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January/February 2021

Research Findings

More Zombie Firms Due to COVID-19 Measures

Economic Policy Analysis

Effective Climate Policy Must Go Beyond Emissions Trading

Event

#ZEWBookTalk with Joshua Gans

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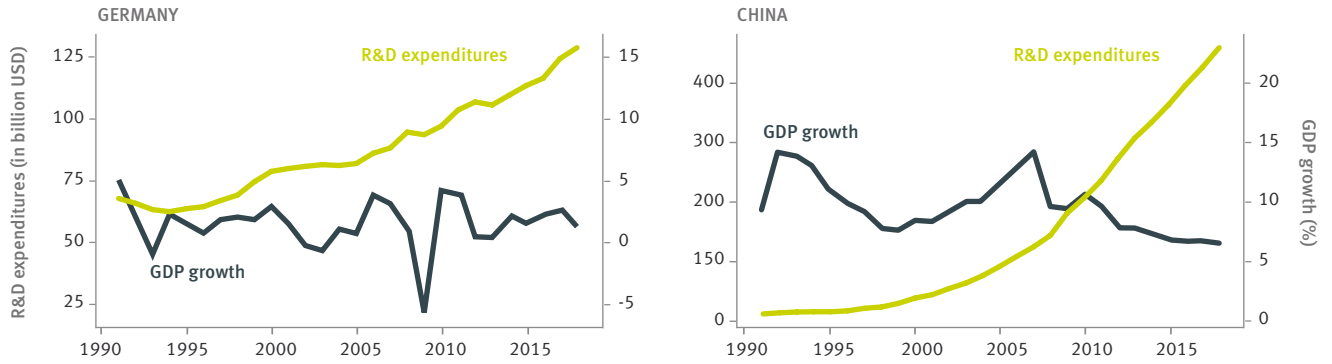
Decline in China's Research Productivity Harms Economic Growth

Expenditure on R&D has increased significantly in Germany and China in recent years. The resulting output growth is, however, lower than expected in both countries, indicating that research productivity in both economies is too weak. A recently published ZEW policy brief analysed how investment in R&D is related to research productivity in Germany and China.

A country's research productivity measures the efficiency with which R&D investments are translated into output growth through innovative products, processes and services. U.S. research has confirmed that a decline in research productivity at the global technology frontier is the key reason for sluggish growth. In order to determine how pronounced the phenomenon of declining research productivity is in Germany and China, the researchers used company data of both countries from the last three decades to compare company growth with R&D investment. If research productivity remains constant, firm growth and R&D spending should roughly develop proportionally. However, the research findings show that this has not been the case. In Germany, research productivity has fallen on average by 5.2 per cent per year over the past 30 years, while R&D spending has increased by about 3.3 per cent annually over the same period.

The study shows an even clearer discrepancy for China. Investments in research have increased by 21.9 per cent since 2001, while at the same time firms have recorded a 23.8 per cent decline in research productivity. In comparison to high-income countries such as the USA and Germany, China has undergone an even larger decrease in research productivity over

R&D INVESTMENT AND GDP GROWTH RATES IN GERMANY AND CHINA



Gross domestic spending on R&D measured in billion USD, constant prices using 2010 as a base year. Gross domestic product (volume, expenditures approach), annual growth rates measured in percentage. Source: OECD

the last two decades. Due to China's more dynamic economic development the authors caution against a simple extrapolation of growth rates into the future. The study stresses that China needs further growth as well as the willingness of policymakers to promote such growth and thus create the right incentives for increased research activities. However, an overly mission-driven innovation policy should be avoided. If political priorities are driven by national security rather than economic considerations, research productivity could continue to decline rapidly.

For the EU, the study results suggest that the mission-driven, sometimes unambitious research policy should be viewed critically. R&D needs to become a top priority in EU policy again. Achieving sustainable growth rates requires an innovation policy that takes a bottom-up approach. Fighting the trend of slowing growth and declining research productivity requires the EU to further internationalise its policy initiatives, invest more into education, and secure the availability of a sufficient level of public R&D support over the business cycle, the authors recommend. Otherwise technological progress and global competitiveness are likely to diminish in the not too distant future.

The ZEW policy brief is available to download at:
www.zew.de/PU82223-1

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Coronavirus Tax Assistance Too Unambitious

Germany's Second Coronavirus Tax Assistance Act is not ambitious enough to cushion the effects of the crisis. In the way the measures are currently designed, particularly small companies benefit little from the tax reliefs. Relative to the severity of the crisis, the measures are, overall, too soft and not innovative enough. These are the results of a study conducted by a team of researchers at ZEW Mannheim and the University of Mannheim.

With the Second Coronavirus Tax Assistance Act, legislators will achieve a fast, but rather modest boost. The measures fall short of what is necessary to address the severity of the crisis. The coronavirus crisis is hitting the German economy harder than the financial crisis did. It would therefore be appropriate to introduce more far-reaching measures.

The conducted analysis is twofold: On the one hand, the researchers investigate the impact of the Second Coronavirus Tax Assistance Act on the effective tax burden of German firms. On the other hand, the consequences of suspending the minimum taxation on profits is also examined. To this end, the researchers use the simulation model "European Tax Analyzer", which computes the corporate tax burden associated with tax measures for different crisis scenarios.

