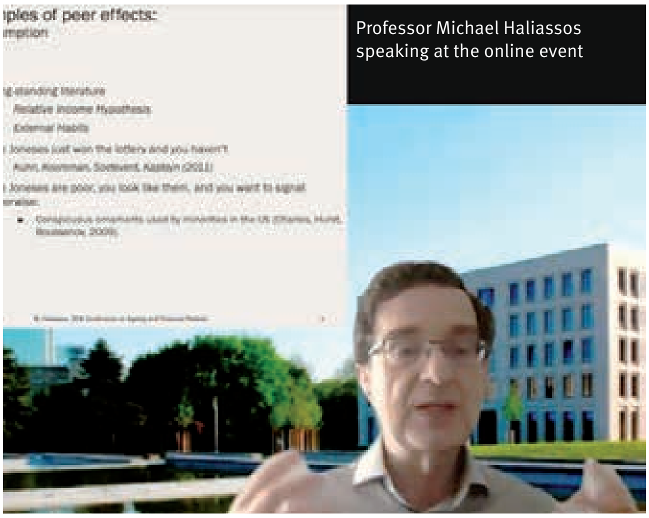


UC Berkeley Associate Professor Gabriel Zucman in dialogue with ZEW President Professor Achim Wambach

ZEW Conference on Ageing and Financial Markets

ZEW organised the first conference on ‘Ageing and Financial Markets’ from 10 to 12 February 2021 as an online-only event with guests from all over the world. In addition to keynotes by leading experts in household finance and the analysis of social security systems, the event featured presentations on 14 selected papers. Michael Haliassos, professor at Goethe University Frankfurt and founding director of the CEPR Network on Household Finance, opened the event. His lecture provided insights into the importance of social interactions for the analysis of household finances. In her keynote, Professor Monika Bütler, University of St. Gallen, discussed the effects of economic and social crises on retirement systems and gave insight into her work for the ‘Swiss National COVID-19 Science Task Force’. Later on, researchers presented selected papers on the effect of demographic change on firms and banks, retirement planning, and the role of annuities and unexpected preretirement shocks.



Professor Michael Haliassos speaking at the online event

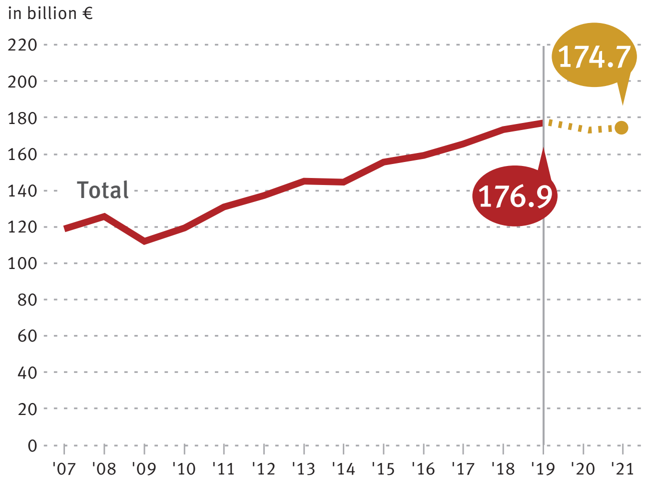
Volksbank Weinheim Stiftung and ZEW Award Science Prize

With the research award ‘Future of the Working World’, ZEW and the Volksbank Weinheim Stiftung honour outstanding dissertations and master’s theses that combine academic excellence with practical relevance in the field of economics.
This year, the prize has been awarded for the eighth time following the decision of a seven-member jury. The award for the best dissertation went to ZEW researcher Dr. Martin Lange. Ralf Landeck received the award for the best master’s thesis in economics. The award for the best master’s thesis is endowed with 2,000 euros, the one for the best dissertation with 3,000 euros. Lange’s dissertation entitled ‘Empirical Essays on the Nexus of Immigration, Crime, and Attitudes towards Immigration’ comprises three academic papers containing research results from projects in which he examined the German population’s attitudes towards immigration. He makes an important contribution to gaining knowledge in this field by analysing the German population’s approval or rejection of immigration and looking at the determinants to which this can be attributed. The awarded master’s thesis by Ralf Landeck analyses the potential of digital badges to recognise informally acquired competences among employees in low-skilled occupations. The opportunities and limitations of badges for the low-skilled were impressively presented in the thesis.

