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Q&A

## How Wide Is the Gender Pay Gap?

Economic Policy Analysis

## Towards a Smart Health Care System

Research Findings

## Sanctions on Russia Expected to Cause Significant Damage

## 100-Billion-Euro Armed Forces Fund Marks End of Germany's Free-Riding

The Ukraine war marks an important turning point for Berlin – and for German defence policy. Chancellor Olaf Scholz wants to invest billions to modernise the Bundeswehr. However, the decision to finance the armed forces through a special fund – bypassing the budget – is questionable.

Donald Trump has made many unjustified allegations against European countries during his time in office. But one of his accusations was actually justified: Germany has long been a free rider under NATO protection. While the US spends almost four per cent of its considerable GDP on defence, German defence spending has stagnated at around 1.4 per cent. In 2014, NATO members whose contribution is below two per cent pledged to move towards this goal within a decade.

Russia's invasion of Ukraine has demonstrated the consequences that an insufficient deterrence capability can have. As a result, the German government has initiated an immediate change of course and announced plans to modernise the Bundeswehr and to fulfil its NATO obligations. A debt-financed special fund worth 100 billion euros is to be set up to provide the military with much needed funds in the coming years. Let's take a closer look at this approach.

Germany immediately signalling its intention to make substantial contributions to NATO's defence capability is a crucial factor in strategic negotiations with Russia. Provided that Russia's actions are still guided by rational calculations, possible Russian aggression plans against the Baltic NATO states will become less likely in the future thanks to a more powerful NATO.

The additional funds thus serve the common goal of securing peace in Europe.

The proposed special fund of 100 billion euros is an appropriate amount for a period of about four years to increase German defence spending to two per cent. To reach the NATO target, an additional 20 to 25 billion euros per year are currently needed. A higher sum would be of little use at the moment, since the procurement of complex weapons systems is a lengthy process that takes years anyway.

The decision to avoid funding from public budgets altogether should be viewed critically. As with climate policy spending, the federal government has once again found a politically tempting solution by creatively bypassing the debt brake. Even if a special amendment is made to the Basic Law for this purpose, this approach reduces budget transparency and is even less justifiable for defence spending than it was for climate spending. The

benefits of climate spending will unfold over decades, while defence spending increases security immediately in the present. So there are no convincing arguments for shifting the burden of financing an effective military to future generations.

Another problem of the new defence funding is the still too narrow focus on the national perspective. The defence policies of the EU Member States are still highly fragmented and thus unnecessarily costly. The multitude of different weapon systems and unnecessary parallel structures cause enormous costs without bringing any additional benefit that would increase operational capability.

Instead, the German government should contribute some of the additional funds to the EU's public budget in order to build up a joint European army. This would not only reduce costs, but also prevent countries from becoming free riders again.

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# Sanctions Against Russia Expected to Cause Significant Economic Damage

In response to Russia's invasion of Ukraine, the EU and Germany have imposed comprehensive sanction measures. The sanctions are designed to put pressure on the Russian economy and thus dissuade Putin from continuing the war. According to a survey of financial market experts conducted by ZEW in March 2022, the enacted measures are likely to have severe impacts on the Russian economy, while only having limited negative repercussions for the economy of the eurozone.

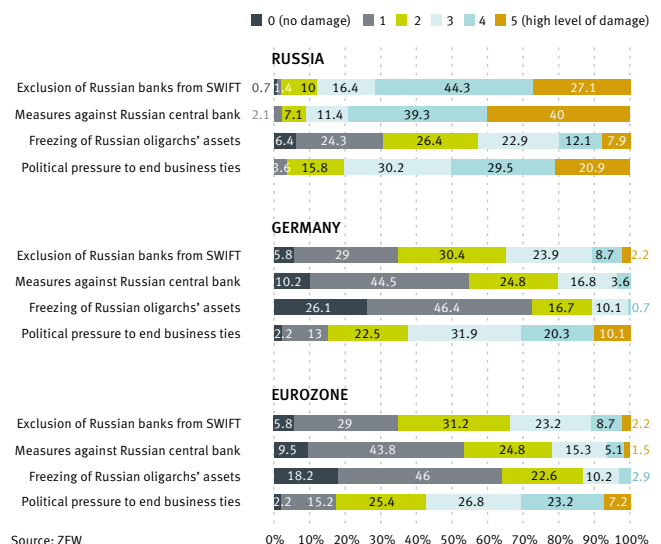
The surveyed financial market experts see considerable consequences for Russia due to the sanctions, and they attribute the greatest impact to the measures taken against the Russian central bank. Amongst the survey participants, 91 per cent expect the Russian economy to suffer economic harm from this measure. The exclusion of Russian banks from SWIFT as well as the political pressure on Western companies to end their business relations with Russian firms will also damage the Russian economy, according to 88 per cent and 81 per cent of the participants, respectively. By contrast, the freezing of Russian oligarchs' foreign assets is not seen as particularly effective.

A concurrent aim of the sanctions policy is to avoid causing excessive harm to the European economy. In the view of the experts, this aim has also been fulfilled, as they expect only limited feedback effects on Germany and the eurozone. Probably the most damaging measure for the German economy will be the political pressure on Western companies to break off their business relations with Russian firms. Although 62 per cent of the survey participants fear damage to the domestic economy from this measure, the effects of the other three measures on the German economy are expected to be low.

The anticipated impacts in the eurozone as a whole are very similar to the anticipated impacts in Germany. Overall, the survey participants expect the primary effect of the sanctions in the eurozone to be a rise in inflation. The impact on gross domestic product, on the other hand, is estimated to be negative but moderate. The financial market experts do not expect the ECB to adjust its planned monetary policy in response.

