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How to re-design German fiscal policy rules after the COVID19 pandemic

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How to Re-design German Fiscal Policy Rules after the COVID19 Pandemic

Michael Hüther Jens Südekum

Final version

November 2020

Abstract

The study will first outline the way in which Germany's fiscal policy was driven for several decades by a paradigm that centered on deficit control and reduced state involvement in the economy. It will assess the damage wrought by this strategy – for example, underinvestment in infrastructure and the worsening of the financial situation in many local municipalities. Afterwards, we sketch out a new framework for fiscal policy that might take the evaluation of public needs and the need for more public investment as starting points. The study will also address the response to the Corona pandemic and in what sense it reinforces the need for a new fiscal paradigm. What are the implications of such a shock for fiscal policy rules? And how should Germany and the European Union handle the enormous public debt incurred during this crisis?

Paper for the European Climate Foundation (ECF),
Forum New Economy

Outline

1. After the financial crisis and before Corona – A decade of fiscal consolidation
    a. Drivers and results of fiscal consolidation
    b. Skepticism towards the state and the public capital stock

2. Immediate crisis management in 2020 and challenges after the Corona crisis
    a. The German fiscal response
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3. A new paradigm for German fiscal policy after the Corona crisis?
    a. Two different narratives on fiscal policy rules and the world of a zero real interest rate
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4. A new framework of rules and strategies
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5. Summary and conclusion

1. The initial situation: A decade of fiscal consolidation before Corona

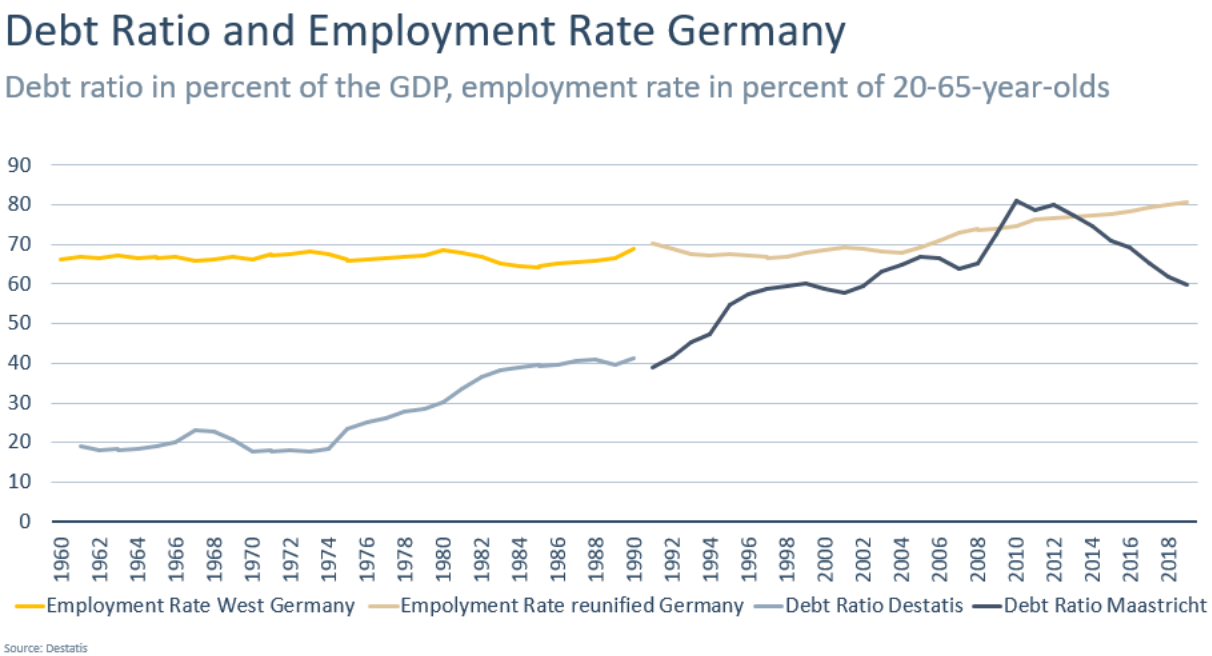
Since 1960, the German public debt-to-GDP ratio has exhibited three major upward jumps. The first one came after the 1974 oil crisis, the second one after the German reunification, and the third after the global financial crisis (GFC) in 2007-2009. What has been different in that latest episode was the significant fiscal consolidation in the aftermath.

Public debt jumped from 60 to 80 per cent of GDP between 2008 and 2010. In the following decade it gradually moved back to slightly below 60 per cent in 2019 – just before the Corona crisis hit. This consolidation did not mainly come from overly prudent or austere public expenditure, however. Many new items were added to the list of social spending during that time period, such as *Mütterrente* oder *Baukindergeld*. It was also not associated with literal cancellation (ultimate repayment) of public debt. In absolute terms, overall public debt increased by around 500 billion euro between 2007 and 2009, but only decreased by roughly 100 billion euro until 2019.

a. Drivers and results of fiscal consolidation

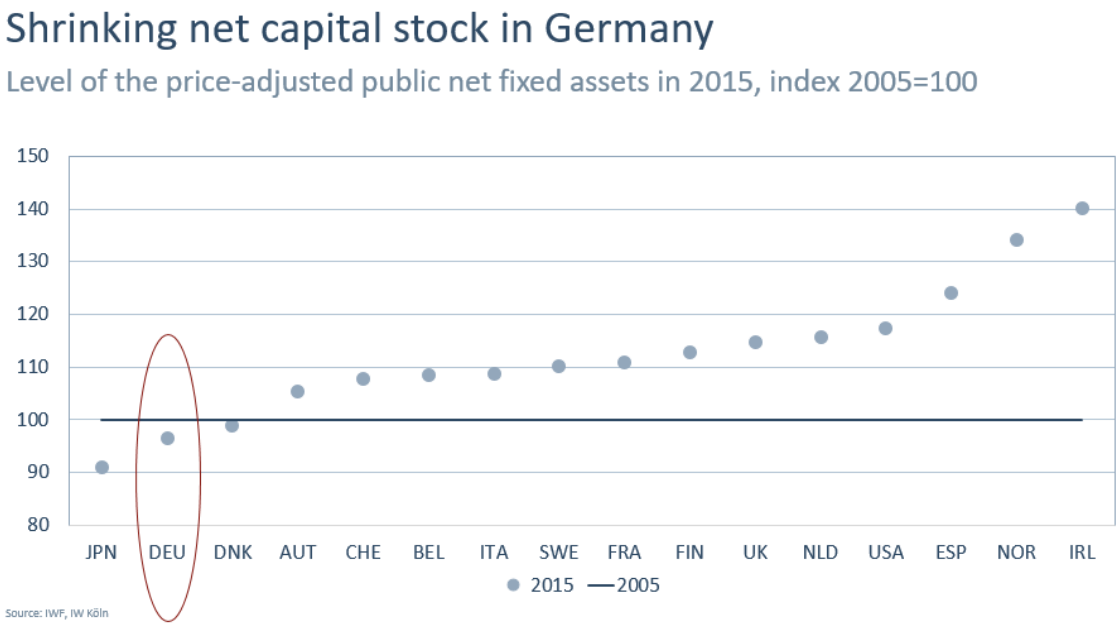
Instead, the consolidation of the debt-to-GDP ratio came almost exclusively via the denominator: from the growth of gross domestic product (GDP) and hence the tax base. The German economy experienced an unprecedented boom phase between 2009 and 2019. The labor market flourished, with an employment rate that reached an all-time high of 80 per cent (see Figure 1). This led to burgeoning tax revenue, and declining interest rate payments also helped with the consolidation.

Figure 1: Debt/GDP ratio and employment rate, Germany 1960-2018



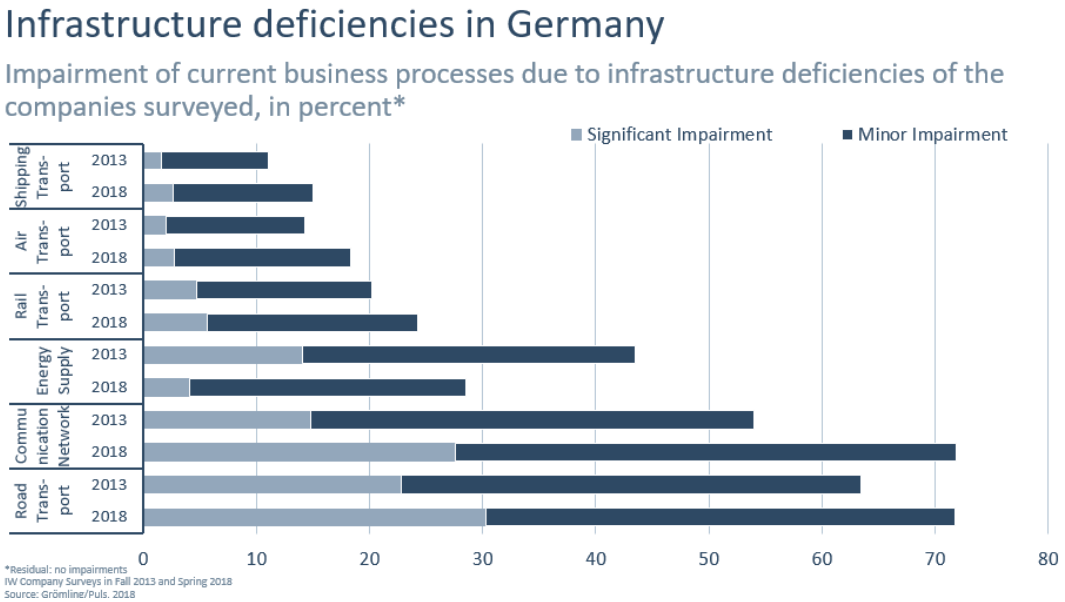
But even if there were no significant cuts in overall public spending during that decade, just slower growth relative to GDP, one problem of fiscal policy became considerably worse: the low level of public investment. Figure 2 shows that Germany ranks at the very bottom in the list of countries when it comes to the real growth of the public capital stock. Growth since 2005 was even negative, meaning that the substance of public capital eroded between 2005 and 2015.

Figure 2: Public net capital stock (2005=100)



The resulting gaps in the quantity and quality of public services have been widely noted. German infrastructure in digital nets, railways and roads show immense and obvious deficits, as do often ailing public buildings and schools.[1] Those gaps not only reduce the quality of life for the population. They have also become real obstacles for private businesses, who increasingly report that their operations are impaired by the bad shape of the road and communication infrastructure (see Figure 3).

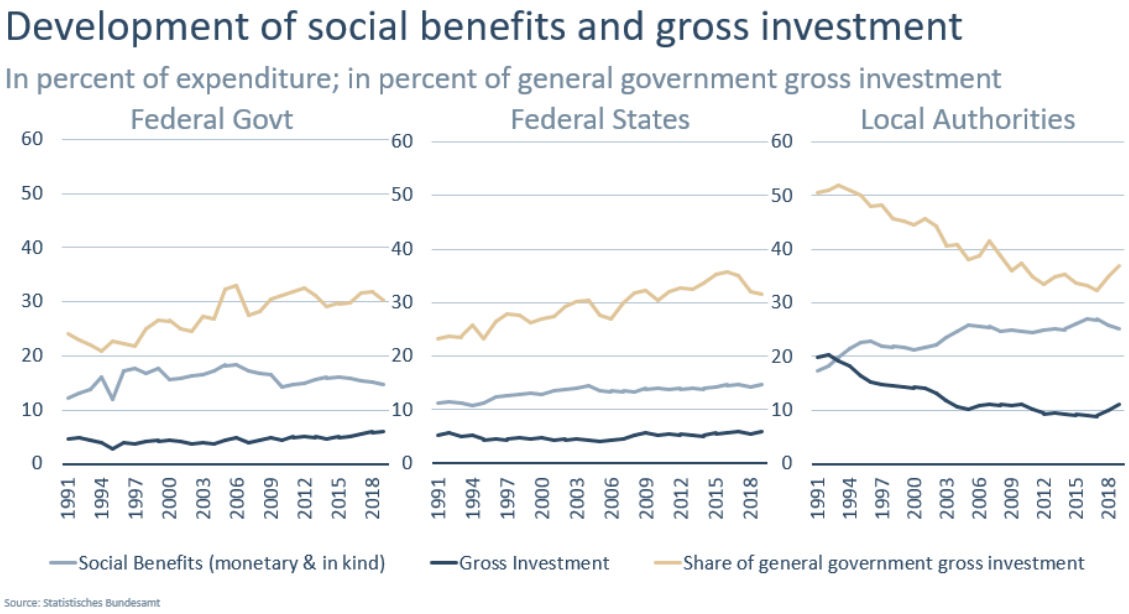
Figure 3: Deficient Infrastructure



[1] See the recent report by the Scientific Advisory Board of the German Federal Ministry of Economic Affairs (BMWi) for a detailed account: https://www.bmwi.de/Redaktion/DE/Publikationen/Ministerium/Veroeffentlichung-Wissenschaftlicher-Beirat/gutachten-oeffentliche-infrastruktur-in-deutschland.pdf?__blob=publicationFile&v=12