ZEW/Stifterverband Workshop on Germany’s Capacity to Innovate

On 28 January 2021, ZEW and the Stifterverband jointly organised an online workshop on the impact of the coronavirus crisis on the German innovation system. For around 200 representatives from businesses, research and policymaking the event provided an opportunity to engage in intensive exchange. The workshop was composed of three panels, which were co-moderated by ZEW economist Dr. Josefine Diekhof. While the first two panel sessions were dedicated to current findings on the impact of COVID-19 on the German innovation system from the perspective of science and corporate practice, renowned experts presented the long-term effects of the pandemic in the last panel. In the first session, the participants gave an overview of the recent developments in the various sectors of the economy, highlighting similarities with former economic crises. The second panel session focused on the role of corporate culture for the success of companies in times of crises. In the third panel session, four renowned experts from the field of innovation policy presented their conclusions regarding the long-term impact caused by the pandemic and proposed policy options for decision-makers in order to stimulate Germany’s capacity to innovate and prepare for future crises. The event was supported by the Federal Ministry of Education and Research as part of the project ‘Indicators for Innovation Systems’.

German Economy Remains on Course for Innovation



Source: Büchel et al., 2020

Innovation expenditure by German companies rose again in 2019, reaching an all-time high of 176.9 billion euros. More and more companies are showing perseverance when it comes to innovation. Compared to the previous year, the share of companies that are continuously active in research and development increased significantly by eight per cent in 2019. This shows that companies are investing in new technologies, products and processes for the long term. The target figures for 2020, which were submitted midyear, are still relatively stable in light of the pandemic. Despite COVID-19, companies in Germany estimate that there will only be a small decrease in innovation spending of 2.2 per cent in contrast to 2019. This is a moderate cut, considering that the decline in economic output in Germany is forecast to be more than five per cent. These are the key outcomes of the ZEW Innovation Survey 2020, which collects data on the innovation activities for the year under review, 2019, and provides an outlook for the years 2020 and 2021.

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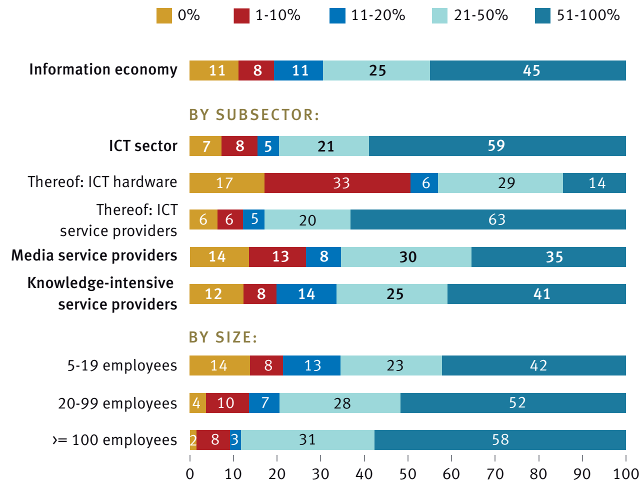
Many Jobs in the Information Economy Suited for Remote Work



Source: JLL, ZEW

According to a representative survey of around 850 companies in the German information economy, only about one in ten companies in the information economy does not see any possibility of their employees working from home. By contrast, 45 per cent of companies assume that more than half of their workforce could carry out their work tasks from home. In the ICT services sector, this share even amounts to 63 per cent. Among knowledge-intensive and media service providers this proportion is still 41 per cent and 35 per cent, respectively. On the other hand, the potential for working from home is significantly lower for companies in the ICT hardware sector, as the tasks of ICT hardware manufacturers are far less suitable for remote work. The potential for working from home shows a positive correlation with the size of the companies. The share of companies estimating that more than half of their workforce could work from home amounts to around 42 per cent for companies with 5 to 19 employees, while 58 per cent of the companies with at least 100 employees see an equally high potential for working from home.