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## ANTICIPATED ECONOMIC IMPACTS OF SANCTIONS ON RUSSIA, GERMANY AND THE EUROZONE



# Refugees Coming from Ukraine Need Quick Psychological Help in Their Language

Millions of people have fled from war and violence in Ukraine, especially women and children. They have experienced terrible things in the war and while fleeing, which is why they need not only medical but also psychological help after their arrival in Germany. ZEW researchers have provided a comprehensive overview based on Google Maps to enable the best possible access to psychological care.

The exact number of refugees coming to Germany from Ukraine and the number of those who need psychological care due to traumatic experiences is still uncertain. However, international and German studies on the frequency of health issues among refugees show that the need for psychological care after fleeing is rarely less than 30 per cent. Experiences with refugees in the last decades have shown that the need for health services is very

high, especially in the first year after arrival. It is therefore necessary to act and provide swift treatment now. Currently, physicians and policymakers negotiate how to organise and finance health services on federal and state level.

A key issue for psychological support is the language barrier: While interpreters can facilitate communication in the treatment of physical illnesses, for example, it is a challenge to establish a relationship of trust with psychotherapists in this way. 16 out of 17 associations of statutory health insurance physicians (all except Thuringia) provide information on the language skills of physicians and psychologists. However, since this information is difficult to obtain, the ZEW economists created an easily accessible and simplified map containing all psychotherapists who speak Ukrainian or Russian.

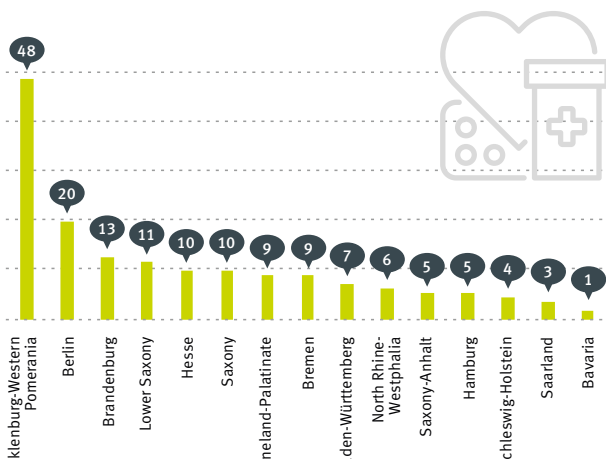
## Allocating refugees across Germany increases their chance of receiving the best possible treatment

In addition to the direct benefit for the refugees, the map provides an overview of the regional distribution of the indicated language skills. A total of 659 psychotherapeutic practices offering treatment in Ukrainian and Russian are listed in the registers of the associations. Russian or Ukrainian language skills are most common in Mecklenburg-Western Pomerania with 48 practices per one million inhabitants, and least common in Bavaria with only one practice per one million inhabitants. Among many other reasons, the supply of psychotherapists also suggests allocating refugees from Ukraine throughout Germany. A better distribution will not be able to overcome the already existing shortage of therapy places, but it would increase the chance of receiving the best possible treatment.

The map can be accessed at: [https://www.google.com/maps/d/viewer?mid=1rskrjh\\_rV8h3ESh8YFh9HFMvQGd2a-N8&ll=49.474252058485405%2C8.84674886564881&z=11](https://www.google.com/maps/d/viewer?mid=1rskrjh_rV8h3ESh8YFh9HFMvQGd2a-N8&ll=49.474252058485405%2C8.84674886564881&z=11)

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RUSSIAN- OR UKRAINIAN-SPEAKING PSYCHOTHERAPISTS PER 1 MILLION INHABITANTS



Source: ZEW

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# Targeted Support Programmes Help Low-Income Households to Save Energy Costs

The prices for electricity and heat have risen sharply recently. This puts pressure on low-income households in particular, as they have less financial leeway to deal with the high prices. Worthwhile investments in energy-efficient household appliances, such as a new refrigerator, usually cannot be made without additional financial support. However, support programmes to increase energy efficiency in low-income households should not only focus on purely financial support, but combine the offer with targeted behavioural incentives to achieve the greatest possible success.

An energy policy that seeks to take the circumstances of low-income households into account should enhance its support programmes by including targeted behavioural incentives. This is one of the key results of a recent ZEW policy brief by ZEW Mannheim and Heidelberg University, which is based on an empirical analysis of the “Energy-Saving Check”, a joint initiative of the German Caritas Association and the Bundesverband der Energie- und Klimaschutzagenturen.

The analysis of 37,000 household decisions made within the framework of the “Energy-Saving Check” shows whether and to what extent such support programmes contribute to higher energy efficiency in low-income households. A key element is the replacement of refrigerators – a factor that should not be underestimated, since refrigerators and freezers account for about a quarter of electricity consumption in German households. Switching to an efficient refrigerator is worthwhile: on average, these consume 494 kWh, more than twice as much electricity as a new appliance with 152 kWh. An old refrigerator can cause significant permanent costs, especially for low-income households. If they can afford to replace the appliance, the investment will pay off in most cases after only three years. At an av-

erage electricity price of 28.8 ct/kWh and an average reduction of 342 kWh, a household can save about 98 euros per year by replacing its appliances.

This is where the “Energy-Saving Check” comes into play. Following a home energy audit, eligible households with particularly inefficient old appliances receive a voucher that they can redeem after purchasing a new appliance. On average, households can cover 35 per cent of the purchase price through the voucher of the nationwide programme; through supplementary programmes of the federal states, this share can increase to up to 45 per cent. The programme is showing positive results: between 2014 and 2020, 19,300 inefficient refrigerators were replaced in low-income households.