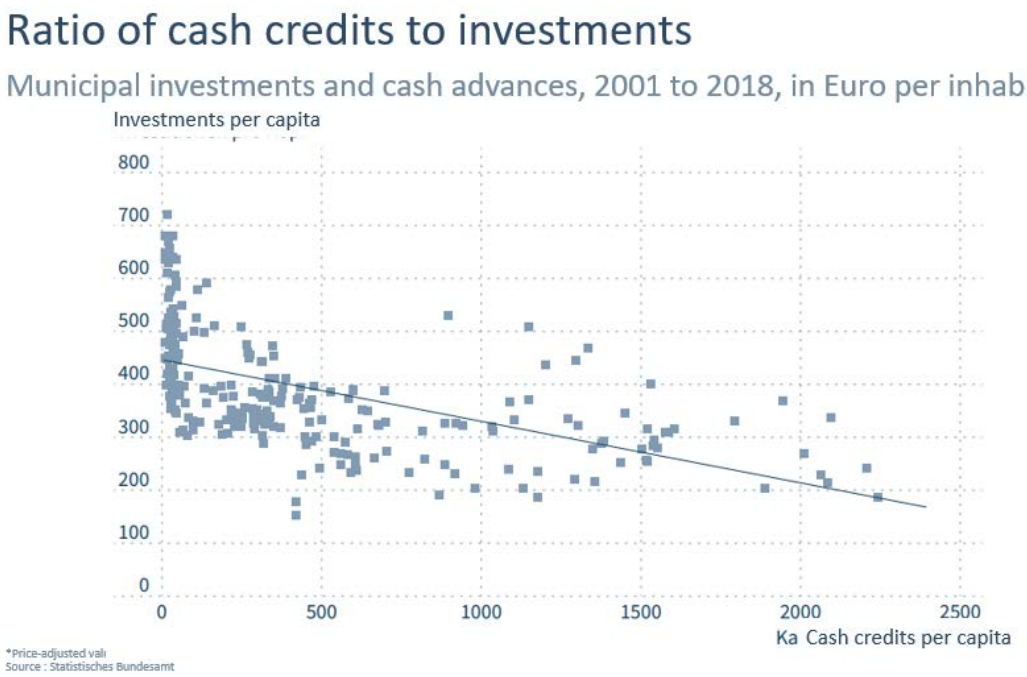
By far the biggest problems are to be found at the local level. Figure 4 shows that gross investment has been even slightly increasing over time at the Federal and State level, while it was vastly decreasing in municipalities. They used to be responsible for more than half of all public investment in the 1990s, but this share decreased strongly owing to the cuts in local investment budgets.

Figure 4: Social spending and gross public investment



Those cuts were more dramatic in some parts of the country than in others. Figure 5 shows that local public investment strongly differs across communities. Some invest more than 700 euro per inhabitant, while the figure is less than 100 euro in other municipalities. The figure also shows a clear relationship with the level of short-term local public debt: highly indebted municipalities invest significantly less, while the highest investments are found in municipalities with no debt at all.

Figure 5: Public debt and investment of local municipalities



Overall, even though the period 2009-2019 is often referred to as an exceptional "golden decade" for the German economy – and that is certainly true with regard to labour market trends – many long-standing problems, most notably the dramatic underinvestment problem and the interrelated local debt crisis, have remained unsolved. Those problems had their origins in the 1990s and early 2000s, and they were at best partially reversed after the GFC.

b. Skepticism towards the state and the public capital stock

Why has Germany allowed such a deterioration of its public capital stock to happen in the first place? We see **three key explanations:**

First, in a longer perspective: The Federal Republic faced the challenge of transforming the East German economy. This led to the question of how the state can secure its fiscal capacity to act. This was based on the understanding that a rethink of state activity was also necessary in the old federal states[2]. **"Lean state", privatization and deregulation** – key words and concepts from the 1980ies became the leading political paradigm.[3] Closely related where the differentiated demographic developments in the German regions, which led to the conclusion that the supply of public services must be scaled down, since the demand for those services will eventually fade. One consequence, for example, was the demolition of the railway system in many rural parts of the country, especially in East Germany, which were projected to empty out quickly. This scaling down was also driven by the attempt to reduce the size of the public sector altogether – partly following the dominant ideological premise ("small government") of that time. But it was also motivated by the intention that taxes and social security contributions ought to be cut right now, in order to preserve the option for future generations to increase them again in order to finance the overburdening pensions down the line (politics of "Agenda 2010" that combines fiscal consolidation with labour market mobilization).

Second, a related reason for the public underinvestment especially in the last decade is the inflexible design of **fiscal rules**. The debt brake was introduced into the German constitution in 2009. It came into force after the GFC, but it was not an immediate reaction to the crisis. It was the end point of a long discussion in the years before, which was mostly inspired by the mindset and arguments mentioned above.[4] The debt brake rules out public budget deficits almost completely in normal times, including the debt financing of public investment.[5] This alone causes a systematic underinvestment problem: many projects have a very long time horizon and benefit mostly future generations. By ruling out cost sharing across generations via public debt, this means that current generations must incur the full costs via current tax revenue but will not enjoy the full benefits of the projects over their lifetime. Quite naturally, this makes current generations (and politicians catering the preferences of current voters) reluctant towards public investment.

Another inflexibility of the debt brake is that it is completely blind towards the prevailing interest rate for public debt. The interest rate for German government bonds is negative even for long maturities,

[2] See German Council of Economic Experts, Annual Report 1991/92, item 259: "Since October 3, 1990 the FRG has changed in nature; this also requires a change in thinking in the old Länder as well." https://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/download/gutachten/1201618.pdf.

[3] See Sachverständigenrat „Schlanker Staat": Abschlussbericht, Bonn 1989; Deregulierungskommission (1990 und 1991): Marktöffnung und Wettbewerb. Stuttgart 1991; Deutscher Bundestag DS 13/10145: „Schlanker Staat": Die nächsten Schritte (Unterrichtung durch die Bundesregierung).

[4] See the discussion in the 2007 special report on the debt brake by the German Council of Economic Experts, https://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/Expertisen/Staatsverschuldung_wirksam_begrenzen.pdf

[5] Further discussion of the debt brake: https://voxeu.org/content/german-debt-brake-needs-reform

a finding that was previously rated as an irrelevant phenomenon.[6] It has been comfortably below the growth rate of nominal GDP for at least a decade, hence debt financing of public expenditure (especially investment) would be the efficient financing mode.[7] However, the debt brake did not allow to take advantage of this fiscal free lunch, and thus artificially depressed the level of investment that would otherwise have been considerably higher.

This inflexible approach towards debt instruments also has broader macro-financial implications. For instance, German government bonds are the natural candidate for collateral on highly liquid European repo markets, and are integrated as the safe asset in many portfolios of financial investors. The notorious undersupply of German bonds thus raises the concern that those market participants are pushed towards riskier asset classes, with problematic repercussions for macro stability. Also, the current conduct of monetary policy, in particular the bonds purchasing programs of the ECB, hinge on the availability of enough German government bonds, because the central bank has to obey national quotas to achieve market neutrality. More broadly speaking, the high (and growing) demand for safe assets raises the question why Germany has pursued such a strict approach towards low debt issuance in the first place, because its safe haven status has granted it a stable demand from financial markets as reflected in ultra-low interest rates. In a way, especially within the Eurozone, it enjoys a similar "exorbitant privilege" as US treasury bonds, and so far, it remains unclear whether common European bonds will have a realistic chance to replace Bunds in their key role as the European safe asset.

Third, the pressing underinvestment problem at the **local level** owes much to the peculiarities of German fiscal federalism. Local communities have little discretion over their public budget, neither on the revenue nor on the expenditure side. Most revenue comes from joint taxes that are shared across government layers according to a formula-based approach, including various fiscal equalization schemes. For a single municipality, tax revenue is mostly given, and little can be done to change it. Given that revenue, municipalities are responsible to carry out certain types of mandatory social spending, for example housing costs for welfare recipients. Often, the decisions about those spending items are made at the Federal or State level, but still municipalities must carry them out without having much say in it. Other types of "voluntary" local public spending, including investment on schools, streets, cultural and sports facilities and so forth, can then only be financed when enough tax revenue is left after the mandatory spending items have been paid for. Quite naturally, this implies that local public investment in practice becomes a residual spending category, and that mayors have no choice but to cut investment first when public finances get tight.

After 1990, the German economy faced massive economic shocks (such as rising import penetration after globalization) and was subject to strong industrial change and structural transformation. This has affected some German regions much more severely than others.[8] The Ruhr area or western Pfalz, for example, experienced the biggest losses, since they were specialized in the production of goods such as textile, coal and steel, where China and Eastern Europe developed a strong comparative advantage and displaced many competitors on world markets. Unemployment rose massively in those German regions, and so did social spending for the respective local communities, which were at the same time confronted with an eroding local tax base. Other German regions suffered as well, also from the tax reforms of the early 2000s that dramatically shrank local tax revenue. To be sure, deeply affected regions did receive some support via fiscal transfers and regional policy, but it was not sufficient to fully compensate the losses.

[6] See footnote 4.
[7] See Blanchard (2019), https://www.aeaweb.org/articles?id=10.1257/aer.109.4.1197
[8] See Dauth et al. (2014), https://onlinelibrary.wiley.com/doi/abs/10.1111/jeea.12092

Hence, mayors in those areas mostly had only two triggers available to balance their budgets: cuts in voluntary spending (i.e., investment as well as administrative staff in the public sector) and, where possible, an increase in local public debt. This constellation, which bears some resemblance with the austerity approach that peripheral Eurozone countries faced in the aftermath of the financial crisis, led to the situation depicted in Figure 5: a quite comfortable financial situation of thriving local communities which benefited from globalization as they had the right, export-oriented industry mix. Those "winners" have seen decent investment levels and no local public debt at all. On the other hand of the spectrum, many communities ended up with the consequences of "local austerity": high public debt, severe cuts in investment budgets, and hence significant gaps in the quantity and quality of local public goods.

c. Why no solution in the golden decade 2009-2019?

The three described challenges mainly piled up in the two decades before the GFC. In the golden decade after the crisis, there was some relief but no full reversal of the issues. For instance, the demographic outlook cleared up a bit with a growing population and a rising fertility rate, partly owing to the strong influx of intra-EU and other migrants after the GFC and the subsequent Euro crisis. Tax revenue in Germany flourished (see Figure 1) and the debt brake effectively was never binding since 2009. It was even overdone with the fiscal policy under the label of "black zero", which effectively meant huge fiscal surpluses in five consecutive years after 2014. The local debt crisis paused and did not get worse after 2011, since areas like Ruhr and Pfalz also benefited from the good macroeconomic conditions.

But the golden decade did not lead to a sustainable long-term solution of the underinvestment problem. Policymakers used the ten golden years mainly to ramp up redistributive social spending, especially pensions, in the wake of growing income inequality until 2005 and the fear that it might spur political unrest or a similar rise of populism as observed in other countries. Debt-financing of public investment, though fundamentally warranted in the wake of the continued negative interest rates, and a systematic upgrading of those types of government consumption that are complementary to public investment (such as administrative staff in planning but also in the education sector) remained off the table, however.

Investment still increased mildly, given the strong increase in tax revenue, but not enough to close the infrastructure gap (see Figure 2). There was also no upgrade in the size of the local public sector, hence many attempts for local investment agendas (e.g. the digitalization of schools) failed because of severe shortages of administrative staff on the ground to actually plan and implement the investment projects. Only Hesse and the Saarland - besides North Rhine-Westphalia and Rhineland-Palatinate characterized by high structural deficits in the municipal budgets - have set up special funds to reduce local government debt ("Hessenkasse 2018", "Saarlandpakt 2019").

In sum, the leading paradigm of German fiscal policy remained largely intact and was at best moderately refined in the golden decade following the GFC. The projection of an ageing German population, which necessitates tight limits on public finances today, continued to be the key driving force for political decisions. Other arguments why Germany needed an agenda of modernization and public investment slowly gained ground in academic and policy discussions. For instance, it became increasingly clear that massive investments were in need for at least three interrelated reasons:

i) Infrastructure support for the transformation of several leading industrial sectors in the wake of digitalization and climate change,
ii) the required effort to counter the slowdown of productivity growth, which worsens the outlook for long-term sustainability of public finances in an ageing society,

iii) the need to make every joint effort in the European Union to be able to survive in the great power competition with the United States and China through innovation, technological leadership, and competitiveness.

For the time being, however, those arguments so far did not lead to a fundamental change in the leading paradigm of fiscal policy. Germany enjoyed the merits of the golden decade, but the society was still unwilling, or too complacent, to orchestrate a turnaround in fiscal policies. What Germany effectively did during the golden decade 2009-2019 was "too little, too late" to actually tackle the most pressing problems. Then, in early 2020, came the Corona crisis.