According to the researchers, the minimum taxation provision could cause problems in the coming years. This provision limits the deduction of losses incurred in previous years to 60 per cent of the revenues that exceed a specific threshold. Due to the absolute threshold, companies can be taxed on up to 40 per cent of their profits, even if they incur substantial losses. This limits companies in their ability to offset the losses suffered due to the current crisis and withdraws much-needed liquidity. The losses incurred in 2020 have the potential to exacerbate the negative effects of the crisis, which can only be mitigated by temporarily suspending the minimum taxation. This would not increase the burden on public budgets in a significant or permanent way. To prevent deadweight effects, the minimum taxation should continue to apply to losses incurred before the crisis.

The researchers conclude that policymakers could achieve a much greater boost if they were to implement additional measures. Since the tax liability is merely postponed as a result of these measures, they would not create any significant costs for the German budget due to the low-interest rate environment.

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Large Differences in Income and Employment of University Dropouts Across Europe

A high number of university students also leads to an increased number of dropouts. A study by ZEW Mannheim which compared data from 18 European countries finds that the income of persons in Europe who dropped out of university is on average eight per cent higher than that of employees who have never been enrolled in higher education; at the same time, it is 25 per cent lower than the income of people who left university with a degree. The latter also have significantly better employment opportunities than dropouts.

In some cases, the study has revealed some considerable differences between the various countries. In Ireland, Great Britain, the Netherlands, Slovenia, Slovakia and Poland, there are income differences of more than ten per cent. In these countries, dropouts earn significantly more than employees with an intermediate level of education. For most of the countries considered, however, no evidence of such wage differences have been found. In Europe, dropouts rarely earn more than employees who have completed vocational training or obtained a comparable school-leaving qualification. A cross-country comparison reveals further differences: while people with a university degree in Denmark earn about ten per cent more than dropouts, the figure is around 35 per cent in Cyprus, Germany and Poland. These large disparities between individual countries are likely to result from differences in labour market flexibility and the number of university graduates. In a country that has stricter employment protection laws and many university graduates, dropouts do not earn more than workers with vocational training or a comparable school-leaving qualification.

The ZEW study shows that the employees' gender and the sector in which they work also have an influence on income. The income gap between university graduates and dropouts is greater for female employees than for male ones. This is likely due to the higher share of part-time employment among women, the study finds. Moreover, dropouts are better paid in the private sector than in the public sector. This could be related to the fact that formal degrees are more important in the public sector, according to the researchers.

About the study: The ZEW study compares data on dropouts, university graduates and employees with vocational training or a comparable school-leaving qualification in 18 European countries. The sample comprises around 24,600 participants between the ages of 25 and 64 from the Programme for the International Assessment of Adult Competencies (PIAAC). Demographic characteristics, labour market status, earnings, experience, education and dropout were analysed for the study. In addition, country-specific characteristics regarding the education system and labour market regulations were taken into account to find possible explanations.

Dropouts do not have better employment opportunities in European labour markets

In Europe, dropouts are on average nine per cent less likely to be employed than people who have completed their studies. While evidence of this was not found for Italy, Greece and Belgium, the difference in employment opportunities was even more pronounced in Poland, Denmark and Germany, at more than 13 percentage points. Comparing dropouts and employees with completed vocational training or a comparable school-leaving qualification, it can be seen in most European countries that the former do not have better chances of finding employment.

The ZEW study suggests that university dropout is particularly problematic if a high dropout rate coincides with dropouts earning low incomes. This is the case, for example, in Italy and the Czech Republic. In these countries, policymakers should focus more on measures that increase the likelihood of successful completion of studies. Providing students with more intensive counselling or issuing a certificate of higher education qualification, as is done in Great Britain after only one year of attending university, could prevent dropouts.

The study is available to download at: *www.zew.de/PU82231-1*

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IN THIS ISSUE

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Living Lab Could Help Fix Flaws in Germany's Coronavirus Contact-Tracing App

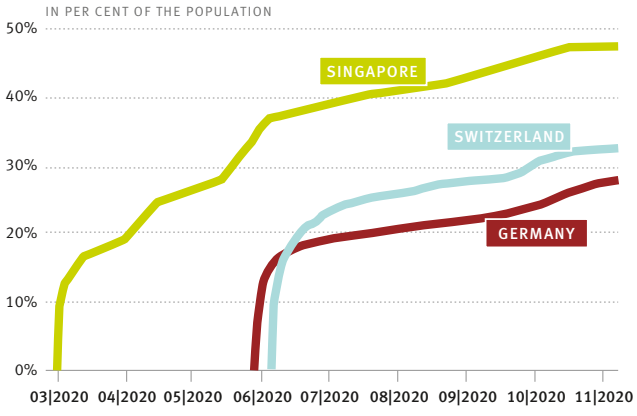
The German digital contact-tracing app "Corona-Warn-App" is designed to facilitate and speed up the tracking of SARS-CoV-2 infections. However, the app does not currently meet this objective. To have its full impact, the app needs to be more widely used and the user guidance needs to be much more geared towards effectiveness. In addition, the app would have to be continuously improved on the basis of a well-defined performance measurement.

Against this background, a recently published ZEW policy brief recommends setting up a living lab for the contact-tracing app. The lab should serve to systematically test the measures to promote the app's dissemination, optimise its use and measure its success in order to significantly improve the app.

Living lab offers realistic test environment

The authors recommend that within the framework of the living laboratory, the Robert Koch Institute (RKI) as the publisher of the app, participating service providers as well as health authorities and scientists from different disciplines should work closely together. The aim is to identify measures that effectively improve the app. However, since changes to the app can have very different effects depending on the user group and the development of the pandemic, they should be tested in actual living environments before their widespread implementation, something that would be possible in the living laboratory. Unfortunately, the contact-tracing app has not played a significant role in combating the pandemic so far. We need to change that. This requires enabling a clear measurement for success, according to which the app should be systematically tested and optimised.