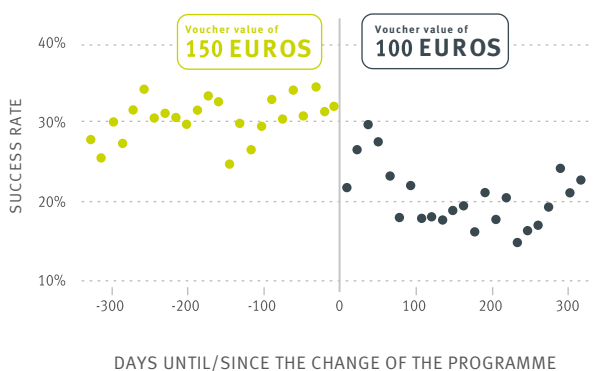
## Setting behavioural incentives

The empirical analysis shows that changes in both financial behavioural incentives have an impact on the success rate of the support programme. Reducing the voucher value from 150 to 100 euros lowers the share of refrigerators replaced by nine to 16 percentage points, depending on how much time has passed since the programme was changed. At the same time, a stricter rule to redeem the voucher within two months increases the success rate by four to ten percentage points compared to a programme variant where the voucher doesn’t expire. The success of programmes can thus be measurably increased through behavioural incentives without incurring additional costs.

The ZEW policy brief is available for download (in German only) at: [www.zew.de/PU83281-1](http://www.zew.de/PU83281-1)

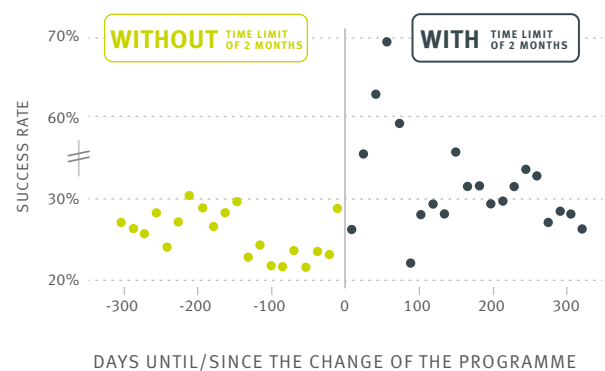
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FIGURE 1: EFFECT OF THE VOUCHER VALUE ON THE SUCCESS RATE



Source: ZEW

FIGURE 2: EFFECT OF A VOUCHER EXPIRY DATE ON THE SUCCESS RATE



Source: ZEW

# Climate Protection Potential of Digitalised Production Processes Lower Than Expected

The need to make economic processes sustainable and the use of digital technologies have increased significantly in recent years. In addition, it is generally assumed that digital technologies can lead to energy efficiency improvements and thus significantly reduce CO<sub>2</sub> emissions, especially in the energy-intensive manufacturing sector. In fact, digital technologies do reduce energy intensity in manufacturing, but to a much lesser extent than previously expected. These are the key findings of a study by ZEW.

Digital technologies consume energy themselves, but theoretically, they also have the potential to reduce energy consumption due to improved energy efficiency, for example through the optimised control of heating and cooling systems, and the dematerialisation of products. However, the overall effect remains uncertain. For the manufacturing sector, this is extremely relevant: In 2019 alone, it was responsible for 28 per cent of Germany's energy demand.

In a large-scale empirical study, ZEW researchers have now for the first time investigated the climate protection potential of digitalised production processes at the firm level, i.e. the connection between the use of digital technologies and energy intensity improvements. For this purpose, they analysed administrative panel data from the German statistical offices on 28,600 firms in the manufacturing sector between 2009 and 2017. The ratio of software use to output served as an indicator for the company's degree of digitalisation. One indicator of energy efficiency is energy intensity, i.e. the actual amount of energy used to generate one unit of output.

The study results show a statistically significant correlation between the use of digital technologies and an improvement in energy intensity, but to a much lesser extent than expected.

While there was a large increase in software use over time, energy intensity only decreased to a much lesser extent over the same period. For example, a one per cent increase in relative software use is associated with an average decrease in energy intensity of between 0.007 and 0.011 per cent among the companies studied. The study authors conclude that an increase in digital technologies in companies is not necessarily associated with substantial improvements in energy intensity. However, the effects – reduction in relative energy consumption when using digital technologies – are more pronounced in very energy-intensive companies and sectors. Energy-intensive sectors with greater improvements include chemicals, metal production, manufacturing of glass and glassware, ceramics, processing of stone and earth, and paper and paper products. Moreover, major differences are more apparent between rather than within companies. For example, companies that use more software appear to be less energy intensive on average. However, when software use changes within a company, the impact is much smaller.

The results of the study are particularly relevant against the background of increasing digitalisation and pressing climate policy measures as well as the need for independence from Russian fuel imports. The findings provide guidance for policymakers, consultants and companies who overestimate possible synergies between digital technologies and energy savings in production. Only with the targeted use of digital technologies as well as a sound legal framework that, for example, mitigates potential rebound effects, can the climate protection potential of digital technologies actually be harnessed and CO<sub>2</sub> emissions reduced.

The study can be downloaded at: [www.zew.de/PU83202-1](http://www.zew.de/PU83202-1)

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# No Evidence of Systematic Greenwashing in the US Metals Industry

Do metal processing companies in the USA make themselves appear more eco-friendly in terms of their sulphur dioxide emissions than they actually are? To investigate this, a team of researchers in collaboration with ZEW has applied a new method that combines satellite data with company data and web text mining.

The subject of sustainability has gained great importance in recent years, especially with regard to the emission of harmful substances and the associated air pollution. One of the most harmful pollutants is sulphur dioxide (SO<sub>2</sub>), a leading ingredient in the formation of particulate matter and acid rain. Among other things, it is released by production processes in the metal industry, one of the largest sources of emissions worldwide.