2. Immediate crisis management and challenges after the Corona crisis

Everywhere in the developed world, governments responded to the unprecedented economic shock from the Corona crisis by providing generous liquidity support and guarantees to firms, as well as by ramping up public spending – accommodated by central banks which provided emergency liquidity lines on top of an already loose monetary policy. However, in comparison to other countries, the fiscal response to the Corona crisis in Germany has been particularly massive.

a. The German fiscal response

Figure 6 depicts the current projection for the size of the fiscal response in various countries.[9] With 8.3% of GDP, the direct fiscal stimulus in Germany is the second-largest in this sample of countries, only trumped by the US response which is projected at 9.1%. Within the European Union, the German direct fiscal impulse is by far the largest across all member states. Moreover, including other types of public support such as tax deferrals and state guarantees, the German figure rises to almost 40% of GDP, which is outstanding in international comparison.[10]

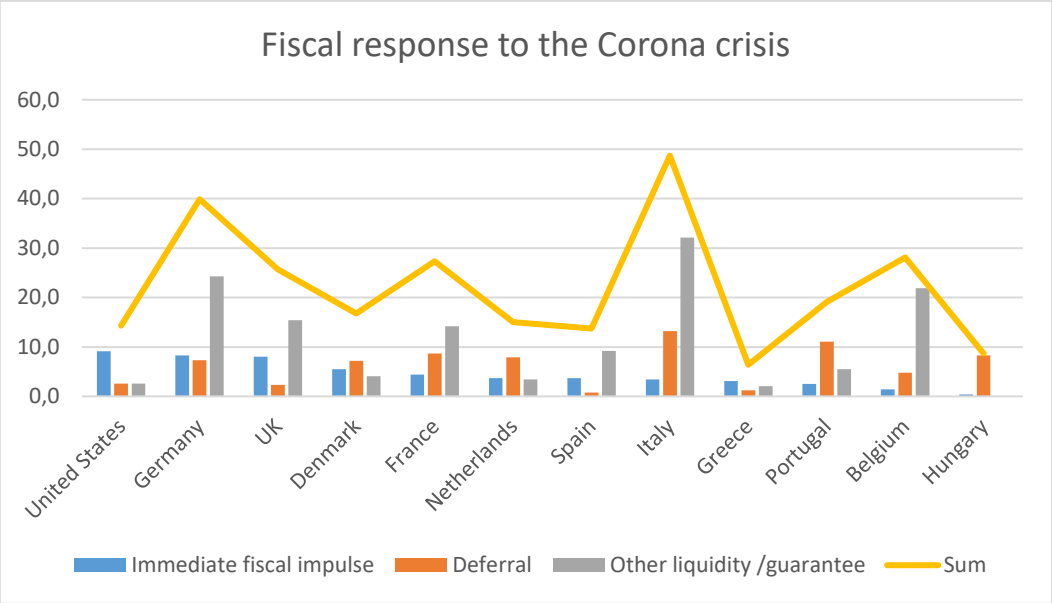
Some observers have claimed that this full-blown German response was only possible because of its history of black zero years during the golden decade. This interpretation is somewhat under-complex in our view, however. Within the Eurozone, there is clear evidence that member states with more fiscal space were able to respond more aggressively to the Corona crisis.[11] But in a broader context, this relationship is much less clear. Countries with substantially higher debt-to-GDP ratios (such as the United States or Japan) faced no difficulties to issue substantial amounts of public debt to finance massive stimulus packages themselves. This reflects the notion that the global Corona crisis has led to a flight to safety on international capital markets, as reflected by continuously low interest rates and risk spreads for government bonds of advanced and large economies. Germany may be considered an especially safe harbor because of a long-standing tradition, but other (even highly indebted) countries could as well afford marked fiscal answers to the crisis.

[9] Data is provided by the fiscal response database by Bruegel, last accessed 14/08/2020, see https://www.bruegel.org/publications/datasets/covid-national-dataset/

[10] The Italian overall support is slightly larger (48.7%) because of very generous state guarantees provided by the public export insurance agency (SACE). The Italian direct fiscal stimulus is relatively most at 3.4% of GDP.

[11] See Heimberger (2020), https://makronom.de/corona-krise-einigung-der-euro-finanzminister-bestenfalls-ein-erster-schritt-35667

Figure 6: Fiscal response to the Corona crisis



Source: https://www.bruegel.org/publications/datasets/covid-national-dataset/

But regardless of whether the black zero was a prerequisite or not, the generosity of the German crisis response still came as a surprise to many, despite the fact that Germany had also reacted to the GFC with strong fiscal stimuli (Konjunkturpakete I & II 2008/09). The country that has cherished its reputation for solid (stingy, some claim) public finances for decades, and often did "too little, too late" to address its own internal investment needs, now orchestrates the biggest national fiscal response in Europe, if not the world. On top of that, Germany together with France led the initiatives for a common European answer to the Corona crisis. First, it strongly advocated and helped design immediate support schemes via the European Stability Mechanism (ESM), the European Investment Bank (EIB) and the new facility for short time work schemes (SURE). Second, and even more surprisingly, Germany put its full political weight behind the European recovery fund (Next Generation EU), which is financed via common European debt and supports EU member states via substantial grants, not just via loans. Thereby, Germany did not join the coalition of northern European countries (namely Netherlands, Austria, Denmark, Sweden and Finland) now coined "the frugal five", with whom it traditionally sided, and who remained skeptical of this avenue towards European common debt.

The **key question**, therefore, is: *has the Corona crisis finally caused a fundamental paradigm shift for German fiscal policy?* In its July 25th, 2020 edition, *The Economist* sketched "a new era of macroeconomics" and a "profound shift" in the leading economic paradigm "of the sort that happens only once in a generation". This alleged new paradigm consists of "free money" for government spending that knows no limits. Below we will further discuss if such a paradigm shifts actually took place. If it exists, it would be most obvious and visible in Germany, given the initial position it came from. But we will raise some doubts on its profoundness. Before, we describe the German fiscal response to the Corona crisis in more detail, as well as its projected consequences for public debt.

b. The two phases of the German response to the Corona crisis

The response so far consisted of two separate phases. In the **first stage**, the government revitalized short-time work as a crisis instrument already proved during the GFC. It allows firms to externalize their wage costs mostly to the Federal Employment Agency, with the aim is to prevent layoffs of workers in firms with dramatical drops in revenue. At the peak of Corona crisis, around seven million

workers were under the short-time work scheme, five times as many as in the heydays of the GFC. So far, this has prevented a wave of mass unemployment in the German economy.

Another key element of the first stage were tax deferrals and generous state guarantees for loans to ensure firms' liquidity, direct grants to small enterprises, and a stabilization funds to provide equity and re-capitalize suffering large firms (such as Lufthansa) to prevent their insolvency.

In essence, this first stage of the response package – which comes under the label of the "liquidity bazooka" – provided **insurance** to workers and firms faced with an unprecedented combination of supply and demand shocks at the same time. At the time of writing this essay, it is still impossible to estimate the overall fiscal costs of those support schemes, as it depends on many uncertain parameters such as future take-up and repayment of the loans, the terms and conditions under which government withdraws again from its equity positions, the future business cycle, and so forth[12]. At face value, the bazooka amounted to a sum of up to 1.4 trn euros, which means that the German package alone is roughly three times the size of the comparable package at the European level[13], and clearly among the largest of all EU member states (see Figure 6).

The **second stage** of the German crisis response was initiated on June 3, 2020, with the announcement of a **stimulus** package worth 130 bn € by the Federal government coalition, with additional smaller packages by State governments following shortly after. Figure 7 illustrates the single elements of the Federal stimulus package, which has become known as the "Wumms" package following remarks by the German finance minister Olaf Scholz during a press conference. It consists of several classical tools of business cycle management to initiate a short-term boom, such as temporary VAT cuts or direct income transfers to low-income families. But almost 40 percent of the overall stimulus package are reserved for various investment initiatives ("Zukunftspaket"), including for new technologies (e.g., hydrogen, electric mobility), digitalization (e.g., artificial intelligence, IT equipment for schools) and special funds to compensate local communities for losses in tax revenue and support them with their investments.

Thus, apparently, the Corona crisis managed to jumpstart what still was not possible during the golden decade after the GFC: a serious effort to tackle the German underinvestment problem. Prior to Corona, there was a prominent joint pledge by trade unions and Federation of German Industries, backed by many economists, to set up an investment agenda worth 450 bn € over ten years.[14] The investment part of the stimulus package, worth 50 bn € over two years, thus comes close to this figure and shares many of the specific priorities of the proposal by Bardt et al. (2019).

It remains to be seen how much of this money will actually be put on the road to launch new projects during the next 1-2 years. On an optimistic note, the implementation is facilitated by the fact that long-term structural and short-term business cycle considerations now coincide and go hand in hand. The investments are needed anyhow to modernize the structure of the German economy, but now they are also needed to boost short-term domestic demand. Another optimistic aspect comes from capacity utilization. The construction sector is a key player when it comes to implementing projects, for example

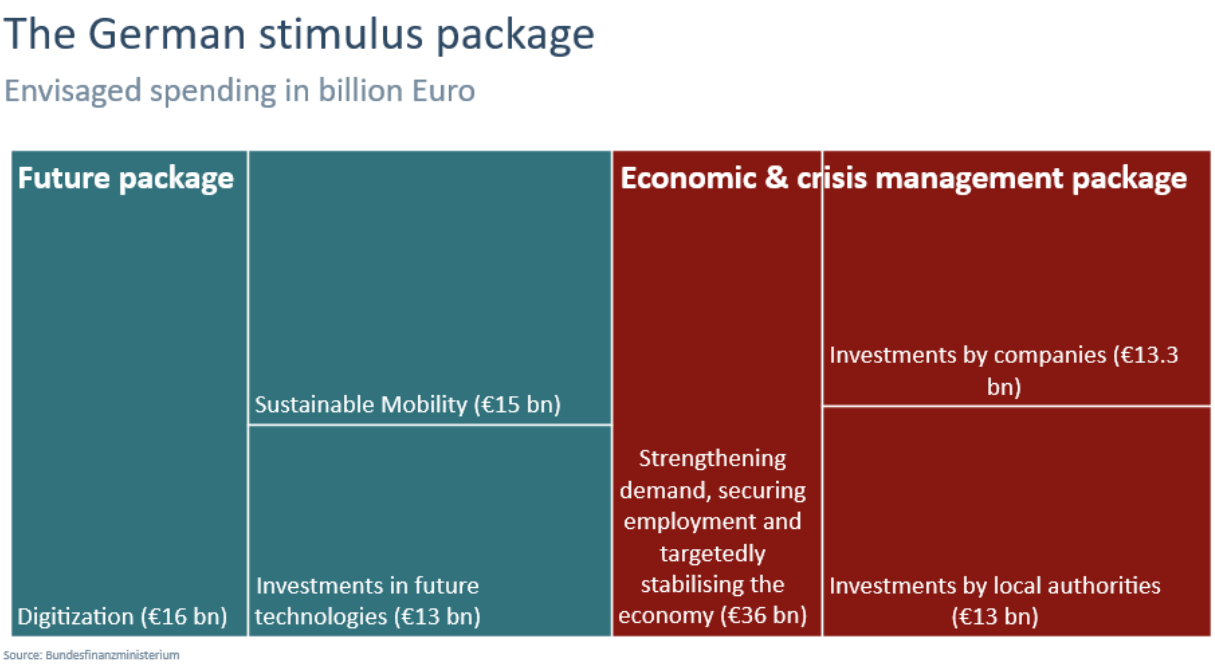
[12] See Deutsche Bundesbank: Monthly Report August 2020, pp 97
https://www.bundesbank.de/en/press/dates/bundesbank-monthly-report-august-2020--635208

[13] The first stage of the European crisis response, agreed on April 9 in the European council, consisted of roughly 500 bn € via Pandemic Crisis Support Instrument (PCSI) of the ESM, guarantees for EIB loans which is similar to liquidity credits by the German KfW bank, and the SURE program which replicates the German short-term work scheme.

[14] See Bardt et al. (2019),
https://www.iwkoeln.de/fileadmin/user_upload/Studien/policy_papers/PDF/2019/IW-Policy-Paper_2019_Investitionen.pdf

the rollout of a new infrastructure of battery charging stations for electric mobility across the country. Prior to the Corona crisis, the construction sector operated above its capacity limit, which in turn slowed down the execution of many projects. This over-utilization could now be relaxed to some extent, because the recession might reduce demand for construction services from the private sector.