NUMBER OF NEW INSTALLATIONS OF CONTACT-TRACING APPS



Source: Websites of the Robert Koch Institute, the Swiss Federal Statistical Office and TraceTogether

Living lab can help to improve the dissemination, user interface and risk assessment of the app

The catalogue of proposed measures for improving the dissemination of the contact-tracing app is long. The measure to subsidise the purchase of modern smartphones seems particularly worthy of testing. Furthermore, giving social recognition to the users of the application could also have a positive effect. The measure to facilitate access to public spaces for the app users seems promising as well. For example, guests at restaurants or cultural events could register with the app via a QR code provided by the organiser instead of writing their name on a guest list. This would also address data protection concerns regarding paper guest lists.

In order to improve the user interface of the contact-tracing app, the authors consider the greater use of defaults for responsible behaviour as well as an optimised provision of information on risk encounters as possible effective measures. Instead of having to actively share a positive test result in the app, this could also be done automatically, unless the respective user explicitly objects. However, adequate information about risk encounters can only be provided if the success of the app can be measured reliably and the risk assessment is being continuously improved. This could also be optimised with the help of the living laboratory.

For the establishment of the living lab, it is important to obtain a representative population sample of several tens of thousands of persons who would be contacted about participating in the lab. As part of the experiment, the coronavirus contact-tracing app should be expanded to include test functions that could only be activated for participants.

The ZEW policy brief is available to download (in German) at: *www.zew.de/PU82206-1*

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Number of Zombie Firms Expected to Grow Due to COVID-19 Measures

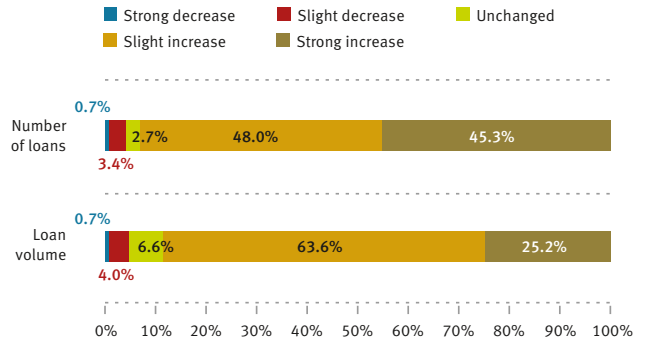
Thanks to the measures adopted to mitigate the economic effects of the coronavirus, the German economy has largely stabilised. Nevertheless, financial market experts expect the number of company insolvencies and credit defaults to rise in the first half of 2021. Moreover, they assume that the number of so-called zombie companies – i.e. firms that are insolvent but artificially kept alive by loans – is likely to grow. These are the results of a special question featured in the ZEW Financial Market Survey conducted by ZEW in December 2020 among 174 financial market experts.

The federal government has taken far-reaching measures to cushion the economic effects of the pandemic. As part of these measures, policymakers, for instance, suspended the obligation to file for insolvency, eased the conditions for short-time working grants and introduced several credit and aid programmes. While these steps have helped stabilise the German economy, they only postponed the damaging effects of the lockdown and other restrictions. The ZEW Financial Market Survey shows that a large majority of the surveyed experts expect the number of insolvencies to rise in the coming six months: 43 per cent of the respondents expect only a slight increase, whereas 55 per cent anticipate a strong increase.

Savings banks and cooperative banks also affected

Unlike the global economic crisis of 2007/2008, which originated in the financial sector and spread to the real economy, the COVID-19 crisis is foremost a global health crisis. Since combating the spread of the virus involves major economic cuts, there is a risk that the current crisis will spill over from the real economy into the banking sector. According to the financial market experts, loan defaults in the banking sector will increase: 48 per cent of respondents expect a slight and 45 per cent a strong increase in the number of loan defaults, while 64 per cent expect a slight and 25 per cent a strong increase in the volume of loans in default. The savings banks and cooperative banks are particularly affected by these defaults, according to 58 per cent and 56 per cent of the experts, respectively. Only 32 per cent of the respondents expect to see above-average defaults at large banks and merely nine per cent among private bankers. In view of increasing warnings about a possible upcoming banking crisis, the banks themselves emphasise that they have improved their capital base since the financial crisis and have taken sufficient precautions. Banking regulators consider the German financial system to be robust overall.

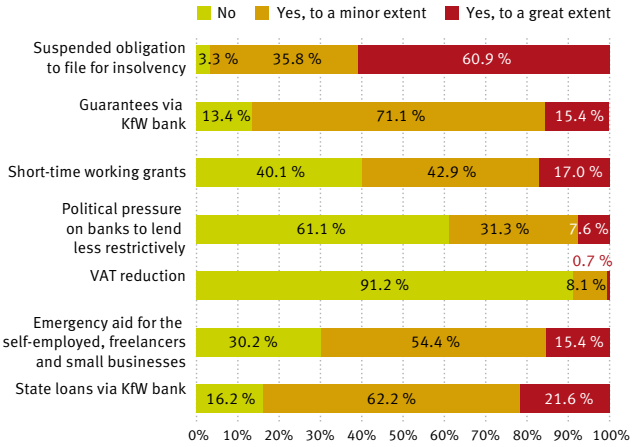
EXPECTED LOAN DEFAULTS ON A SIX-MONTH HORIZON



Responses as a percentage of the total number of responses

Source: ZEW

DO THE FOLLOWING MEASURES INCREASE THE NUMBER OF ZOMBIE FIRMS?