Social pressure and the benefits that come with an eco-friendly image are prompting many companies to present themselves as particularly sustainable. Sometimes this leads to so-called greenwashing, i.e. a company projects a sustainable image that differs greatly from its actual environmental impact. When greenwashing, companies portray themselves as eco-friendly without implementing effective and often costly measures.

## Around eight per cent of the US metals industry operates sustainably

However, greenwashing is often hard to detect. ISTARI.AI – a start-up that uses artificial intelligence to provide web-based economic data in real time – has developed an innovative method in cooperation with researchers from ZEW and the universities of Salzburg, Heidelberg, Giessen and Harvard. The researchers analysed the self-portrayal of companies based on their

websites using web text mining, and combined the data obtained with available global pollutant data from the Sentinel-5 Precursor satellite and company data from Harvard University.

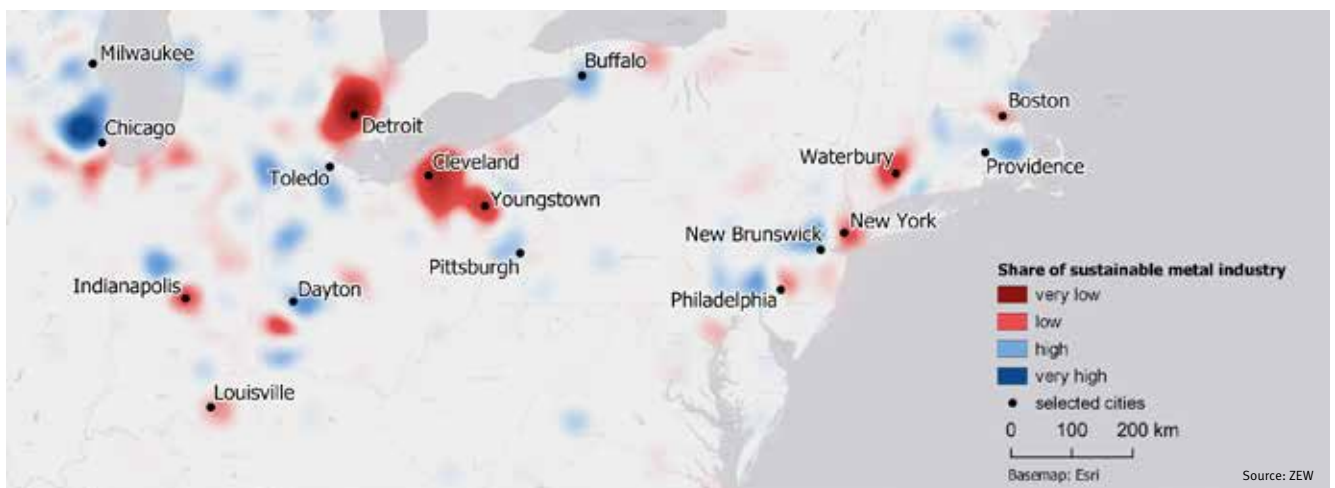
ISTARI.AI uses webAI to scan company websites, analyse and recognise relevant information using AI and make the data available in real time. In this way, the research team examined the websites of 9,430 companies from the US metals industry. According to their self-portrayal, the companies were categorised as sustainable and non-sustainable. A total of 760 companies in the US metals industry were classified as sustainable (8.1 per cent) and 4,821 companies (51.3 per cent) as non-sustainable. A further 3,822 companies (40.6 per cent) did not have their own website and were therefore not assessed by webAI.

The map shows an example of the distribution of sustainable and non-sustainable metal industries in the north-east of the USA. There is a clear concentration of sustainable companies, especially in the north of Chicago, but also in Dayton, Pittsburgh and Buffalo. The comparison with the satellite data shows that the metal processing companies that are sustainable according to their self-portrayal actually have a lower impact on local SO<sub>2</sub> concentrations than the non-sustainable companies. Consequently, there is no evidence of systematic greenwashing in the US metals industry. However, this is true for the industry as a whole and not for individual companies; greenwashing probably occurs in individual cases. Furthermore, the results should be interpreted with caution, as two-fifths of the companies considered did not have their own website and thus could not be included in the study.

The study can be downloaded at: [www.zew.de/PU83244-1](http://www.zew.de/PU83244-1)

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DISTRIBUTION OF SUSTAINABLE AND NON-SUSTAINABLE METAL INDUSTRIES IN THE NORTH-EAST OF THE USA



Q&A: How Wide Is the Gender Pay Gap?

## “We Need Programmes That Support Women at All Stages of Their Professional Lives”

In Germany, 7 March 2022 symbolically marks the wage gap between women and men. With a pay gap of 18 per cent, women statistically work 66 days “for free”. ZEW economist Professor Melanie Arntz explains in this interview why it is not so easy to discern the reasons for the wage gap and how we can ensure equal pay in a digitalised work environment.

**The gender pay gap highlights the fact that women are paid less than men. However, many discussions remain inconclusive due to a misinterpretation of this indicator. How accurate is the gender pay gap?**

The pay gap of 18 per cent can be partly explained by the fact that men and women simply do not do the same jobs and work in different occupations. Interestingly however, there is also a significant pay gap within the same occupational group. One reason for this is that men and women usually have different professional careers. Women tend to have more frequent career breaks, work part-time and are less able to work overtime because they have other commitments: They are more likely to engage in unpaid work, take on childcare responsibilities and look after elderly relatives.

All this puts women at a certain disadvantage when it comes to job promotions and advancing their careers. However, another reason for the wage gap is that women are more likely to work in lower-paying companies compared to men.