Figure 7: German fiscal stimulus package, June 2020



On the other hand, several obstacles to public investment that were identified already prior to 2020 are still existent and have not disappeared with the Corona crisis. This concerns the high complexity of planning procedures, the NIMBYism in some parts of the population who often legally engage against investment projects (and the associated construction work) in their neighborhood, and – probably most importantly – the understaffing of the public sector at the local level to ensure the proper implementation of projects.[15] This part of public expenditure (for administrative staff, researchers, teachers, etc.) is not counted as public investment, but as government consumption. Yet, it clearly carries the characteristics of an intangible public investment good, and is complementary to the tangible forms of conventional brick-and-steel types of public investment.

c. The broader fiscal strategy post Corona

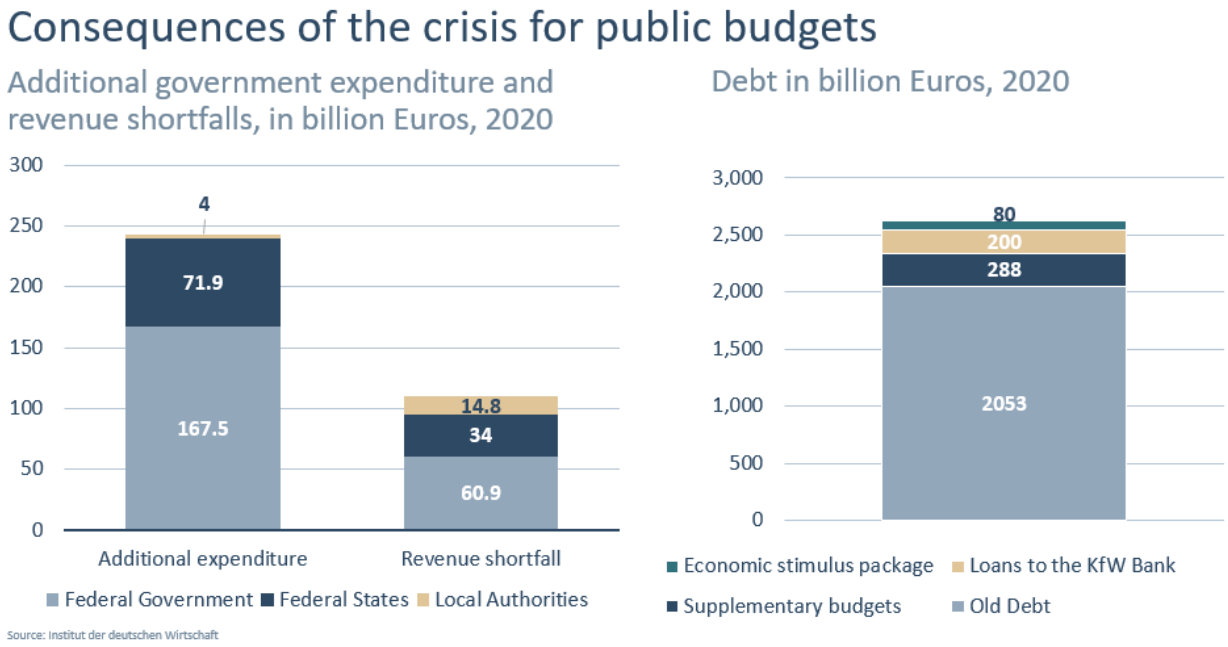
More generally speaking, it is still unclear whether the Corona stimulus marks a fundamental turnaround in the leading paradigm behind German fiscal policy, or the start of "a new era" as *The Economist* has put it. To be successful, the investment agenda must endure longer than just 1-2 years and extend well beyond the urgent recessionary phase. It requires structural commitments with long-term financial consequences, such as more (and better paid) administrative staff in certain parts of the public sector, and a better and comprehensive implementation on all levels. Whether the German society will accept such a new paradigm, and its fiscal consequences, is still an open question to which we turn in the next section.

[15] The municipalities' limited ability to act is combined with a lack of consistent control in the sense of the goals formulated by federal and state politics. The implementation of important national suffers more and more.

Much of it may also depend on the trajectory of public debt in the following years. By how much the debt-to-GDP ratio will eventually increase is still vastly unclear for the named reasons, mainly take-up and repayment of state guaranteed loans, as well as further business cycle developments which depend a lot the speed of recovery of Germany's trading partners.

But according to current projections, total public debt might increase this year by roughly 500 billion Euro as a result of higher public spending at reduced tax revenue (see Figure 8). Depending on the consensus forecast for GDP growth, this could ramp up the German debt-to-GDP ratio from slightly below 60 per cent to roughly 76 per cent by next year. This is, of course, a substantial increase in public debt, but at the same time not without historical precedent. A jump from 60 to 80 per cent roughly corresponds to the developments after the GFC, and 80 per cent is still substantially lower than the debt-to-GDP ratio in many other advanced European and especially non-European countries, most notably the USA and Japan.

Figure 8: Projected impact of COVID fiscal response on public debt



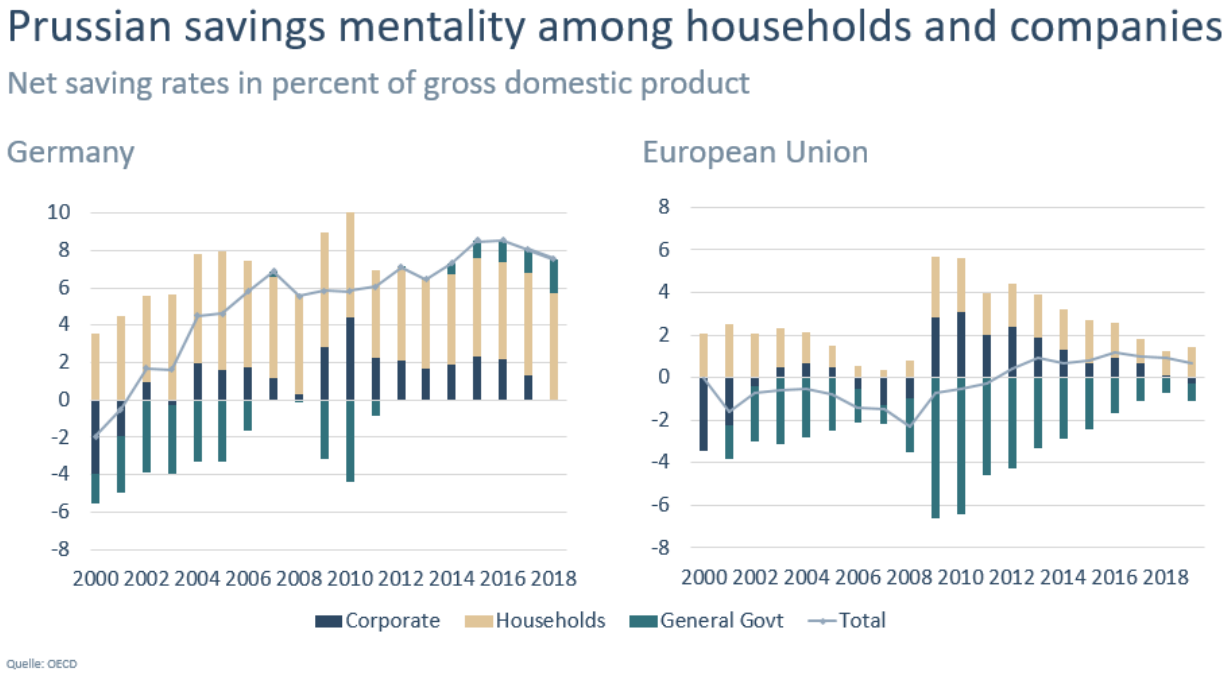
There is, hence, not much reason to panic about a looming debt crisis, especially since monetary policy today is considerably more accommodative than in the years 2009-2011. Moreover, the experience of the golden decade shows that it is possible to grow out of public debt "via the denominator", i.e., to achieve a gradual decline of the debt-to-GDP ratio without imposing budget cuts, just by ensuring that the growth rate of public expenditure remains below the growth rate of GDP.

There is no guarantee that repeating this experience is easily possible, however. In particular, the key factor for fiscal consolidation during the golden age has been the strong labour market boom and the corresponding increase in the employment rate and tax revenue (see Figure 1). Without a comparable job boom in the next years, it will be difficult to achieve automatic debt stabilization in a similar fashion as after the GFC. On the other hand, it is difficult to envision an alternative strategy for debt consolidation. In principle, one may consider strict austerity in response to the increase in government debt, with the intention to run primary surpluses in order to bring government debt down. Such a

strategy, which is occasionally suggested by some policy commentators, could easily backfire, however.[16]

Consolidating debt via budget cuts and austerity can only succeed if debt-driven foreign demand steps up to close the gap. This is unlikely to happen after the Corona crisis, as all countries are faced with the need for fiscal consolidation. More specifically, Figure 9 shows net savings rates of the three broad domestic aggregates in the economy (households, firms, government), for Germany and for the European Union as a whole. In Germany, all three domestic aggregates have turned into net savers ever since 2012. Maybe most surprisingly, even non-financial corporation are no longer net creditors and do not "absorb" savings of households for their domestic investments. Instead, in the aggregate, they have turned into savers themselves and tend to export their investments abroad. By simple aggregate budget logic, this implies a current account surplus, i.e., foreigners absorb German net domestic savings, increase their net debt, and correspondingly Germany its net foreign assets. And indeed, Germany has been running the largest current account surplus in the world for many consecutive years prior to the Corona crisis.

Figure 9: Net aggregate savings rate in Germany and the European Union



If Germany tries to tackle its rise in government debt via budget cuts, this will further drive up net savings as the public sector runs primary budget surpluses. If net savings of households and corporations do not change, this would require the foreign sector to increase its net debt vis-à-vis Germany, thereby allowing German exporters to freeride on debt-driven foreign demand. But the right panel in Figure 9 shows that the EU as a whole has as well gradually turned into a net saver prior to Corona, i.e., other European countries consolidate as well and will not drive up debt to increase demand for German goods. Other countries outside Europe would have to step up. But this is also unlikely to happen. The German current account surplus has turned into a concern and a strategic risk factor there as well, as exemplified by several unambiguous statements of the Trump administration accusing Germany to be the biggest free-rider in the world both in terms of national security (relying

[16] Even the Deutsche Bundesbank advises against it in the current situation, see footnote 12.

on NATO) and in terms of swamping foreign markets with their notorious export surpluses. The next US administration, even if led by Joe Biden, might choose softer rhetoric and subscribe to a multilateral policy approach, but is unlikely to adopt a substantially different viewpoint on those matters.

Essentially, all countries worldwide are faced with the Corona crisis, and will have to worry about fiscal consolidations in the years to come. Hence, a debt-driven boom that pushes up foreign demand for German export products is difficult to imagine anytime soon. But in the absence of an offsetting boom in foreign demand, imposing domestic austerity would lead to deflationary shortage in aggregate demand for the German economy, thereby spoiling growth and potentially increasing (instead of decreasing) the debt-to-GDP ratio. This would exactly work against a job boom on the domestic labor market, and it would not only economically but also politically be enormously costly.

To accept those facts, and to accept that the German debt consolidation post Corona must mainly come from expansionary policies and growth, requires some flexibility in the mindsets of economic policymakers. To some extent, it also requires the dominance of a "new" paradigm of fiscal policy in the public discourse. We now discuss how likely this will be in the upcoming years.

3. A new paradigm for German fiscal policy after the Corona crisis?

German financial policy experienced a rollercoaster of emotions due to the Covid19 pandemic. If the consolidation strategy of the debt brake and the "black zero" appeared to be effective and logical up to that point, it had to be changed from one moment to the next. A massively expansive fiscal policy was now required, the debt brake was suspended without resistance, and - as outlined above - action was taken quickly and comprehensively. The swing in financial policy was assessed as appropriate mainly in terms of substance and timing. There was hardly any fundamental opposition except for singular fringe opinions.

The saying "need knows no command" ("Not kennt kein Gebot"), often accusingly cited in Germany, did not apply either, because rules were not violated. The debt brake was properly suspended. One can even argue that the state's overall economic responsibility was fulfilled during the crisis. The fact that the trend reversal in financial policy, because of the normative exaggeration of the "black zero", had to appear sinister to both supporters and critics became clear at the moment when individual politicians demanded a maximum limit for net borrowing and the debt ratio.[17] But those remained individual votes so far, and were not even supported by eminent defenders of the debt brake. This also applied in August 2020 when the Federal Finance Minister discussed the renewed suspension of the debt brake for 2021.[18]

In an acute crisis, characterized by difficult assessment problems, there is basically no room for fundamental debates and ideologies. Action must be taken, and responsible politicians act. This is how it was in the GFC, and so it is now in the pandemic. Nevertheless, the question of the paradigm shift is justified, because in more stable times, daily politics needs a reliable framework. Such a framework in the form of principles relieves daily decision-making and action, it reduces potential conflicts. However, fundamental considerations presuppose that there is an agreement about the goal of state

[17] See Bavarian Prime Minister, Markus Söder, on the occasion of the CSU party convention End of May 2020 https://www.handelsblatt.com/politik/deutschland/virtueller-parteitag-csu-chef-soeder-maximal-100-milliarden-euro-neue-schulden-fuer-den-bund/25853404.html?ticket=ST-554493-dyik3MwziXcnvTgZVKZ2-ap6

[18] See FAZ 21. August 2020, S. 15.

activity and its financing in the normal economic as well as societal situation. A paradigm shift is therefore always an expression of changed objectives and new perspectives for action.