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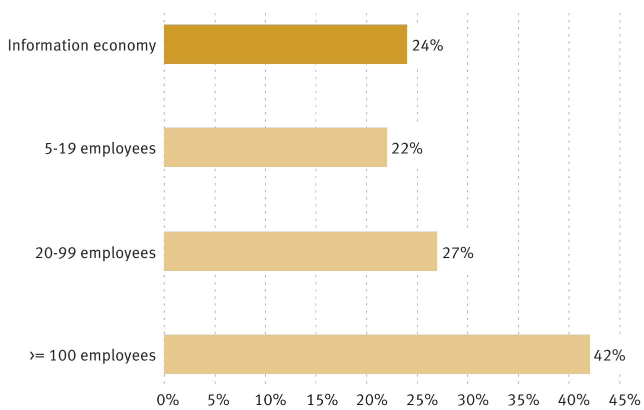
Companies See Increased Risk of Cyberattacks



Source: ZEW Business Survey in the Information Economy, 2020

The risk of becoming a victim of a cyberattack has increased in the past year, according to many companies. This is the result of a recent ZEW survey among more than 900 companies in the information economy. Almost one in four companies in the information economy says that this risk has increased since the beginning of 2020. Especially companies with at least 100 employees see themselves exposed to increased cyberthreats – possibly because of their higher profile. The rise in cyberthreats since the beginning of 2020 may have several reasons. Firstly, the general number of cyber criminals and/or cyberattacks may have increased. Secondly, companies may have become increasingly aware of potential gateways for cyberattacks and the higher vulnerability of their IT systems. Weaknesses in companies' cybersecurity are likely to have arisen not least because COVID-19-related adjustments often had to be implemented at short notice.

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'Going Viral': The Power of Exponential Growth

'Exponential growth' should have been the expression of the year 2020. In the mathematics courses of coming decades, the coronavirus is sure to serve as a prime example of exponential growth. Yet the virus is not the only factor in our lives that exhibits an exponential growth function.

The lockdown measures, which massively affect our daily lives, are ultimately founded on a fear of runaway growth in infection rates. Chancellor Merkel provided a vivid illustration of exponential growth in September 2020, when she observed that daily infection rates had doubled each month over the past three months, and that, were this rate of doubling to continue, "October, November and December would see a rise of infection rates from 2,400 to 4,800, 9,600 and 19,200 per day." And so it came to pass: Germany hit a daily infection rate of 20,000 by mid-November.

The coronavirus is just one example of an exponential growth function. The level of digitalisation we see today would not have been possible without an exponential increase in processing capacity. Indeed, the number of transistors on a computer chip has doubled approximately every two years since the 1970s – a trend known as Moore's law. Big data and artificial intelligence on a large scale would be unthinkable without this tremendous explosion in computing power, which is many millions of times greater today than it was in 1970.

Any quantity that has a rate of increase proportional to itself grows exponentially. The economy provides another demonstration of the power of exponential growth. China, for example, has registered annual GDP growth of ten per cent in recent decades. While China's GDP was 1/18 the size of Europe's in 1990, this ratio now stands at nearly 1/1. As a result, there has been a tectonic shift in economic power. The US would not be taking such powerful measures against China if the country were still at its 1990 level and therefore not a serious competitor.

Historically, there has been a tight correlation between economic growth and man-made climate-damaging emissions. The climate crisis is thus also a consequence of exponential growth. Carbon emissions have experienced growth at an annual rate of three per cent since 1950, doubling every 25 years. Over the past ten years, however, emissions growth has slowed to approximately one per cent per year. Yet as long as energy is mainly produced with coal, oil and gas, and more economic output is linked with more energy, the correlation between economic growth and emissions growth is inevitable.

There are three ways to deal with the negative consequences of exponential growth, whether human health or the health of the climate is at issue. The first option is to directly interrupt the growth process, whether by social distancing or slowing economic activity. The second option is to deny inputs for further growth, whether through immunisation, or by decoupling emissions from economic growth. The third option is to focus on reducing impacts, whether by treating virus patients, or by adapting to climate change.

The second option leads to the least welfare losses, provided it is technically feasible – that is, a vaccine or suitable renewable technologies must be available. The vaccine was developed at an impressive speed. Similarly, decoupling emissions from economic growth is also possible. Indeed, over the last 30 years, Europe has managed to increase GDP by 60 per cent while simultaneously reducing carbon emissions by more than 20 per cent. However, to accelerate this development and ensure it spreads worldwide, no single 'vaccine' is available – rather, we must deploy a range of green innovations. Further success in the battle against climate change will depend on additional cost declines in the price of renewables, the adoption of new production processes in industry and agriculture, and the development of inexpensive energy storage technologies, to ensure continued power grid reliability.

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ZEWnews English edition – published bimonthly
Publisher: ZEW – Leibniz Centre for European Economic Research
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