Apart from that, when interpreting the wage gap, it is important to consider that there is a positive correlation between the gender pay gap and the female employment rate. This is because the fewer women there are in the labour market, the more likely it is that these women are particularly talented and well educated, which leads to a selection bias and reduces the wage gap. For this reason, it is particularly difficult to make international comparisons.

**Digitalisation is changing our professional world. What influence does this have on the gender pay gap?**

Basically, digitalisation is changing the existing wage structure as it tends to result in higher wages for certain higher qualifications and certain digital skills. The more women are under-represented in professions that benefit from digitalisation – especially in the fields of science and IT – the less access they have to these better wages. This means that if the distribution of men and women in occupations does not change substantially, it is quite possible that digitalisation will contribute to widening the wage gap.

Moreover, if one compares the digital skills of men and women, they are unfortunately less pronounced among women at present. Against the backdrop of a changing work environment, promoting the acquisition of such skills among women is be-

coming increasingly important in order to continue to maintain equal opportunities.

**How can we close the digital gender gap?**

It can be observed that girls are less likely to choose STEM subjects already at school. This suggests that we need to pay more attention to ensuring that women acquire the same IT skills early on in order to be able to compete in the changing landscape of professional work. However, the requirements are not limited to simply having IT skills, but ultimately consist of having a combination of both IT skills and non-cognitive skills. It is this combination that is particularly valued in our fast-paced professional world. If women have sufficient digital skills to ac-

“



**Prof. Dr. Melanie Arntz**

is deputy of ZEW's Research Department “Labour Markets and Social Insurance” and Leibniz Professor of Labour Economics at Heidelberg University. Her research focusses on the question how changing labour market conditions such as an increasing digitalisation of work tasks and the proceeding international division of production processes affects labour markets and individuals. She is also interested in the dynamics of individual labour market careers in response to these phenomena and the impact of regional labour market conditions on these dynamics.

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cess these professions, they may even have a small advantage because they basically have good complementary skills. We need programmes that support women at all stages of their professional lives to be integrated into these new fields and to open up opportunities for them.

**What advice would you give to a young woman at the beginning of her career?**

I would tell her not to make her career decisions too dependent on what is compatible with family life. That is not to say that it is not a legitimate wish to want to reconcile family and career later on. But I think we as women have to fight a bit to be able to do both. Of course, this also includes looking for opportunities in our private lives to share tasks with our partners, precisely because we know that it is difficult to catch up on a career.

→ Find the more information at: [www.zew.de/AM8112-1](http://www.zew.de/AM8112-1)



Photo: © Have a nice day/stock.adobe.com

# Towards a Smart Health Care System

The federal government has promised to optimise hospital planning. But it is not only planning that needs reform, but also hospital reimbursement and cooperation between the outpatient and inpatient sectors. In addition, the level of digitalisation is increasing across all areas of medical treatment. These changes also require a more intensive use of data for regular evaluation, taking into account new empirical methods.

Hospital funding in Germany is based on a dual financing model, under which investment costs are covered by the federal states while operating costs are paid by the health insurance providers. In practice, however, this division of costs is problematic in some cases. On the one hand, state investments have been declining for a long time. On the other hand, this dual financing system is missing a feature to finance backup capacities. Yet this is precisely what society demands from hospital care. For each case, a hospital receives the reimbursement equal to the average costs in the respective federal state. Therefore, cases that require special equipment and staff are not profitable if they occur less frequently than average. An example of this is maternity wards: For a hospital in Munich it is significantly easier to plan for an adequate number of expectant mothers than it is in Weilheim, 50 kilometres away. In order to enable mothers to give birth close to home in rural areas, reimbursement needs to take these costs into account.

## Ways to reduce both shortages and oversupply

In addition to regional shortages in the supply of health care services, there are also clear indications of an oversupply in the inpatient sector. A combination of hospital planning and reimbursement design could reduce both shortages and oversupply. In particular, the new hospital planning in North Rhine-Westphalia could be optimised in this respect. First, the demand for inpatient treatment in various service categories will be evaluated empirically at a local level. In a second step, service providers, health insurers and administrative bodies negotiate which hospital offers which treatments. The differentiation by service categories makes it easy to integrate lump sums for the provision of backup capacities. In this way, hospitals could be reimbursed for offering services whose costs cannot be covered by the expected per-case lump sum revenues in regional demand.

Whether such precautionary premiums are then financed as ‘investment costs’ by the federal states or as ‘operating costs’ by the health insurers as part of dual hospital financing is a political decision. Using economic methods from market design, mechanisms can be implemented that determine the required care and the necessary reimbursement at the regional level in a transparent manner.

## Outcome-oriented reimbursement for integrated care

Future hospital planning must take into account the potential for more outpatient treatment, as this is not yet fully exploited. The separate organisation of reimbursement for hospitals and individual practices is often seen as the main obstacle to integrated care. In our health care system, most of the reimbursement is for individual treatments in both the inpatient and outpatient sectors. The reimbursement system should also reward the success of treatments. If close cooperation between the outpatient and inpatient sectors promises the best treatment results, such an outcome-based reimbursement system provides a good incentive for this type of cooperation.

So far, outcome-based reimbursement has not been possible due to the lack of instruments to effectively assess treatment success. However, new opportunities are constantly emerging from the increasing availability of real-world data, e.g. collected through wearables or the retrieval of patient data via smartphone, as well as standard medical information provided by health insurers.

The effectiveness of pharmaceuticals and medical products needs to be evaluated regularly to detect dangerous side effects, but also to adjust prices if necessary. In their current form, the still widely applied observational studies are hardly useful for scientific purposes. However, real-world data from independent evaluators could be utilised to conduct regular cost-benefit analyses. The fact that it is often not possible to ensure randomisation of a group of participants is not necessarily a problem in this case. Modern methods of causal analysis can take potential biases into account, provided that randomised studies were conducted for the approval process and the data is available. Access to standard medical information collected by health insurers is the only aspect that still needs improvement.