Figures as a percentage of the total number of responses

Source: ZEW

The coronavirus-related economic policy measures could also lead to so-called zombie companies, which are artificially kept alive by constant loans. About 58 per cent of the experts surveyed fear a small and about 39 per cent a large increase in zombie companies in Germany. The increase in zombie companies is mainly caused by the suspension of the obligation to file for insolvency: A total of 61 per cent of respondents believe this has a very strong effect. Other causes are state loans via the German development bank KfW (22 per cent) and short-time working grants (17 per cent). The reduction in VAT is attributed little influence. While it was right and necessary to introduce these measures quickly at the beginning of the crisis, it is now important to contain the repercussions on the banking sector and the emergence of zombie enterprises as much as possible. There are a number of ways to do this, such as providing companies with equity capital instead of debt capital or through banking supervision.

The ZEW Financial Market Report can be downloaded (in German) at: *www.zew.de/fileadmin/FTP/frep/012021.pdf*

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Potential of Digital Technologies for Greater Energy Efficiency Remains Untapped

Businesses have so far been rather hesitant to introduce digital technologies that reduce energy consumption, although there are many ways to apply these technologies. Only one third of companies in the manufacturing sector and around 20 per cent of companies in the information economy cited energy savings as a reason for implementing digitalisation measures.

These are some of the findings of a study on digitalisation and energy efficiency, which was conducted by ZEW Mannheim together with IW Consult and the Institute for Industrial Management FIR at RWTH Aachen University. According to the study, especially small and medium-sized enterprises tend to lag behind when it comes to energy efficiency and digitalisation. Both the overall dissemination of measures to optimise energy consumption and the use of digital technologies can help boost energy efficiency. However, these measures are less common in small and medium-sized enterprises than in large corporations. In the information economy, for instance, 49 per cent of large enterprises (100 or more employees) have implemented measures targeted at improving their energy balance in the past three years. In medium-sized enterprises (20–99 workers) this share was 31 per cent, and in small companies (<20 employees) only 21 per cent. In the manufacturing sector, 85 per cent of large companies, 58 per cent of medium-sized and 42 per cent of small enterprises stated to have adopted measures to improve their energy balance.

The fact that measures to improve energy efficiency generally pay off can be illustrated by taking a closer look at the energy consumption of businesses: Around one third of companies that implemented targeted measures to increase energy efficiency saw a fall in total energy consumption. For companies without targeted measures, this share was only 14 per cent in the information economy and ten per cent in the manufacturing industry.

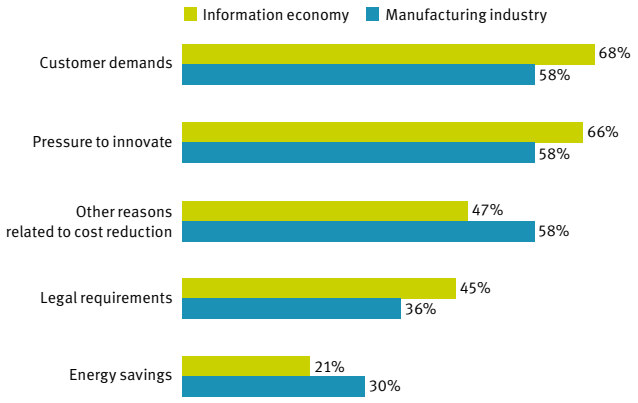
Digitalisation requires energy

While digitalisation can help improve energy efficiency, its implementation itself also consumes energy. Businesses should take this into account when planning digitalisation measures.

About the study: The study is part of a comprehensive research project on digitalisation, which has been undertaken on behalf of the German Federal Ministry for Economic Affairs and Energy with an initial duration of three years. The project, which is entitled 'Measuring the degree of digitalisation in the German industry' is conducted by a consortium formed by ZEW Mannheim (consortium leader), the Cologne-based German Economic Institute (IW), IW Consult, the Institute for Industrial Management FIR at RWTH Aachen University, and the German Institute for Economic Research (DIW).

The results of the survey show that there is still considerable room for improvement when it comes to employing information technologies in an energy-efficient way. In the past three years, 59 per cent of companies in the information economy and 53 per cent of businesses in the manufacturing industry have invested in energy-efficient hardware. Another measure to increase energy efficiency in the area of information technologies is the use of cloud technologies. Cloud computing centres are usually equipped with the latest hardware technologies, and they benefit from economies of scale. In the information economy, 30 per cent of companies have used their own company servers and 41 per cent external servers for cloud technologies in the past three years. With shares amounting to 27 and 29 per cent, respectively, the proportion of companies using cloud computing is slightly lower in the manufacturing industry. However, measures to improve the energy efficiency of in-house data centres and server rooms were taken less frequently in both sectors, with 24 per cent of companies in the information economy and 20 per cent in manufacturing industry.

REASONS FOR DIGITALISATION PROJECTS IMPLEMENTED IN THE PAST THREE YEARS



Share of companies in per cent. Respondents were allowed to select multiple answers.
Source: ZEW Business Survey in the Information Economy conducted in the second quarter of 2020

In addition to the survey results, the study also contains an overview of the current state of research as well as examples from practice. Both research and practice show that there is a need to catch up in terms of availability and processing of energy data in order to exploit the potential of digital technologies for increasing energy efficiency.