The debt brake represented a consensus that valued the sustainability of public finances as particularly important and subordinated other issues to this aspect. This was based on the assessment that rising debt levels are a problem for an aging society. This was all the truer because the macroeconomic returns from persistent government deficits were not discernible for the growth trend. In addition, since the 1980s - as explained above - a fundamentally skeptical view of the state and its financial conduct has dominated.

If one asks about the causes of a paradigm shift, then basically two starting points can be found: first, fundamentally different real requirements can lead to fundamentally different assessments, or second, societal preferences can change and thus give space to a different political approach.

a. Two different narratives on fiscal policy rules and the world of a zero real interest rate

It should be remembered that the debt brakes enshrined in the constitution generally led to a de-politicization of politics. What is regulated in the constitution is withdrawn from the daily political struggle. However, democracy lives from the fact that the best solutions are always struggled anew. Strong arguments are therefore required for delegating the issue to the constitution.

In fact, two different and even opposing reasons can be found in economic discourse. In the spectrum of democratic parties, there is accordingly no compulsory assignment to those who advocate strict, above all constitutional debt regulation, and to those who reject it. The debt brake has - consistently - been written into the Basic Law by a grand coalition of CDU / CSU and SPD.

- A rather **conservative narrative**: In the public debate in Germany, the focus was on the story that the state tends to keep increasing government spending because of the decision-making logic in democracy (party competition). Given the tax burden, this inevitably requires an increasing debt ratio. The impression that Keynesian politics has become a permanent instrument also works in this direction, because the power to consolidate politically was regularly lacking in the boom.[19] The experience with the old regulation according to Article 115 of the Basic Law, which basically corresponded to the “golden rule”, was sobering. This was due to the fact that, on the one hand, the concept of investment was not adequately defined, and on the other hand, there was no binding effect for the correction of cyclical debt.

  A debt regulation that reacts to this will safeguard the MPs against claims of the electorate, the approval of which structurally increases the budgetary leeway, i.e. would permanently overwhelm.[20] Likewise, in the political competition between the agents (parties) for the principal (electorate), it can be a question of effectively installing a brake against an overwhelming competition in spending.[21]

- A more **politically progressive narrative** does not reflect skepticism towards a state that is systematically overburdening itself, but the almost contradicting assessment that only by limiting state borrowing a depletion of the income base through ongoing tax cuts be can

[19] See Karl Schiller: Die Grenzen der Wirtschaftspolitik (neu betrachtet), in: Jahrbücher für Nationalökonomie und Statistik Vol. 201, 1986, pp. 1-11.
[20] See e.g. James Buchanan: Politics without romance: a sketch of positive public choice theory and its normative implications, in Buchanan, J., Tollison, R. (Ed.), The Theory of Public Choice – II. Ann Arbor: Michigan University Press 1984, pp. 11–22.
[21] See e.g. William D. Nordhaus: The Political Business Cycle, in: Review of Economic Studies 1975 Vol. 42/2, pp. 169-190.

prevented. Behind this is the perception that in the globalized economy there is a tax competition that lowers tax rates as a "race-to-the-bottom" and is made possible frivolously by increasing debt. This was in line with the experience in the United States after President Reagan's tax cuts.[22] This excessive demand on the state budget on the revenue side can also be countered by strict regulation of state borrowing.[23]

Against this background, two considerations can be deducted: (1) The political motivation for the introduction of the debt brake in 2009 can be used to identify a broad consensus across the political spectrum. Hence, it follows from simple political logic that, under normal and stable conditions, giving up the debt brake is not easy for the parties that supported it at the time. If the conditions remain unchanged, there is a considerable need for justification, especially since abandoning the debt brake again requires a 2/3 majority in the Bundestag and in the Bundesrat to amend the constitution. (2) The political logic of debt regulation cannot be clearly assigned ideologically. This also means that a kind of pawl effect can take effect once the constitution has been amended accordingly.

The quick and unanimous suspension of the debt brake by the German Bundestag in spring 2020 was due to the extreme escalation of the crisis - the state of emergency. Nobody wanted to be responsible for the fact that stubbornly adhering to constitutional debt regulation could either endanger the health care of the population or accept the economic collapse. As mentioned, it was not the case that this suspension required a rule violation. On the contrary: The suspension of the debt brake was legal, because a pandemic corresponds to an “exceptional emergency situation that is beyond the control of the state and significantly affects the state's financial position” (Art. 109 Paragraph 3 Clause 3 and 4 GG). That will be the case in 2020 (and certainly also in 2021). However, it is necessary to establish a corresponding repayment regulation (Art. 115 Paragraph 2 Sentence 7 GG). According to the stipulations in the 2020 supplementary budget, the loans that are above the normal permissible debt are to be repaid, starting with the federal budget in 2023 and in the following 19 budget years.

One can therefore argue that the budgetary policy decisions in the wake of the pandemic do not signal a paradigm shift simply because they strictly adhere to the constitutional provisions on the debt brake. If, however, one considers that the fiscal package of July contains 44 billion euros in investment expenditure (“Future Package”), then this can also be seen as a reflex to the public discussion in 2019 on the conflict between the debt brake and public investment needs. In other words: The discourse shifted in 2019 to increasingly assess the need for investment as urgent and creditable. The joint initiative of BDI (Federation of German Industry) and DGB (German Trade Union Confederation) for a corresponding program with an annual budget of 45 billion euros over a period of ten years makes this clear.[24] The “black zero”, which for a long time, as a communicative tightening of the debt brake, helped to secure the way of consolidating the federal budget politically, has in any case lost its independent, almost iconic meaning and this change could turn out to be permanent, not just transitory.

This probability for a paradigm shift is also evident from the fact that the simple equation of the debt brake and the “black zero” is less and less convincing both politically and in the media. In its strictest form, a “black zero” consistently excludes the escape clauses of the debt brake. Borrowing would never be permitted, neither for economic reasons, nor as a financing mode solely for investments, nor for

[22] See Michael J. Boskin, Reagan and the Economy. The Successes, Failures and unfinished Agenda. San Francisco: ICS Press 1987.
[23] See e.g. Thorsten Persson / Lars Svensson: Why a Stubborn Conservative would Run a Deficit, in: The Quarterly Journal of Economics Vol. 104/2, 1989, pp. 325-345; Lukas Haffert: Die schwarze Null: Über die Schattenseiten ausgeglichener Haushalte. Suhrkamp Verlag, Berlin 2016.
[24] See footnote 14.

exceptional emergencies such as natural disasters. Behind this is an even more fundamental negative view of government borrowing: it is fundamentally or even morally assessed as "*inadmissible*". The constitutional lawyer and former constitutional judge Paul Kirchhof has argued accordingly as follows: „*The state is not a company that recovers what has been borrowed through successful investments. The state only shifts burdens to the children*". Kirchhof also claimed that "*Constitutional law promises every citizen that his financial capital will bring him an annual return. This promise is no longer fulfilled. The core idea of private property will be abolished*." [25]

The paradigm recognizable therein of a complete rejection of the state loan was certainly not the guiding principle for the constitutional amendment in 2009. However, in the past decade there was a trend in interest rates in Germany that some observers saw as a financial repression. This is assessed as a targeted attempt by the state to relieve itself through low interest rates and to deprive savers of their - justified - income more and more. "*Financial repression includes directed lending to government by captive domestic audiences (such as pension funds), explicit or implicit caps on interest rates, regulation of cross-border capital movements, and (generally) a tighter connection between government and banks. In the heavily regulated financial markets of the Bretton Woods system, several restrictions facilitated a sharp and rapid reduction in public debt / GDP ratios from the late 1940s to the 1970s.*" [26] This leads to the question of whether and to what extent the development of interest rates over the past decade can be explained in this way.

This is exactly where the decisive finding lies, which has the potential to initiate a real paradigm shift: if the real interest rate on government bonds continues to be below the real growth rate of the GDP, then national debt in itself does not result in any burden on future generations. The old paradigm "today's debt are tomorrow's taxes", akin to the concept of Ricardian equivalence, would no longer be true[27]. Interest payments can be financed from the annual growth in income in the economy, without the need for a special return from the use of public loans. From an allocative point of view, the financing of investments that increase the capital stock thus make sense anyway, and these regularly achieve a corresponding return.[28]

The interest rate environment has changed fundamentally since the time when the debt brake was introduced.[29] On the one hand, the financial crisis has caused the central banks around the world to take a very expansive course with unconventional means. On the other hand, a decline in real interest rates has been observed continuously since the 1990s (or even the 1970s) and results from a

[25] See https://blog.zeit.de/herdentrieb/2013/12/11/paul-kirchhofs-wunderbare-welt-der-wirtschaft_6868?sort=asc&comments_page=3 and https://www.spiegel.de/wirtschaft/soziales/paul-kirchhof-kritisiert-zinspolitik-der-ezb-a-938365.html .

[26] See Carmen Reinhart/M. Belen Sbrancia: The Liquidation of Government Debt, NBER Working Paper 16893, 2011 https://www.imf.org/external/np/seminars/eng/2011/res2/pdf/crbs.pdf

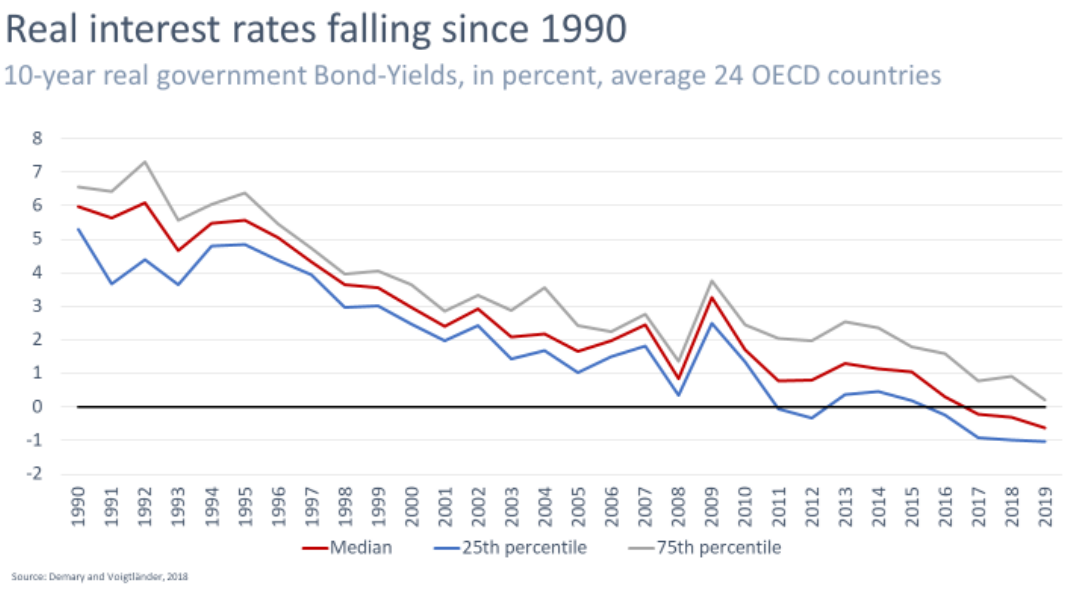
[27] Of course, even under these changed conditions with low interest rates, there are limits to the national debt if the risk assessment on the capital markets changes when the debt ratio rises sharply. This is especially true for countries with traditionally high debt ratios. See Andrea Presbitero / Ursula Wiriadinata, 2020, The risk of high public debt despite the low interest rate environment https://voxeu.org/article/risks-high-public-debt-despite-low-interest-rate-environment. It is therefore important to boost growth with public investment financed by loans.

[28] See Michael Hüther: 10 Jahre Schuldenbremse – ein Konzept mit Zukunft? IW Policy Paper 3/2019 https://www.iwkoeln.de/studien/iw-policy-papers/beitrag/michael-huether-10-jahre-schuldenbremse-ein-konzept-mit-zukunft.html

[29] German Council of Economic Experts (2007): "Measured in terms of its long-term effects, credit financing of public expenditure is from the outset neither good nor bad compared to tax financing. if the interest rate on public debt is lower than the growth rate of gross domestic product (Ponzi case), credit financing would even be superior to tax financing. But for Germany this constellation is empirically meaningless. " See footnote 3.

fundamentally changed relationship between investment and savings.[30] The second aspect in particular leads to the insight that the currently low (nominal) interest rates are not only an expression of the extraordinary monetary policy, but also of structural changes in the global capital markets (Figure 10). The successful disinflation by central banks around the world since the early 1980s has meant that the volatility of inflation could be significantly reduced and thus also the risk premium for it, which is included in the real interest rate.