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# One in Five Households Did Not Claim Social Benefits Despite Needing Them

One fourth of all private households in Germany suffered income losses at the height of the second pandemic wave. Taking into account the loss of assets, ca. 34 per cent of households faced financial setbacks. Less than a quarter of them claimed state support.

On average, only about nine per cent of the working population made use of social benefits during the COVID-19 crisis. These are the results of a survey conducted as part of a joint project of the University of Mannheim, ZEW and the Leibniz Institute for Resilience Research (LIR) at the height of the second wave of the pandemic between December 2020 and January 2021. The survey is representative of citizens aged 30 and over who are at least irregularly employed, unemployed, on a traineeship, or on maternity or parental leave.

The second wave of the pandemic hit the self-employed particularly hard. Around 44 per cent of this group reported income losses, compared to 22 per cent of employees. Mini-jobbers also suffered income cuts more frequently than the average household, with about 34 per cent being affected, as did single parents at around 30 per cent and people aged between 30 and 39 at around 26 per cent. It is right to put the self-employed at the centre of the discussion about the economic impact of the pandemic. However, it is little known that single parents, marginally employed and younger workers also suffered financial losses more often than the average, according to the authors of the study.

## Easily accessible aid paid out most frequently

Of all the federal and state support measures, the short-time work allowance and the child benefit bonus were most frequently claimed. Just under half of all households receiving state support claimed the short-time work allowance, and almost a third claimed the 300-euro child benefit bonus. The federal government automatically transferred the bonus to all benefit recipients in 2020. Low-threshold assistance such as the short-time work allowance or the child benefit bonus, which is paid automatically and without the need to apply, is of course the most frequently received. Nevertheless, it is important to learn more about how state aid most effectively reaches benefit recipients and particularly vulnerable groups.

Not all households that went without social assistance despite financial losses did so because they were able to manage without them. Among households that did not claim benefits, about one in five report having been in need of assistance. Single parents, people in marginal employment, the unemployed or those in irregular employment often report not having claimed the social assistance granted as part of the pandemic measures, even though they were in need. In addition to the 80 per cent of respondents who did not need financial assistance, 19 per cent

reported needing support. 17 per cent of these households gave as a reason that they were not eligible for assistance. Just under four per cent did not know how to obtain support. Three per cent assumed that the bureaucratic hurdles were high. Another three per cent felt uncomfortable applying for assistance. There is still a considerably large group of affected and eligible households that do not have the necessary information and knowledge to apply for assistance on their own.

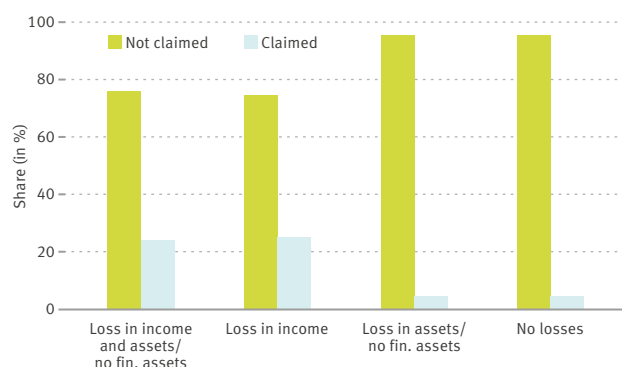
Belonging to a demographic group not only increases the likelihood of experiencing a loss of income or assets. It also influences the likelihood of the respective household applying for assistance. For example, people in marginal employment were more than five times less likely than those in full-time employment to apply for assistance despite being in need. People without or in irregular employment were three times less likely than those in full-time employment. Compared to childless couples, single parents were significantly more likely to forego social benefits despite being in need.

The government has readjusted existing social benefits and introduced additional support. Nevertheless, the welfare state measures to cushion the economic impact of the pandemic still don't reach certain groups of vulnerable households, the study finds. Single parents in particular are not only more frequently affected by financial losses. They are also four times less likely to apply for assistance than childless couples. The study suggests that the welfare state should make its assistance even more accessible to this group.

The ZEW expert brief can be downloaded (in German) at: [www.zew.de/PU83111-1](http://www.zew.de/PU83111-1)

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## GOVERNMENT SUPPORT CLAIMED DURING THE COVID-19 CRISIS, SORTED BY FINANCIAL LOSS



Representative for individuals aged 30 and over who are at least irregularly employed, unemployed, on a traineeship, or on maternity or parental leave. Source: ZEW

## #ZEWBookTalk with Moritz Schularick – The Disenchanted State

The world is in a crisis continuum and Germany is watching. This is the impression Moritz Schularick, professor of economics at the University of Bonn, gets when he looks at the state's actions in recent years. He has written down his observations. In his latest book, "Der entzauberte Staat – Was Deutschland aus der Pandemie lernen muss" ("The Disenchanted State – What Germany Must Learn from the Pandemic"), he argues that Germany should move away from the typical 'can't-do' mentality and adopt a stronger 'can-do' attitude. This can also be applied to Germany's current action in the Ukraine war. At the #ZEWBookTalk on 22 March 2022, ZEW President Professor Achim Wambach and Moritz Schularick discussed not only the achievements and failures of the state in crisis mode. They discussed the currently highly controversial question of whether Germany and Europe can and should enforce a complete supply freeze for gas, oil and coal from Russia in order to end the

war in Ukraine. Both economists agree that the economic slump that would inevitably follow the embargo would not immediately lead to deindustrialisation. Achim Wambach, however, doubts that macroeconomic instruments would help adequately at the micro level. In contrast, Schularick considers the consequences to be manageable, since the effects of an embargo would be easier to deal with than those of a pandemic. Far more effective in putting pressure on Russian energy revenues, however, is an oil embargo. The Putin system relies mainly on oil revenues, and this is where it is most vulnerable. Schularick advocates a two-step approach, in which the macroeconomic costs resulting from an embargo are first accepted and then distributed in a second, politically decided step. On the other hand, Wambach pointed out that Putin's reaction must also be taken into account. In the case of a partial embargo, for example, he could raise prices for the remaining quantity.