The study is available to download (in German only) at:
www.de.digital/DIGITAL/Navigation/DE/Lagebild/Schwerpunktstudie/schwerpunktstudie.html

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Photo: © iStockphoto.com/acilo

To Be Effective, Climate Policy Must Go Beyond Emissions Trading

When it comes to decarbonisation policy, emissions trading enjoys great prominence. Economists and the public at large see it as a cost-efficient and reliable instrument. But overemphasis on emissions trading can, under certain circumstance, inhibit climate change mitigation. A new ZEW study identifies the implicit assumptions and attendant pitfalls that pervade an understanding of emissions trading as a panacea for all ills. It also recommends possible policy tools for increasing climate effectiveness.

With arctic ice dwindling at an ever-faster rate, the calls for resolute policy action have grown louder and louder. But more conservative voices try to deflect these demands by pointing out the coverage of the European Emissions Trading System (EU-ETS). As the EU-ETS limits the emissions to a fixed amount, additional measures to avoid CO_2 would merely shift emissions from one industry to another, and would thus be unnecessary or even counterproductive. Accordingly, it is advisable to only focus on emissions trading.

Fossil path dependencies limit the political feasibility of ambitious measures

As market-based instruments promise to meet political climate targets in a cost-effective manner, they often figure prominently in environmental economic policy recommendations. Indeed, the EU-ETS, the world's first emissions trading system, was launched by the EU in 2004 at the urging of economists. Since then, economists have also recommended that the EU-ETS be extended to include the road transport and heating sectors. Yet the normative assumptions that underlie this proposal require closer examination.

First, current greenhouse gas emissions are the result of a fossil infrastructure built over two centuries and closely linked to institutions and human behaviour. The development has produced numerous path dependencies in the form of infrastructure and technology that lock in high emissions levels. Emissions trading addresses these path dependencies only indirectly. For example, the necessary redesign of the infrastructure solely through emissions trading does not seem likely because of long life cycles, high investment costs and complex regulations, among other things. If fossil path dependencies are not explicitly reduced, however, they will continue to limit emission-free technologies and the political feasibility of ambitious measures in the future.

Social justice should be considered an important goal in the implementation of climate policy instruments

Second, under the EU-ETS, the emissions with the highest avoidance costs ought to remain. No differentiation between activities that generate the emissions are made. The system thus fails to consider that CO_2 sources differ greatly in their contribution to human well-being. While some emissions, such as those released by food production, arise from basic needs, other emissions come from less essential activities. Overlooking qualitative differences between emission sources is ethically questionable, but may also have regressive effects when prices for essential goods increase. If less relevant sectors are not dismantled independently of emissions trading, the risk of societal resistance to climate policy measures will increase as well.

Third, the focus on emissions trading implies that the cost-efficient reduction of emissions is the ultimate goal of climate policy action. Yet, ecological crises are closely tied to social inequality. Social justice thus needs to be considered a first-order policy goal when selecting and designing climate policy instruments. Lastly, recommending emissions trading neglects the fact that transitioning to a carbon-free economy will create and intensify conflicts. Policy-advising economists should factor in those potentials for conflict from the outset.

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A longer version of this article was published at the German economic policy website Makronom on 14 December 2020.

Q&A: Where Can Market Design Be Applied?

"You Take the Knowledge Gained from Science and Carry It into Practice"

Markets do not come out of thin air, they are created by humans to achieve certain aims. How well a market is equipped to achieve these aims depends largely on the rules that apply there. Market design is dedicated to analysing and optimising markets by designing these rules. In this interview, ZEW economist Professor Vitali Gretschko talks about different areas where market design can be applied.

What's market design about?

We look at markets and think of the rules and framework conditions that lead to these markets functioning particularly well. Market designers do not prove general theorems that apply in all markets, but instead look at a specific market and define the optimal rules for it. They then test these rules and sometimes help implement them. This means that, as a market designer, you make a specific statement about how this market can be improved. This involves, in particular, also looking at the fine details of the market. You take the knowledge gained from science and carry it into practice. At the same time, you don't shy away from actively reaching out to practitioners to work closely with them and learn from them.

How can market design help tackle the coronavirus crisis?

At the beginning of the COVID-19 crisis, there was a shortage of medical supplies because the stockpiles were not prepared for crisis mode. Hospitals suddenly could no longer meet their demand. So how can market design help?

Market designers Axel Ockenfels, Peter Cramton and Robert Wilson have come up with a proposal to deal with this problem. Their idea is to establish a centralised clearing house that collects data on which hospitals have which medical goods available at a given time. The clearing house could potentially also purchase medical goods from manufacturers. The question then is: How are the purchased goods distributed among the hospitals based on the information from the clearing house?

First, it is necessary to find out where the goods are most needed. For example, assuming there is an outbreak in Hamburg and at the same time no outbreak in Munich, it would make sense to transfer medical goods from Munich to Hamburg. The proposed solution is to set up a fictitious market and develop a medical currency, of which each hospital would receive a basic amount. With this medical currency, the hospitals could then buy goods via the central clearing house. For example, the hospital in Hamburg could purchase ventilators from Munich.

Where else can market design be applied in practice?

Another example is the allocation of nursery school places. At first glance, you might wonder: is this a market at all? Nursery school places are a scarce commodity with two sides that we bring together: on the one hand, the providers of the nursery schools and on the other hand, the parents. These places should be allocated as efficiently as possible and take into account the preferred choices of parents. So it can definitely be seen as a market, even if there is no price in the narrower sense.

We are working with some districts and youth welfare offices to determine rules for a centralised allocation. For this, parents hand in a list of preferences. The providers and the public nursery schools have a priority list with criteria according to which children get priority at a certain nursery school. With these lists, an algorithm for allocation is developed. This type of allocation is stable, which means that there is no possibility to improve this allocation so that both sides of the market are satisfied. The second feature of the allocation is that it is strategy-proof. There is no incentive for parents to strategically fill in the preference list. The algorithm always results in the best possible nursery place being obtained if the preferences are truthfully stated.