Figure 10: Real interest rates in OECD countries sine 1990



The discussion about the underlying causes for the long-term developments in interest rates is still ongoing. Despite all the differences, the majority share the thesis that it is primarily structural factors that lead to this level of real interest rates. The main reasons given are: (1) Declining investment opportunities due to demographic change (expected shrinking demand, decrease in the volume of work), (2) declining investment needs for physical capital goods due to increasingly immaterial (intangible) and service-based business models, (3) increasing savings as a result demographic aging (life expectancy and old-age quotient), (4) a sustained decrease in willingness to take risks with the return on capital remaining unchanged over time, (5) reduced capital intensity as a result of digitization (creation of virtual products, processes and markets), (6) accelerated price decline for capital goods in view of the increased pace of innovation, and (7) and increased concentration of market power in the hand of industry-leaders, with discouraging effects the investment efforts of smaller competitors.

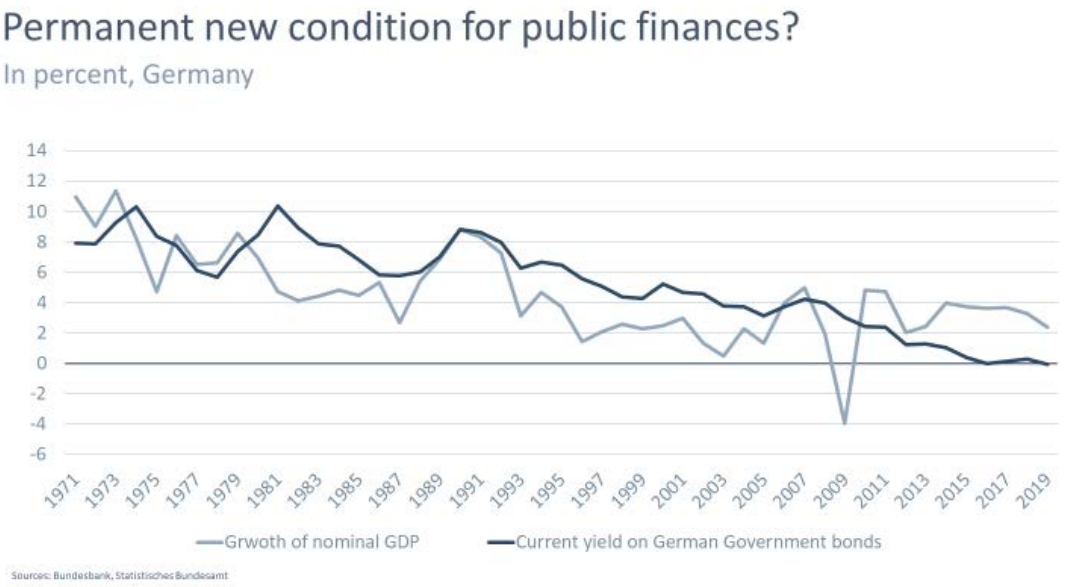
The model-based predictions for the future development of long-term real interest rates (up to 2050) show that a return to earlier levels cannot be plausibly expected. Rather, it can be assumed that interest rates will remain low over the long term - after a slight increase due to a possible normalization of monetary policy[31]. The thesis that the capital market conditions for financial policy have changed permanently, and that a constellation with r < g is not a short-term exception seems to be well justifiable (Figure 11). This is linked to the question of whether German politics can seize the

[30] See Olivier Blanchard: Public Debt and Low Interest Rates, in: American Economic Review 2019 https://www.aeaweb.org/aea/2019conference/program/pdf/14020_paper_etZgfbDr.pdf

[31] See Markus Demary / Michael Voigtländer: Reasons for the Declining Real Interest Rates, IW-Report 47/2018 https://www.iwkoeln.de/fileadmin/user_upload/Studien/Report/PDF/2018/IW-Report_2018-47_Declining_Real_Interest_Rates.pdf; Blanchard 2019 (footnote 28), pp.5.

opportunities for a sustainable fiscal policy. The interest rate advantage is especially linked to German government bonds, because investors consider the promise of security here to be particularly credible. This has been of increasing importance since the financial crisis.

Figure 11: Real interest rates in OECD countries sine 1990



On the one hand, the supply of safe bonds had become scarce as a result of the GFC, on the other hand, the crisis had significantly increased the demand for safe investments ("safe havens"), for instance on the voluminous European repo market. This was even more noticeable after the sovereign debt crisis in the EU, when temporarily only the German government bond was able to cover the demand in this sense. The Bundesbank has therefore noted an "increased demand for lower-risk assets"[32]. The security promise of German government bonds opens up new opportunities for the state to act on international capital markets. In this way, financial policy would cleverly use a specific locational advantage. At the same time, a sustainable path of expansionary, growth-oriented policy would be embarked on and the foreign trade dilemma would be taken seriously (see Chapter 2). Whether this is enforceable will depend on realistically assessing the investment needs in Germany.

b. Digital transformation, Decarbonization and Covid-19 ask for stability and resilience in economy and society

A look at the political discussion about the debt brake and crisis management in 2020 gives rise to legitimate doubts as to whether the rule-compliant suspension of the debt brake is also associated with a fundamental paradigm shift. Are Germans more willing to accept higher public debt, and a stronger public sector? Or is this an illusion, and will we all go back to the "black zero" attitude from the golden decade? The strongest argument for a repositioning of fiscal policy arises from the experience of the crisis and the already existing investment needs.

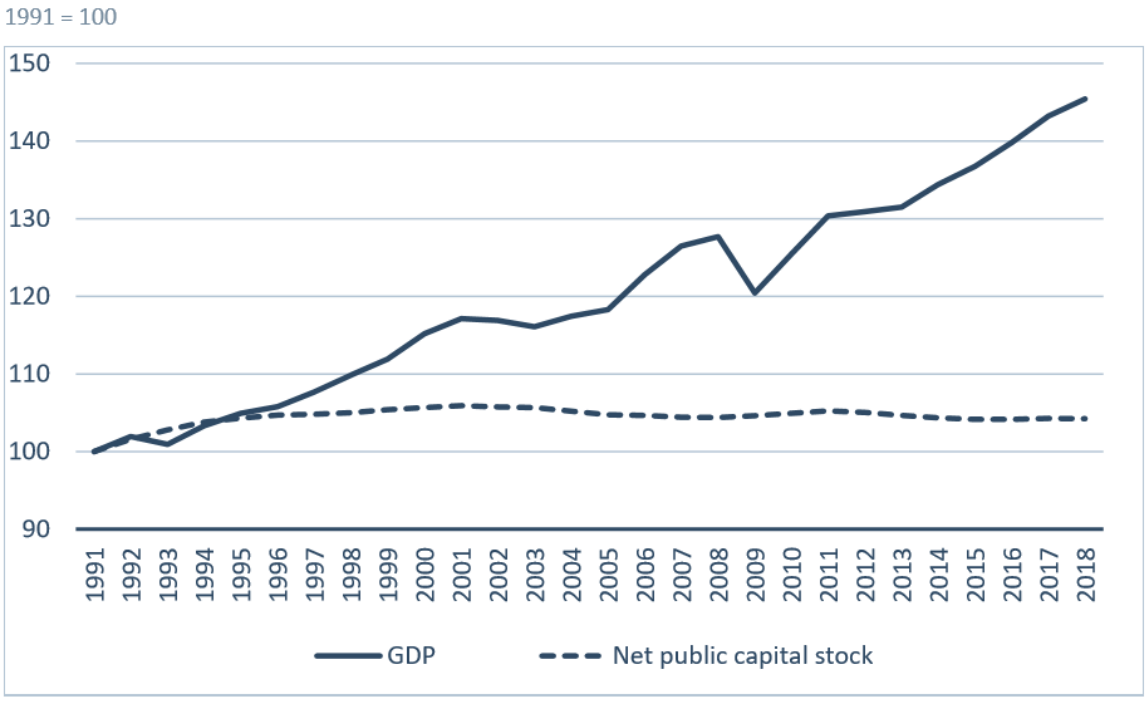
It does not follow from today's changed conditions of action and political options that the strategy pursued since 2009 was wrong: It may have been the politically viable answer in and after the GFC. Or, to put it another way, if one follows the thesis that politics reacts to real problems and challenges as

[32] See Deutsche Bundesbank: Zur Entwicklung des natürlichen Zinses, in: Monthly Report Vol. 69/10, 2017, p. 44.

well as to their social perception, then the answer found can be assessed differently in the light of the experience gained, but it does not turn out to be wrong. That would be historical hubris. However, the reference to the importance of labor market dynamics remains important. Without the increase in the employment rate from 70 to 80 percent (people between the ages of 20 and 64 years) with good wages, budget consolidation would not have succeeded.

However, the challenges in the structural change of our economy have increased enormously. This can be seen from the fact that German manufacturing has been in a recession since the beginning of 2018. The demands of climate change and digital transformation, but also the trade-policy disruptions to the international division of labor, have had an increasingly stronger impact. In any case, the German business model has come under noticeable pressure in the past two years. The infrastructural deficiencies also became more and more important and visible. The consolidation of public budgets was not accompanied by a better quality of the spending structure. Public investment has been the loser of the last decade, which is very clear in an international comparison (see Figure 2).

Figure 12: Inadequate public capital stock in Germany



Quelle: Sources: Destatis, Ameco

As already discussed above, behind this was an increasing wear and tear of the public capital stock, so that the infrastructure of our economy has deteriorated over the long term. Public investment has been badly neglected in Germany over the past two decades, with the result that the public capital stock no longer meets the standards of a modern economy and is inadequate for the challenges that will be posed by demographic change, digital transformation and decarbonization commitments (Figure 12). The consolidation has real economic consequences that could no longer be ignored regardless of the Covid-19 pandemic. And: The need for more public investment and a complementary expansion in the right types of government consumption (such as education) is obvious and can no longer denied. The investment requirement at all government levels identified in 2019 amounted to a good 450 billion euros and related to almost all fields of action of the government (Table 1) [33], which should be continuously reduced over a decade.

[33] See Bardt et al. 2019 (footnote 14) and Scientific Advisory Council of BMWi 2020 (footnote 1).

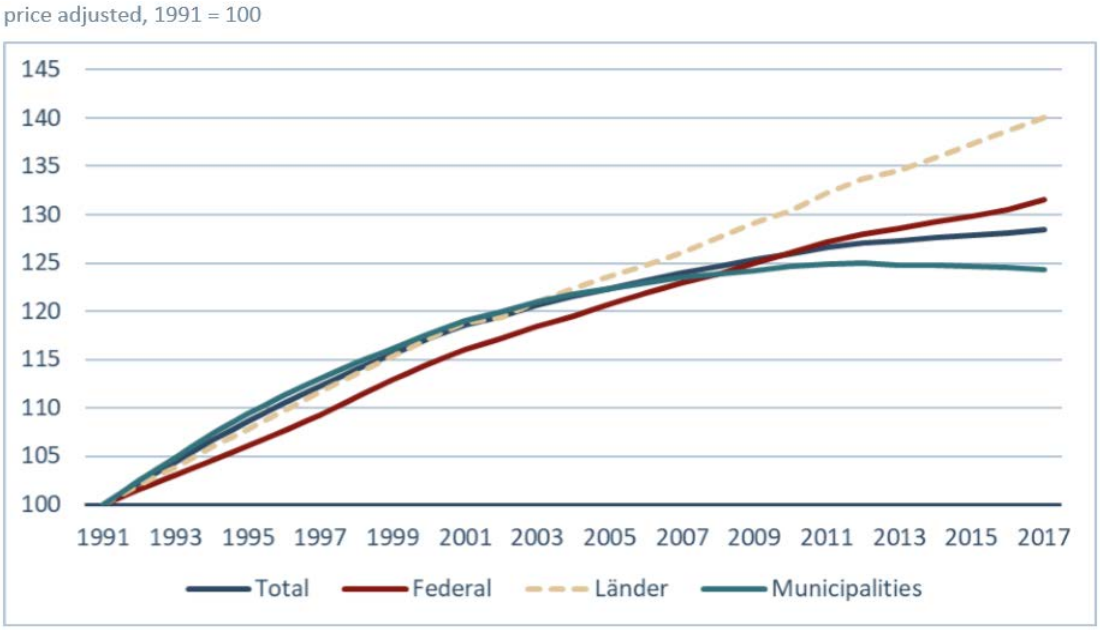
Table 1: Additional public sector investment requirements in Germany over the next 10 years (billion €)

Infrastructure at municipal level	
municipal infrastructure	138
expansion of public transportation	20
Education	
early childhood education	50
expansion of all-day schools	9
operation of the all-day schools	25
increase of expenditure for universities and research funding	25
House construction	
government share	15
Supraregional infrastructure	
expansion of broadband/5G	20
railway (federal government share; expansion freight traffic)	60
extension of highways	20
Decarbonisation	
government share	75
Total sum	**457**

Sources: KfW, 2019; Krebs/Scheffel, 2016; Baldenius et al., 2019; DENA, 2018; calculations and estimations by IMK and IW

As already mentioned, a severe challenge is caused in the federal system. The bulk of public investment is made at the municipal level, and this is where the greatest deficits are found. This is because the municipalities' public capital stock has not only developed below average but has stagnated over the past few years (Figure 13). In many federal states, the municipalities are confronted with structural budget problems. This is also an opportunity for the change in mentality because the local living conditions convey the quality of state services and institutions in a direct way.