## MaCCI Annual Conference: Focus on Digital Markets and Cartels

The digital economy poses enormous challenges for policymakers in terms of innovation, competition and regulation. How can digital markets be regulated properly, and how can innovations be fostered and competition be made fair at the same time? These and many other questions were discussed by around 190 participants from science, politics and business at this year's annual conference of the Mannheim Centre for Competition and Innovation (MaCCI) at ZEW Mannheim. This year's conference took place as a hybrid format, attracting many participants to Mannheim who were looking forward to face-to-face exchange. Among the highlights of the conference were the keynote speech-

es by Frédéric Jenny, chairman of the OECD Competition Committee and professor at the ESSEC Business School, who addressed the current challenges of competition law and policy in digital markets, and Professor John Asker from the University of California (UCLA), who presented results from a study on the damage caused by the OPEC cartel in 2014. Furthermore, the conference included a panel discussion, in which Silke Hossenfelder (German Federal Cartel Office), Professor Inge Graef (Tilburg University) and Professor Simonetta Vezzoso (University of Trento), moderated by Professor Jens-Uwe Franck (University of Mannheim and MaCCI), critically assessed the Digital Markets Act.

## Commission of Experts for Research and Innovation EFI Publishes Annual Report

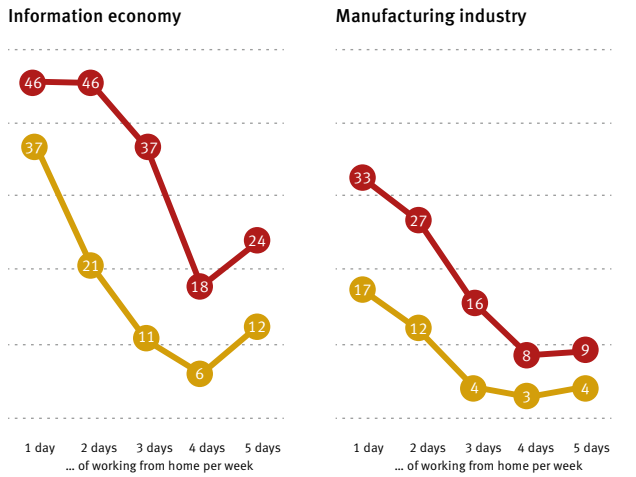


The members of the EFI Commission presenting its annual report to Federal Minister of Education and Research, Bettina Stark-Watzinger (second from right).

At the beginning of March, the Commission of Experts for Research and Innovation (EFI) presented its annual report to Federal Minister of Education and Research, Bettina Stark-Watzinger.

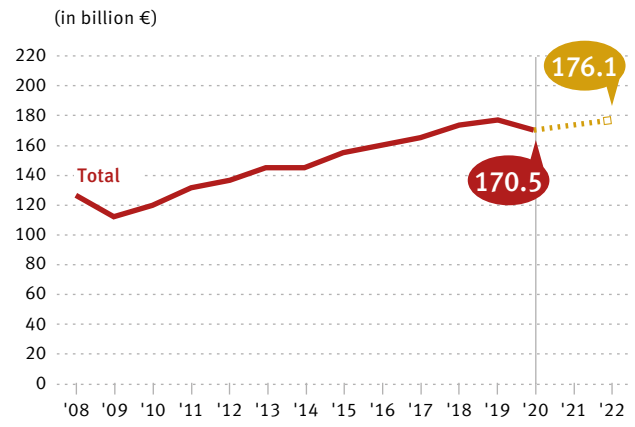
One of the core topics addressed in this year's report is digitalisation in the health care sector. The expert commission, of which Professor Irene Bertschek, head of ZEW's "Digital Economy" Department is a member, points out shortcomings and calls for immediate action. Compared to other European countries, Germany is lagging far behind in the digitalisation of the health care sector, according to the EFI report. The current COVID-19 crisis has clearly shown the massive deficits that the German health care system has in this respect. At the same time, digitalisation in this sector holds great potential for innovation and value creation. The EFI analysis shows that digital technologies can improve the quality of health care. In addition, the increasing availability of health data in connection with modern digital methods to analyse data offer new and far-reaching opportunities for more personalised diagnostics and treatment. EFI advises the federal government to develop and implement a digitalisation strategy as fast as possible and in cooperation with all relevant stakeholders in the health care sector.

### Firms Plan to Maintain Hybrid Working Models After the Pandemic



Source: ZEW

### COVID-19 Pandemic Is Both an Obstacle and an Impetus for Innovation



The ZEW Innovation Survey shows that innovation expenditure of German companies is expected to increase to 176.1 billion euros in 2022. Source: ZEW, Mannheim Innovation Panel (MIP)

Many firms in Germany plan to offer hybrid working arrangements after the end of the pandemic, enabling employees to have a part-home, part-office schedule. According to a ZEW business survey of about 1,200 firms from the manufacturing industry and the information economy, firms in both sectors are mainly planning to offer hybrid models in which employees work from home one to three days per week. The share of employees who will work from home several days a week post COVID-19 is significantly higher than before the pandemic. Before, 37 per cent of firms in the information economy offered the option of working remotely one day per week, while post COVID-19, almost every second firm plans to do so. Compared to the information economy, far fewer tasks in the manufacturing industry are suited for remote work. Nevertheless, COVID-19 has led to a sharp increase in working from home arrangements in this sector as well.