Auctions make up another large part of market design. How do they differ from the examples above?

Most of the above examples are markets that are not coordinated by prices. However, a price formation process is an essential part of most markets relevant to our economy. The mechanism underlying this price formation basically can be considered an auction. A good example is frequency auctions. We have a supply side – the different spectrums – and a demand side – the mobile operators – that need to be matched. The big question for the state is how to decide who gets what spectrum. This is where market design comes into play. We have to think about what rules should be used to allocate these frequencies in order to achieve the maximum benefit. The challenge here is to design the rules in such a way that a well-functioning telecommunications market is created in the end.


Photo: ZEW

Prof. Dr. Vitali Gretschko

is head of the ZEW Research Unit "Market Design", professor of market design at the University of Mannheim, and a member of the Research Unit "Design and Behavior" at the German Research Foundation (DFG). His research interests extend across the field of market design, although he is particularly interested in mechanism design, applied auction theory and contract theory. He also has ample experience in the practical application of market design and in providing market participants with strategic advice.

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#ZEWBookTalk with Joshua Gans

SARS-CoV-2 is responsible for the current recession in the global economy. However, there is an information problem underlying the coronavirus pandemic, according to Professor Joshua Gans from the University of Toronto. He presented this insight along with his book "The Pandemic Information Gap: The Brutal Economics of COVID-19" at the second #ZEWBookTalk on 17 December 2020. In his book, he explains the economic choices that have been made in response to the pandemic and what their motives are. ZEW President Professor Achim Wambach moderated the subsequent discussion with the speaker.

"Pandemics in themselves are controllable," Gans explained. The coronavirus pandemic, however, is fuelled by a lack of information. Most infection chains are untraceable and therefore difficult to interrupt. "If we could isolate all infected people immediately, there would be no pandemic. So the COVID-19 crisis is essentially an information problem," Gans said. Since infection chains are not sufficiently traceable, all people must be considered potentially infected. One consequence is to impose lockdowns worldwide, which comes at a high economic cost, according to the university professor. A good information system is therefore needed to detect infections. According to Gans, it is difficult to identify people infected with COVID-19 because there are often no visible symptoms. "So we need an alternative method to clearly identify these infections. This is the fundamental information problem in the coronavirus pandemic: who is infected? How can we reach and isolate those who are infected to prevent further spread of the virus?," the micro-economist asked.

Waiting for herd immunity to develop at some point or for a vaccine to become available is not the solution to avoid high death rates, Gans said. Both things simply take too long. His alternative approach is to test, track and isolate. "This approach helped, for example, in dealing with the SARS crisis of 2002-2003, aided by the fact that the disease produced clear symptoms and those infected were quickly isolated. Affected countries like South Korea and Taiwan thus had enough information at hand to be able to fight the virus properly after only a few months," said Gans. The countries drew lessons from this and applied their experience during the COVID-19 crisis. With success: South Korea and Taiwan were able to keep their infection figures low.

The testing economy

Gans' talk also focused on what he calls 'testing economy'. This is about people being repeatedly tested over a longer period of time, for example through rapid tests. "Quick and cheap tests have a reputation for being inaccurate. But rapid tests give you exactly the information you need. Namely, they quickly reveal who is infected. However, people are not focused on the information problem, but rather on the diagnosis of these rapid tests," Gans argued. As a result, he said, the tests are often not considered useful. Yet this is precisely the big problem, because it perpetuates the information problem, the economist explained, adding, "Knowing about an infection quickly is more important than having a very accurate test result many days later. In addition, possible errors could be counteracted by an appropriate frequency of tests."

Economist Joshua Gans discussing the fundamental information problem in the coronavirus pandemic with ZEW President Achim Wambach Photo: ZEW

According to Joshua Gans, there are various ways to solve the information problem. One possibility is to test the entire population. Slovakia, for example, did this and the number of infections fell sharply as a result. "But a one-time test of the population is not enough to solve the information problem. The infection figures must be counteracted continuously. Since this was neglected, the infection figures in Slovakia have risen again," said Gans. Another measure would be to rely on contact tracing like it is done in Japan. If we solve the information problem by such measures, the coronavirus pandemic could be controlled and thus economic life could be maintained, Gans summarised the message of his book.

Can we solve the information problem using an app?

Following the lecture, ZEW President Achim Wambach discussed central theses of the book with Joshua Gans. "In Germany, a contact-tracing app is used to track down chains of infection. However, many people do not use it, for example because of data protection concerns. Why is that so?," Achim Wambach wanted to know. Tracing infected people, said Gans, comes with great difficulties. A voluntary app in particular does not seem to be very effective. This is not only due to data protection concerns, but also to the way such apps work. Here, too, the information problem becomes visible. "Many apps do not identify contact networks in advance. If you knew someone was infected, you could immediately distance yourself," Gans explained. Other topics of discussion included the second wave of infection, the influence of newly-elected US President Biden on the incidence of infection in the United States, the development and distribution of the coronavirus vaccine and the vaccination order for at-risk groups in the population. Around 100 viewers followed the second #ZEWBookTalk via a live stream.