Figure 13: Government capital stock: Buildings



Source: Destatis, calculation of assets, by August 2018

There is considerable need for action in both contexts. The debts legacies of the municipalities hinder sustainable action, as do the often poorly equipped administrations in the cities and districts. Both the refugee crisis and the pandemic have made this very clear: from 2015 onwards, it was the immigration authorities that became into the focus of public attention due to insufficient performance, this time it is the health authorities. This also often applies to the building authorities, as can be seen from the slow or unsuccessful handling of many investment projects.

The citizens experience the state on site, in their communities in a very practical way. The evident lack of quality in public administration and the need for investment should sharpen the view of the underlying causes. It has become ever more apparent in public discussions about the sustainability of government debt, that an overly orthodox approach, which solely focuses on conventional statistics such as the size of the budget deficit and debt-to-GDP ratio, is at best incomplete.

An economically more sensible approach, which acknowledges the overall needs of the system, rather starts from the question: what exactly are the investment and spending needs of the public sector, and what is the implied societal rate of return of various projects? Given this computation, which should be carried out conservatively and include several safety buffers to acknowledge the inherent uncertainty, it should then be discussed openly what is the appropriate financing mode – taking into account various burdens on future generations that could result either from excessive borrowing or from a systematic under-investment bias that is just the flipside of the same argument.

With interest rates in negative territory even for long maturities (e.g., a nominal rate of -0.2 percent for 30-year Bunds as of October 19, 2020), such an approach is likely to come out positively for many specific projects. Still, this does not mean that every public investment, even with rates of return close to zero, has to be carried out just because of the enormously low interest rates. This is because there can be inherent crowing-out effects, at least in terms of real resources. For example, if the government tries to hire many IT specialists to implement projects within the public sector, those workers cannot at the same time create (possibly even greater) values within the private sector. At the end, the *quality* of public spending remains the key objective that has to guide fiscal policy decisions.

Summing up: Not taking advantage of the opportunities that arise for German fiscal policy in view of the interest rate advantage is likely to appear to fewer and fewer people in our country as a clever and forward-looking policy approach. The potential for a paradigm shift, therefore, comes from the combination of two crucial aspects – the unmistakable need for an upgrade in certain types of pubic expenditure (investment and complementary government consumption) and the favorable conditions on financial markets to finance those needs using appropriate debt instruments.

4. A new framework of rules and strategies

After the pandemic, but by no means only because of the pandemic, the existing constitutional regulations on the debt brake will not be appropriate to the challenges and the conditions of public finance in Germany.

- Firstly, the pandemic means that the debt ratio will rise to around 76 percent. This leads to conflicts with the current Maastricht criteria of the European monetary union. It must be considered how, in what steps and in over what time horizon it can be possible to comply with the Maastricht rules again, if at all.

- Second, it should be clear that the developments of the past golden decade cannot easily be repeated, i.e., to enable fiscal consolidation solely through growth while sticking to tight fiscal rules such as the Maastricht criteria or even political goals such as the black zero. With an employment ratio of 80 percent, there is hardly any room left for strengthening the tax base through job creation; interest rates have already reached historic lows. Whether this will instead be possible through an increase in productivity is questionable, and in any case tied to an efficient management of structural change.

- Third, the particularly demanding structural change in the economy requires intelligent support through public investments and regulations. Since the policy for decarbonization implements the ecologically defined goals through laws, it is also responsible for accompanying this through regional structural policy. The exit from coal-fired power generation is an example of this; an extra budget has already been set up for that purpose. For the digital transformation, the state is also required to ensure enabler technologies such as 5G nationwide. The transport turnaround requires further investments etc.

a. A flexible and consistent debt brake

The prospect of growing out of the extreme overload of fiscal policy through innovation and productivity increases, as well as through job creation over a longer period of time, should certainly not be given up. But it is obvious that this strategy is by no means a sure bet. Quite the opposite, its viability is highly uncertain, and the challenges are fundamentally different than after the GFC. This calls for a reliable framework of fiscal policy to accompany the pressing structural challenges for the German economy.

It has been pointed out on several occasions that the debt brake inappropriately restricts the scope of action in the state even under normal conditions - i.e. regardless of pandemic and crisis. This is particularly evident when dealing with special investment needs, and with the financial legacy of debt burdens at the local level. With respect to the Covid 19 pandemic, another inconsistency of the debt brake has to be added: so far, it gives no consistent answer on the question of how debts can be repaid in a fiscally appropriate and economically wise manner.

Table 2: Repayment of Corona debt: Federal State and Länder

	Start of Repayment	Duration of Repayment	Amount of Repayment*
Baden-Württemberg	2024	10	500
Bayern	2024	20	1.000
Brandenburg	2022	30	66
Hessen	2021	10	190
Mecklenburg-Vorpommern	2024	10	70
Niedersachsen	2021	10	100
Nordrhein-Westfalen	Open to decision	50	500
Rheinland-Pfalz	2024	Depending on economic situation	Depending on economic situation
Saarland	No net borrowing	No net borrowing	No net borrowing
Sachsen	2023	6	1.000
Sachsen-Anhalt	2022	3	86
Schleswig-Holstein	2023	20	35
Thüringen	No net borrowing	No net borrowing	No net borrowing
Berlin	No net borrowing	No net borrowing	No net borrowing
Bremen	2024	30	40
Hamburg	2025	20	50
Federal Government	**2023**	**20**	**7.800**

*Average repayment per year in million Euro; Scource: audit office of Schleswig-Holstein

This inconsistency is evident from Table 2: the federal government and the states have planned the repayment of the corona debts in a completely uncoordinated manner and so far in very different ways as well as time horizons. While the federal government can repay its crisis debts through an annuity in line with the business cycle (within the framework of the maximum possible structural debt of 0.35 percent of GDP)[34], the federal states do not have this option, so that the only way out are primary surpluses via lower expenditure and/or higher taxes. This avenue towards fiscal austerity may be counterproductive in economic perspective. The debt brake is inconsistent, on the one hand, it correctly allows borrowing in a case of severe emergency. But on the other hand, it does not open up an economically appropriate repayment scheme.

> *In the legislative process for the introduction of the debt brake, it was originally intended to allow 0.5 percent of GDP as annual structural debt (0.35 percent for the federal government, 0.15 percent for the states). Our proposal is to reactivate the 0.5 percent in order to enable economically viable refinancing in the event of repayment in emergencies. A strengthened Stability Council could be given the task of regulating the division between the federal and state levels. This would create a variable element in the debt brake*

Moreover, the debt brake stipulates that the repayment scheme shall be "*in accordance with the business cycle* (=konjunkturgerecht)", but the precise meaning of this term remains vague. As argued above, premature consolidation via primary surpluses can easily backfire, since foreign demand is unlikely to step up and fill the gap caused by fiscal austerity. The debt-to-GDP ratio can then decrease slower than it would otherwise be the case. To prevent such a scenario, the repayment scheme should be kept flexible and should be prolonged appropriately, in order to avoid overly contractionary primary surpluses as long as domestic consumption and private investment remain subdued. This argument applies both to the federal level and for the single states.

Another inconsistency is related to legacy debt of municipalities in some German Länder. This is because the transfer of municipal debts to the Länder or the federal budget is not compatible with the rules of the debt brake, although the overall debt level remains unchanged. Such transactions should, however, be possible if the responsibility of the Länder for their municipalities is to be taken seriously. The case that results in the budgetary emergency of a federal state would have to be assessed analogously[35]. Remedial federal supplementary allocations could no longer be made.

> *Consideration should be given here to supplementing the debt brake with an escape clause that considers a pure shift between the federal levels without a change in the level of debt to be irrelevant.*

b. Pushing transformative growth and employment

The necessary transformation in the areas of de-carbonization, digitalization, research and development to counteract the productivity slowdown etc. can only succeed if taken up jointly, and it can only succeed in cooperation between the private sector (via private investment) and complementary efforts by the public sector. Therefore, the key requirement for fiscal policy must be a set up that is appropriate to live up to those challenges.

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[34] See vbw: Finanzierung der Corona-Kosten – tragfähig und tragbar, Sept. 2020 https://www.vbw-bayern.de/Redaktion/Frei-zugaengliche-Medien/Abteilungen-GS/Wirtschaftspolitik/2020/Downloads/200907-FiFo-vbw_Studie-Finanzierung-Corona-Kosten_cms.pdf

[35] The Federal Constitutional Court ruled in 1992 for Saarland and Bremen that both countries were in an extreme budgetary emergency (BVerfGE 86, 148 - Finanzausgleich II). It has two indicators of this: the loan financing ratio and the interest-tax ratio. In addition, the court found an extreme budgetary emergency, since the budgetary restructuring required such high funds that it was hopeless for the countries concerned to generate these funds through tax revenue or normal financial equalization.

In the German Stimulus Package from June 2020, almost 45 billion Euro are earmarked for investments in future technologies, digital transformation and sustainable mobility (see Table 7). This is a positive sign, but it is by no means sufficient. We do not need such contributions once, but over a longer period of around ten years. Only in this way is there a chance of reversing the weak productivity development of the past decades and, thus, creating the basis for a dynamic development of tax revenues.

As a general and permanent solution to the investment problem, we propose the outsourcing into a specific federal budget. That budget must be legally independent under private or public law, in order to allow it to operate as a special budgetary vehicle next to the ordinary public budgets which does not fall under the rules of the German debt brake.[36] It offers the chance to make public investment transparent and accountable. This has to be done in convincing procedure in order to ensure that it is invested effectively and efficiently. For this, the term investment must be defined economically and meaningfully. And an institutionally strengthened stability council could in principle decide whether projects are suitable for the investment fund.

> *The federal asset budget would have the task of providing the necessary public infrastructure by the federal government and the states, sustainably and in accordance with the respective technical standards: The basis for this could be a federal infrastructure plan, which includes all infrastructure networks including the communal nodes and country-specific hubs records.*

To be sure, designing such special purpose vehicles outside the regular budget also carries some political dangers. It can easily lead to the impression that existing constitutional rules are stretched or even bypassed. In that sense, it is only a second-best solution relative to a fundamental reform of the debt brake. Still, constitutional reforms take their time, and will not be possible easily as they require a 2/3 majority within both parliamentary chambers. For the time being, the specific budget is therefore a pragmatic solution.

Thinking further in terms of more fundamental long-term reforms, they should go into the direction of formulating more flexible *fiscal standards* rather than strict fiscal rules.[37] The development of real interest rates would then have to become one key ingredient for the definition of fiscal standards. In simplified terms, one could argue that an annual government (net) investment budget can be sustainably financed with loans, since it does not even depend on the expected return on this investment. In legal terms, a new paragraph (4) could be inserted in Article 109 of the Basic Law, which regulates exactly this:

> *An investment budget can also be financed by loans if the average interest rate on government bonds of all maturities (alternatively: with a maturity of at least ten year bonds) is below the growth rate of nominal gross domestic product in the year of adoption. Investments within the meaning of these regulations are those that increase the gross fixed capital stock of the state (gross fixed investments minus disposals).*

However, we would advise against overloading the constitution with too many detailed procedural rules. The first-best scenario would be to keep fiscal rules within the constitution on a general and

[36] See Hermes et al. (2020) for a legal proposal how to design such an investment budget in accordance with German constitutional rules. Available online at: https://www.uni-weimar.de/fileadmin/user/fak/bauing/professuren_institute/Infrastrukturwirtschaft_und-management/Forschung/Publikationen/2020/hermes_vorwerk_beckers_2020-schuldenbremse_des_bundes_und_investitionen-v800ext.pdf

[37] See Blanchard et al. (2020) for a primer on fiscal standards, available at: https://ec.europa.eu/info/sites/info/files/economy-finance/blanchard_revisiting_the_eu_fiscal_framework_in_an_era_of_low_rates_slides_november_2019.pdf

flexible level, and to govern the details of fiscal standards outside the constitution. Fiscal watchdogs such as a federal stability council should play an important role in this design.

The potential of this financing mode would mark an actual structural change in the conduct of fiscal policies (i.e., a true paradigm shift). Whether a change in that direction will actually occur in practice still remains to be seen. But we believe that the fundamental shift in the interest rate environment would be the key ingredient for such a fundamental shift, if it occurs.

c. Maastricht Conformity in 20 years and EU investment union

The conditions of the European Monetary Union remain important for Germany as the recognized anchor of stability. However, nobody in the eurozone would be helped if all member states rushed after the pandemic and began to consolidate their budgets at the same time.