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According to the Innovation Survey 2021, which ZEW conducted among German companies on behalf of the Federal Ministry of Education and Research, German companies reduced their innovation spending by 3.6 per cent to 170.5 billion euros in the first year of the COVID-19 crisis. Twelve per cent of companies did not undertake any innovation activities at all due to the pandemic. At the same time, eleven per cent of the companies invested in additional product innovations in response to the pandemic situation and twelve per cent pushed ahead with additional process innovations. The drop in innovation spending primarily affected large companies. However, the target figures for 2021 and 2022 show that the decline should soon be offset. In 2021, innovation spending is expected to increase by 2.1 per cent to 174.1 billion euros. In the current year 2022, expenditure could rise by a further 1.2 per cent to 176.1 billion euros.

Dr. Christian Rammer, christian.rammer@zew.de



### 9th Annual Mannheim Taxation Conference

ZEW will organise the ninth edition of the Annual Mannheim Taxation Conference on 8–9 September 2022. The conference focuses particularly on applied and empirical papers related to business taxation, tax avoidance and evasion, behavioural responses to taxation, tax harmonization in the EU, political economy of taxation, international taxation, and tax law. Interested researchers are asked to submit their paper or extended abstract on any topics broadly related to tax research no later than 29 May 2022. The event is planned to be held on site in Mannheim, if the situation allows. More information: [www.zew.de/VA3741-1](http://www.zew.de/VA3741-1)

### International DFG Conference

ZEW is pleased to announce the international conference on “The German Labor Market in a Globalized World: Trade, Technology, and Demographics” on 24 and 25 June 2022. The conference is sponsored by the German Research Foundation (DFG) and will be held on site. The focus will be on technology, trade, and demographic changes and the ways they interact with employment, wages, and participation in the labour market. Interested researchers are asked to submit full papers (preliminary versions are welcome) in PDF format via e-mail to [dfg1764@zew.de](mailto:dfg1764@zew.de) no later than 28 April 2022. More information: [www.zew.de/VA3800-1](http://www.zew.de/VA3800-1)

# Germany Is Discussing a Ban on Russian Energy Imports. Is This a Good Idea?



**Schularick:** We should impose an immediate embargo on Russian natural gas, oil and coal. Such a measure would reduce Germany's GDP by three per cent this year, resulting in a loss of around 120 billion euros. This may sound like a lot, but we could easily manage the fallout. It would not be the end of the world.

**Wambach:** Your study has merits, but it provides an incomplete picture. The full version of the study indicates a GDP impact of just 0.3 per cent. Perhaps this low figure didn't sit right with you, so you performed a second calculation with a simpler model. However, both calculations neglect important details.

## COULD YOU ELABORATE?

**Wambach:** The study fails to consider unemployment or inflation. However, an even bigger problem relates to the assumed substitutability of natural gas. If we want to stop importing natural gas from Russia, then we need replacement sources. But this will be much more difficult to achieve than assumed by the study.

**Schularick:** No, it won't be. Policymakers wrongly assume that it will be incredibly difficult to wean ourselves off Russian natural gas. This is an error in judgement. Past crises demonstrate that it is easier to find replacement energy sources than one originally presumes.

## ARE ECONOMIC POLICY ADVISERS PERHAPS OVERSTEPPING THEIR BOUNDS WHEN IT COMES TO ASSESSING ENERGY EMBARGOS?

**Wambach:** Economists have a responsibility to draw attention to the economic impacts of drastic policy measures such as this one. However, to obtain a realistic assessment of our ability to switch to alternate sources of energy, we also need to listen to market experts and impacted firms. At times like these, economists should be aware of the limits to their analytical abilities.

**Schularick:** No one is claiming that economists are in a position to settle world-political conundrums with a few fancy models.

However, the negative impact to the German economy will not be nearly as severe as the doomsday soothsayers at certain business associations would have us believe.

## ULTIMATELY, IT SEEMS THE ISSUE IS WHETHER WE OR PUTIN WILL SUFFER MORE FROM AN EMBARGO.

**Schularick:** One third of the Russian budget comes from taxes on oil and gas. If these revenues disappear, Russia will have a major financial problem.

**Wambach:** You wrongly assume that Gazprom will honour existing contracts given a Western embargo. If I tell a supplier on whom I am dependent that I plan to cut my purchases by a third, that supplier just might increase prices by a third.

**Schularick:** That's why there needs to be a complete embargo.

**Wambach:** But in advocating for such a measure, you neglect to consider whether this is strategically wise: I would have seen the logic for such a measure prior to the outbreak of the war – as a means of preventing hostilities – but the justification now appears tenuous. The German government has been stressing day and night that it wants to become less dependent on Russian energy. And the EU has vowed to reduce Russian natural gas imports by two thirds within a year. So if Putin knows that in six months he will no longer be able to sell energy to us – no matter what he does – why would he be motivated to change his behaviour?

**Schularick:** The crucial question is: Can we make Putin realize that the invasion was a mistake? This seems highly unlikely, given all that has transpired. The damage to the German economy will be that much higher if we delay in implementing an embargo. Waiting six months will only make the matter more expensive. If we have done nothing by the time autumn rolls around, then we will truly be dependent on Russian natural gas.

*This discussion between Professor Moritz Schularick of the University of Bonn and Professor Achim Wambach, president of ZEW, originally appeared in the 22 March 2022 issue of the financial daily 'Handelsblatt'.*

# ZEW

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