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ZEW/EconPol Special Policy Session on COVID-19 and the EU's Fiscal Architecture

Academics and policymakers met virtually to discuss how the European Union's fiscal architecture might be adjusted in the light of the coronavirus pandemic during a lunchtime seminar on 3 December 2020. The seminar was organised jointly by ZEW and the international research network EconPol Europe, moderated by ZEW economist Dr. Zareh Asatryan of the "Corporate Taxation and Public Finance" Department. Around 120 participants from all over Europe joined the special policy session of the ZEW seminar series. The event kicked off with Roel Beetsma, professor at the Amsterdam School of Economics, and Xavier Debrun, PhD, advisor at the National Bank of Belgium, both members of the European Fiscal Board (EFB), presenting the findings of the EFB Annual Report. It suggests that even before the COVID-19 shock, the EU fiscal framework had already fallen short of its aims. While the shock has further exposed the weaknesses of the framework, it has also provided a window of opportunity for reform while the escape clauses are active. The presentation of the EFB report was followed by discussions delivered by Agnès Bénassy-Quéré, professor at the Paris School of Economics, and Thomas Westphal, director general for European policy at the German Ministry of Finance. The panel was unanimous in concluding that reforms as well as fiscal rules and their effective implementation in the monetary union would be more important than ever after the COVID-19 crisis.

Photo: © ZEW

ZEW Sponsors' Association Awards Science Prizes Again

The awards of the ZEW Sponsors' Association for Science and Practice are an integral part of the academic year at the institute and honour outstanding scientific performances and economic policy advising projects. The prizes each come with an endowment of 5,000 euros. The prize for the best scientific performance at ZEW in the period 2019/2020 went to Professor Sebastian Siegloch, head of the ZEW Research Department "Social Policy and Redistribution", and his co-authors Junior Professor Andreas Lichter and Assistant Professor Max Löffler. In their study entitled "The Long-Term Costs of Government Surveillance: Insights from Stasi Spying in East Germany", the researchers show how the surveillance activities of the Stasi, the state security service of the German Democratic Republic, have had a long-term negative effect on the interpersonal trust, cooperative behaviour and political engagement of those affected. The study "Text Data Based Output Indicators as Base of a New Innovation Metric" was awarded the prize for the best economic policy advising project. Under the project leadership of Dr. Georg Licht and Professor Irene Bertschek, the research team consisting of Janna Axenbeck, Patrick Breithaupt, Dr. Jan Kinne and Dr. Christian Rammer developed a procedure that expands conventional firm-level data sets to include web-based data. This allows companies to stay ahead of their competitors and react quickly to market changes. The project also formed the basis for the founding of ISTARI, the first spin-off company associated with ZEW Mannheim.

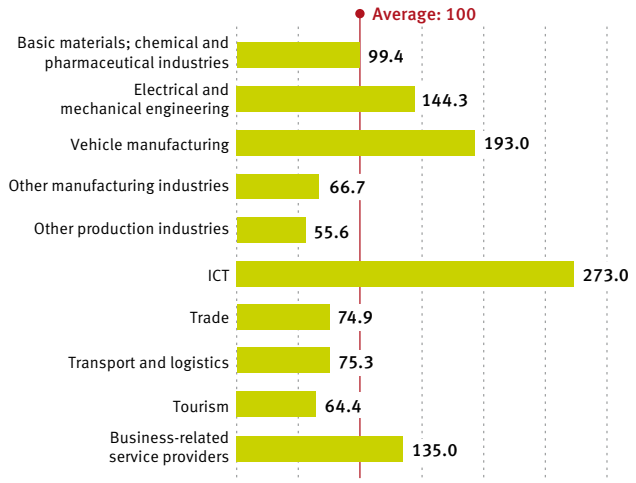
#ZEWlive Event on the Topic "China – Partner or Competitor?"

The Chinese economy is not only an important partner for the EU, but also a competitor due to its great economic weight. After seven years of negotiations, the EU and China have just reached an agreement on investment. ZEW President Professor Achim Wambach and Dr. Philipp Steinberg, head of economic policy at the German Federal Ministry for Economic Affairs and Energy (BMWi), discussed this agreement at a #ZEWlive event on Wednesday, 13 January 2021. Both discussants were in favour of cooperation with China, but also pointed to compliance with the established rules. "The agreement aims to create a level playing field for EU investors by setting clear rules regarding state-owned Chinese companies, transparency of subsidies and other competition-distorting practices, said Philipp Steinberg. For Achim Wambach, the agreement came at the right time: "This agreement was born out of a common interest and we must now move forward on that basis, piece by piece."

Photo: ZEW

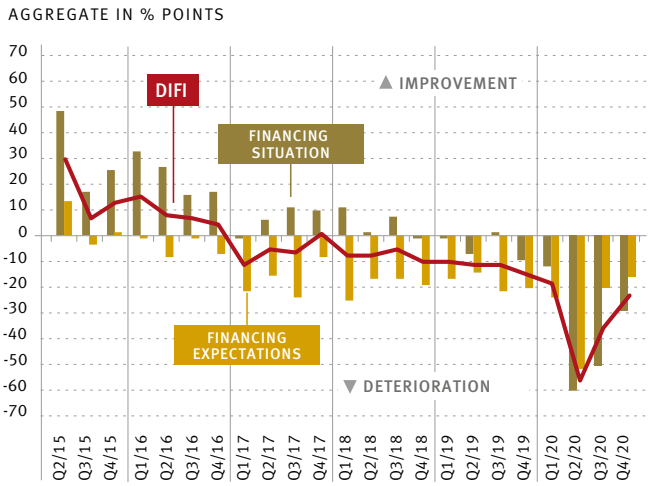
ZEW President Achim Wambach with moderator Jessica Sturmberg during the event

New Digitalisation Index: Major Differences in Degree of Digitalisation



Source: Büchel et al., 2020

Upward Trend in Commercial Real Estate Financing Continues



Source: JLL, ZEW

There are significant differences in the degree of digitalisation in the German economy. This becomes clearly apparent when looking at the different economic sectors, company sizes, groups of federal states as well as types of region. Compared to the rest of the economy, the ICT sector leads the way when it comes to digitalisation – and by a wide margin: With a total of 273.0 index points, the ICT sector is far above the standardised industry average of 100 points. The sector 'other production industries' (55.6 index points) shows the worst performance in terms of digitalisation, followed by the tourism industry (64.4 index points) and other manufacturing industries (66.7 index points). These are some of the findings of a new digitalisation index published annually by a research consortium led by ZEW Mannheim. The index is based on a new concept that allows to comprehensively measure the different dimensions of the degree of digitalisation in the German industry over time.