In addition, Bunds have an important function as a benchmark in the European bond market. The European Central Bank is heavily involved; according to estimates, it holds the current share of the ECB in the federal bond market of around 25 percent. A forced consolidation of the federal budget would lead to a relative shortage of the sought-after government bonds and thus have consequences for the corresponding repo market, which has been characterized by higher volatility since 2012. With the PSPP (Public Sector Purchase Program), the ECB intervened to a considerable extent in the market and contributed to the relative shortage of German government bonds for specific collateral (negative interest rate; higher specialness spread)[38]. In addition, the risk of rising risk premiums for the government bonds of the other euro countries increases. With increasing spreads, however, the pressure on other countries to consolidate their budgets increases. It is all the more important that this perspective is incorporated into German budget policy. This supports the call for a long-term consolidation of the corona debts in Germany between the federal and state governments. At the European level, two options are important:

On the one hand, this problem can be solved by extending the deadlines for regaining Maastricht conformity to at least 15 to 20 years. Similarly, long time horizons are needed for the mandatory debt repayment within the German debt brake. Current rules state that the repayment needs to be "in accordance with the business cycle" (*konjunkturgerecht*). There is no historical precedent for what exactly this term means in practice. But given that growing out of debt after Corona will most likely be more difficult than in the golden decade after the GFC, it is urgently required to allow for appropriately long-time horizons. Otherwise, there is a real risk that fiscal rules dictate fiscal austerity, which in turn can backfire on the goal of debt consolidation.

On the other hand, an additional investment budget can be established, may be based on the resolutions on the Next Generation EU. This is basically financed by bonds from the EU. These bonds should have a very long term and be financed on a revolving basis. More systematically: in the future, joint investment projects - infrastructure networks, research and development (e.g. pharmaceuticals, artificial intelligence) - would be financed in a separate, but regular, second EU budget via EU bonds. Europe would become an investment union. At the same time, this would promote economic integration in the euro zone, relieve the burden on European national budgets and, in the context of macro-financial conditions, create relief.

[38] Stephan Jank, Emanuel Mönch, Wie sich die Anleihekäufe des Eurosystems auf den Repomarkt auswirken, Deutsche Bundesbank – Research Brief 21 (Sept. 2018)
https://www.bundesbank.de/de/publikationen/forschung/research-brief/2018-21-anleihekaeufe-repomarkt-761706

5. Summary and conclusion

Nine key insights can be derived from the preceding discussion:

(1) The **consolidation successes** of the last decade was based on employment-intensive growth, low interest rates and limited budget discipline with the help of the debt brake. Public investment is the loser of the decade.

(2) The **debt brake** was the expression of a “small state” and “lean government” paradigm that has been politically and socially dominant since the 1980s. In fact, the debt brake-decision of the Federalism Commission in 2009 was based on a broad political consensus and thus reflects very different economic narratives.

(3) The **pandemic shock** was answered quickly and was based on a broad consensus via suspending the constitutional debt rule. The “black zero” seems to have become politically obsolete. The test whether this persists over the longer run is still pending. A normalization of the economic situation will show whether the political and social priorities have really changed in the sense of a paradigm shift.

(4) If there is such a **paradigm shift**, it will be based on two key drivers: first, the **large gap in public investment**, which was increasingly perceived and publicly discussed before the pandemic. In view of the sharpest economic structural change (decarbonization, digital transformation, demographic aging, global disintegration) in decades, these deficits are becoming more and more serious.

Second, there has been a fundamental shift in the **interest rate environment** which in turn must have a bearing on the conduct of fiscal policies, and the fiscal paradigm more broadly. The debt brake was established at a time when $r > g$ was considered the “normal” case, and the opposite situation was an unlikely borderline case. If, however, $r < g$ can be assumed as the *new normal* for the Federal Republic of Germany, because of its credibility in terms of stability and as a "safe haven", then this has the potential for triggering a fundamental change in debt regulation and in fiscal rules.

(5) Related to this new interest rate environment is the extremely unconventional and expansive monetary policy reaction to calm the financial markets (Pandemic Emergency Purchase Program) and the willingness to find new joint solutions at European level (NextGeneration EU). That, too, can be interpreted as the harbingers or drivers of a paradigm shift. The loose monetary policy is unlikely to be the key driver of low interest rates, however, but more likely a reaction to structural changes in the balance of savings and investment which in turn have but general pressure on interest rates – and thus the market environment in which central banks operate.

(6) A specific problem of fiscal policy in Germany concerns the state of fiscal federalism. There are fundamental imbalances, as exemplified by the debt legacy of the municipalities. In the debt brake, this can only be resolved through questionable detours (shadow budgets). A new fiscal paradigm therefore would have to tackle those imbalances in local public finances as well.

(7) The only realistic option for Germany and Europe to handle the Corona crisis in the medium term is to grow out of the public debt, even if it will become more difficult than after the global financial crisis. Any other strategy, such as strict austerity to consolidate public finances (via budget cuts or tax increases) is likely to backfire, and actually to slow down the downward trend in the debt-to-GDP ratio. The reason is the structurally subdued demand and the high savings from both the private and the corporate sector in many countries, which the Corona crisis has even amplified. In such an environment, governments cannot turn into savers themselves by running primary surpluses. They have to conduct expansionary fiscal policies for the foreseeable future in order to stabilize the economy.

(8) Existing fiscal rules have to be adapted in order to reflect this reality. This firstly concerns the German debt brake, which would otherwise force especially the Länder into primary surpluses in order to service the new debt that was issued under the emergency clause in 2020 and 2021. The German constitution stipulates that the repayment of this debt has to be organized "in accordance with the business cycle". We interpret this statement such that a very long-time horizon, of up to 50 years or so, would be compatible with the existing legal framework. In addition, it has to be ensured that this repayment scheme, or the debt brake more broadly, does not endanger the financing of a long-term public investment agenda which Germany needs in the upcoming 10-20 years in order to cope with the multiple challenges of transformation of its industry. If a fundamental reform of the debt brake is politically not feasible, pragmatic solutions have to be found in order to finance this agenda, such as a legally independent investment fund that would not fall under the umbrella of the debt brake.

(9) At the European level, quickly returning to the Maastricht criteria seems out of reach for the foreseeable future, and is not warranted in the current environment of low interest rates and subdued demand. The European Union should have an honest and ambitious discussion about the future of its (national and common) fiscal policies – and move from strict fiscal rules towards appropriate fiscal standards.

BISHER ERSCHIENEN

108 Hüther, Michael und Südekum, Jens, How to Re-design German Fiscal Policy Rules after the COVID19 Pandemic, November 2020.

107 Haucap, Justus, Coppik, Jürgen und Heimeshoff, Ulrich, Eckpunkte der privatvertraglichen Ausgestaltung von National Roaming Vereinbarungen entsprechend den 5G-Frequenznutzungsbestimmungen, September 2020.

106 Haucap, Justus, Wirtschaftswissenschaftliche Politikberatung in Deutschland: Stärken, Schwächen, Optimierungspotenziale, August 2020.

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Erschienen in: Perspektiven der Wirtschaftspolitik, 20 (2020), S. 284-291 unter dem Titel "Contra Schuldenbremse - eine falsche Fiskalregel am falschen Platz".

102 Budzinski, Oliver und Haucap, Justus, Kartellrecht und Ökonomik: Institutions matter!, September 2019.
Erschienen in: J. Haucap und O. Budzinski (Hrsg.), Recht und Ökonomie, Nomos-Verlag: Baden-Baden 2020, S. 331-361.

101 Steinbach, Armin und Valta, Matthias, CO_2-orientierte Bepreisung der Energieträger – Handlungsoptionen, Kompensationsmöglichkeiten und ihre rechtlichen Rahmenbedingungen, August 2019.

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Erschienen in: Wirtschaftsdienst, 99 (2019), S. 278-285.

99 Haucap, Justus und Coenen, Michael, Wettbewerbsökonomische Überlegungen zu den Regelungen zu medizinischen Versorgungszentren im TSVG, Dezember 2018.

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Erschienen in: Perspektiven der Wirtschaftspolitik, 19 (2019), S. 313-330.

97 Neyer, Ulrike, Die Unabhängigkeit der Europäischen Zentralbank, Juni 2018.
Erschienen in: Credit and Capital Markets (ehemals Kredit und Kapital), 52 (2019), S. 35-68 unter dem Titel „The Independence of the European Central Bank“.

96 Haucap, Justus, Big Data aus wettbewerbs- und ordnungspolitischer Perspektive, März 2018.
Erschienen in: K. Morik, und W. Krämer (Hrsg.), Daten – wem gehören sie, wer speichert sie, wer darf auf sie zugreifen?, Verlag Ferdinand Schöningh: Paderborn 2018, S. 95-142.

95 Haucap, Justus, Liberalisierung und Regulierung des Postmarktes: Gestern, heute und morgen, März 2018.
Erschienen in: B. Holznagel (Hrsg.), 20 Jahre Verantwortung für Netze: Bestandsaufnahme und Perspektiven, Festschrift Bundesnetzagentur, Verlag C.H. Beck: München 2018, S. 319-345.

94 Haucap, Justus und Kehder, Christiane, Welchen Ordnungsrahmen braucht die Sharing Economy?, Februar 2018.
Erschienen in: J. Dörr, N. Goldschmidt & F. Schorkopf (Hrsg.), Share Economy: Institutionelle Grundlagen und gesellschaftspolitische Rahmenbedingen, Mohr Siebeck: Tübingen 2018, S. 39-75.

93 Haucap, Justus und Loebert, Ina, Wettbewerbssituation auf dem Markt für Wetterdienstleistungen, Januar 2018.

92 Coppik, Jürgen, Auswirkungen einer allgemeinen Diensteanbieterverpflichtung im Mobilfunk, Dezember 2017.

91 Haucap, Justus, Heimeshoff, Ulrich, Kehder, Christiane, Odenkirchen, Johannes und Thorwarth, Susanne, Auswirkungen der Markttransparenzstelle für Kraftstoffe (MTS-K): Änderungen im Anbieter- und Nachfragerverhalten, August 2017.
Erschienen in: Wirtschaftsdienst, 97 (2017), S. 721-726.

90 Haucap, Justus und Heimeshoff, Ulrich, Ordnungspolitik in der digitalen Welt, Juni 2017.
Erschienen in: J. Thieme & J. Haucap (Hrsg.), Wirtschaftspolitik im Wandel: Ordnungsdefizite und Lösungsansätze, De Gruyter Oldenbourg: Berlin 2018, S. 79-132.

89 Südekum, Jens, Dauth, Wolfgang und Findeisen, Sebastian, Verlierer-(regionen) der Globalisierung in Deutschland: Wer? Warum? Was tun?, Dezember 2016.
Erschienen in: Wirtschaftsdienst, 97 (2017), S. 24-31.

88 Wey, Christian, Verhandlungsmacht und Gewerkschaftswettbewerb, August 2016.
Erschienen in: Sozialer Fortschritt, 65 (2016), S. 247-253.

87 Haucap, Justus, Warum erlahmt die Innovationsdynamik in Deutschland? Was ist zu tun?, Juli 2016.
Erschienen in: Walter-Raymond-Stiftung (Hrsg.), Digitalisierung von Wirtschaft und Gesellschaft: Die technologische Zukunftsfähigkeit Deutschlands auf dem Prüfstand, GDA Verlag: Berlin 2016, S. 7-18.

86 Haucap, Justus, Loebert Ina, Spindler, Gerald und Thorwarth, Susanne, Ökonomische Auswirkungen einer Bildungs- und Wissenschaftsschranke im Urheberrecht, Juli 2016.

85 Böckers, Veit, Hardorp, Lilian, Haucap, Justus, Heimeshoff, Ulrich, Gösser, Niklas und Thorwarth, Susanne, Wettbewerb in der Restmüllerfassung: Eine empirische Analyse der Anbieterstruktur, Juli 2016.
Erschienen in: List-Forum für Wirtschafts- und Finanzpolitik, 42 (2016), S. 423-440.

84 Haucap, Justus, Heimeshoff, Ulrich und Lange, Mirjam, Gutachten zum Serious Doubts Letter der Europäischen Kommission zur Vectoring-Entscheidung der Bundesnetzagentur, Juni 2016.

83 Hottenrott, Moritz, Thorwarth, Susanne und Wey, Christian, Gegenstandsbereiche der Normung, März 2016.

82 Coenen, Michael und Watanabe, Kou, Institutionelle Ergänzungen für die wirtschaftspolitische Beratung, Februar 2016.
Erschienen in: ZPB Zeitschrift für Politikberatung, 7 (2015), S. 91-99.

81 Coenen, Michael, Haucap, Justus und Hottenrott, Moritz, Wettbewerb in der ambulanten onkologischen Versorgung – Analyse und Reformansätze, Januar 2016.

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