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The German Real Estate Financing Index (DIFI) of ZEW Mannheim and consulting company JLL, based on a quarterly survey on the commercial real estate financing market in Germany, continued to improve in the fourth quarter of 2020. The sentiment indicator climbed 12.5 points to minus 23.5 points, thus almost returning to the level of the first quarter of 2020 (minus 18.5 points). In particular, the assessment of the financing situation of the past six months has resulted in the index almost reaching pre-pandemic levels. The experts are also cautiously optimistic in their assessment of the financing expectations for the next six months. The sectors of housing and logistics, which were also seen as very relevant during the crisis, are rated particularly positively both for the present and future, while the assessment of the financing situation is even better than before the pandemic. The logistics asset class has reached its highest level since the beginning of 2016, as the survey results reveal.

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19th ICT Conference

ZEW is pleased to announce its 19th Conference on the Economics of Information and Communication Technologies (ICT), scheduled to take place on 10 and 11 June 2021. Its objective is to discuss recent scientific contributions to the economics of ICT and ICT industries. Theoretical, empirical and policy-oriented contributions are welcome. There will be invited and contributed sessions as well as sessions particularly for PhD students. If you are interested in participating in the conference, please submit your full paper to ict-conference@zew.de no later than 1 March 2021. More information: *www.zew.de/VA3252-1*

#ZEWBookTalk with Gabriel Zucman

ZEW is delighted to welcome Berkeley-based French economist Gabriel Zucman to the #ZEWBookTalk series on 10 March 2021. At the event, which will be available via live stream, he will present his latest book "The Triumph of Injustice: How the Rich Dodge Taxes and How to Make Them Pay" written in collaboration with Emmanuel Saez. Zucman will explain how the US turned away from the most progressive tax system in history to embrace policies that only serve to compound the wealth of a few. The presentation will be followed by a discussion with ZEW President Achim Wambach. More information: *www.zew.de/VA3411-1*

The European Union Must Find Its Own Position

Germany ended its EU Council presidency by launching fireworks one day earlier than expected: on 30 December, the EU and China agreed to the terms of a Comprehensive Agreement on Investment (CAI), thus concluding seven years of negotiations. However, further steps that involve the US are necessary.

"Politics is the art of the possible": The EU–China deal, as a feat of diplomatic artistry, is redolent of this famous adage from Otto von Bismarck. As the EU country that benefits the most from international trade with China, Germany under Merkel – entering her last year of office – took the initiative to strengthen European partnership with China, thus putting to good use the division and distraction prevailing in the US in the twilight days of Trump's presidency. While the EU Council and Parliament still have to ratify the agreement, it could become an important building block for closer trade relations between Europe and China – two economic areas which have come under severe pressure in recent years.

In a widely discussed policy paper, the Federation of German Industries (BDI) called in 2019 for additional policy measures to help German companies remain competitive in the face of "systemic competition" from China. Many of the reforms advocated in the paper were integrated into the investment agreement, including the rolling back of restrictions to direct investment and foreign ownership, and the loosening of requirements to enter into joint ventures with Chinese companies. Further measures foreseen by the agreement will ease the ability of European companies to operate in certain areas of the Chinese economy, such as the financial sector and health care.

Yet beyond the challenges posed by barriers to market access, European companies are particularly hard pressed to compete with their Chinese counterparts when the latter are state owned or subsidised, given the extensive state aid restrictions on EU firms. To ensure a level playing field domestically, the EU already applies duties to imported goods that benefit from state subsidies. Furthermore, in a new white paper, EU regulators have recommended improving the mechanisms for monitoring the subsidies that flow from third countries to firms that operate in the single market. Considering EU authorities often have difficulty obtaining information from third countries, it can be helpful that the investment agreement also provides for transparency obligations for subsidies in the services sector.

To be sure, the interests of Europe – and especially Germany – diverge from that of the US when it comes to relations with China. Balance-of-trade statistics offer a case in point: While the absolute volume of US–China trade is comparable to that of EU–China trade, the value of Chinese exports to the US are four times that of US exports to China. By contrast, the imbalance between China and the EU is much smaller, at 1.75:1. Accordingly, Europe has not seen a mass displacement of jobs to China, as has occurred in the United States, a phenomenon that is frequently referred to in the US as "the China shock."

In its economic relations with China, the EU thus has its own unique interests, and must pursue them accordingly. However, the EU–China Comprehensive Agreement on Investment must be viewed as just one element of a much broader multilateral relationship that encompasses the world's three largest economies. The issues in need of attention – from environmental protection and human rights to labour standards, fair trade, and security issues – are numerous. Biden's election as US president would appear to offer a special opportunity for stronger joint action, given his avowed commitment to multilateralism. Here, as well, there is a pressing need to embrace the art of the possible.

President of ZEW, Prof. Achim Wambach, PhD

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