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Future-Oriented Fiscal Policy

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Abstract

States that seek to confront today's great challenges, from demographic change to the green transition, need to grasp the relevance of fiscal policy in order to move from stasis into action. This article puts the current fiscal rules in Germany into context and identifies three requirements that a framework of future-oriented fiscal policy will have to meet, by bringing together diverse research findings from recent years. Central requirements are that, first, it needs to be flexible and give room for reaction in an era of quickly changing economic circumstances, overlapping crisis, and sudden advances in academic research. Second, it needs to promote a fair distribution of resources, preserving the livelihoods of future generations and bringing forward a more equal distribution across different socio-economic groups. Third, it has to centre on material capacities, putting the advancement of effective state structures and real economic potential at the core of its thinking.

JEL Codes: E6, H30, H5, H6

Keywords: Fiscal Policy, Debt Brake, Investment, Transformation, Government Debt, State

1. Introduction

After a decade of rather strong economic growth in Germany, we are now confronted with massive challenges, like the decarbonisation of the economy, an aging population, social and financial inequality, or changing economic and global conditions like the Russian war against Ukraine. There is strong consensus in the political, social and scientific spheres on the fact that we are facing these challenges both in Germany and globally, and that the prevailing conditions are different than they were 10 or 20 years ago. With geoeconomic developments like the rise of China (and a strong German dependency on China) uncertainty is great. Even if the climate crisis and its associated costs, as well as demographic changes, were recognized as issues for govern-

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ment a decade ago, the pressure and the need to act now is greater than ever. Germany wasted years of sound economic growth and overlooked its rapidly ageing population. On climate issues, the German state even needed a ruling by the Federal Constitutional Court to take action.

The International Monetary Fund recognized that this emerging era provides a window of opportunity "to rethink fiscal rules and determine how governments can make fiscal policy more agile" (IMF 2022, 1). However, the way how to address this is unclear and controversial.

In our paper, we bring together diverse opinions and research findings on fiscal policy, and draw common lessons about what it takes to meet these challenges now and in the future. Our main takeaway consists of three elements of a future-oriented fiscal policy. First, today's fiscal policy needs to be able to react flexibly when economic conditions change or when a crisis situation arises. Ideally, fiscal policy would then also be able to react in a way commensurable with findings from state-of-the-art academic research. Second, forward-looking fiscal policy should not only take into account justice between generations, but also justice within a generation. Third, fiscal policy has to be capacity-oriented, *i. e.*, the inclusion of available resources, such as technology, labour or energy, should always be an element of fiscal policy decisions.

Our work is adjacent to, and can be seen as complementary to, existing research studies and claims. Instead of giving concrete reform proposals to broaden the space for fiscal action (see *e. g.*, Sigl-Glöckner *et al.* 2021; Hüther and Südekum 2020; Truger and Schnitzer 2022), it opens up a discussion on the criteria that fiscal rules should meet and the benchmarks that should be used to evaluate proposals. Only on the basis of such criteria and once there is agreement on the purpose of fiscal rules can they be designed in a meaningful and flexible way, and different suggestions can be compared with each other systematically. Moreover, our work provides concrete arguments that the concept of rigid fiscal rules, once established, is no longer tenable in a permanently changing economic environment.

States that seek to confront today's great challenges need to grasp the relevance of fiscal policy in order to move from stasis to action. The focus of this article is what such a future-oriented fiscal policy can look like. Before going into detail about our suggestions for the future of fiscal policy, we analyse the theoretical and institutional background of current fiscal rules in Germany (section 2). Then we introduce and elaborate the three essential elements of a future-oriented fiscal policy (section 3). The conclusion in section 4 summarizes the research results presented in this article.

2. Theoretical and Institutional Background

Fiscal rules usually aim to set binding debt or expenditure margins within which politicians can act. Kopits and Symansky defined a fiscal policy rule "as a permanent constraint on fiscal policy, typically defined in terms of an indicator of overall fiscal performance. The rules under consideration cover summary fiscal indicators, such as the government budget deficit, borrowing, debt, or major components thereof […]" (1998, 2). According to one strand of the literature, the necessity of fiscal rules and

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the need to limit possibilities for higher debt is due to a so-called deficit bias. This means that there can be incentives for policymakers to incur new debt, which, according to this theory, could lead to a higher than socially optimal debt level.[1] To reduce possible distortions toward higher debt, fiscal rules are set to bind debt and expenditure margins (SVR 2019).

In Germany, a fiscal rule to strictly limit public debt was introduced in 2009, as there was a growing debate on whether public finances were still sustainable (Fuest *et al.* 2019).[2] The so-called debt-brake was implemented via Article 109 (3) and Article 115 (2) of the Federal Republic's constitution ("*Grundgesetz*", GG). It indicates that "the budgets at the Federal level and the state level ("*Länder*") are in principle to be balanced without revenues from loans" (English translation by the authors).[3] The political argument to contain Germany's public debt level was that, in order to stabilize public finances and rebuild the trust of financial markets in the stability of Germany's public finances after the 2008 crisis, the state needed to contain Germany's public debt level (Fuest *et al.* 2019).

Further fiscal rules that also impact Germany exist on the European level. These are based on the Maastricht Treaty from 1992, which set forth criteria (so called convergence or Maastricht criteria) for countries joining the European monetary union, such as a stable price level, stable long-term interest and exchange rates, and maximum limits for total and new public debt. In 1997 the European member states introduced the Stability and Growth Pact (SGP), a rule-based framework to coordinate and surveil national fiscal policy in the European Union more concretely. This implied a debt ceiling at 60 % of GDP and a maximum budget deficit of 3 % of GDP (BMF 2022a). In 2011, the SGP was reformed, and more stringent criteria were defined in order to be able to enforce and verify corresponding budget rules (Mühlbach 2022).[4]

Fiscal rules were supposed to guarantee a permanently stable government budget. However, the need for and design of national and European fiscal rules is contested, in science as well as in politics. The European Commission just published new guidelines as fiscal policy orientation for European Union member states in March 2023. Country-specific recommendations for budgetary policy will most likely follow over the course of 2023 (EU-KOM 2023). Due to the current state of flux at the European level and due to the limited scope of this article, we will only refer to the national level. In the following, we explain the German debt brake in more detail and take a closer look at public investments.

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1 This theory is based on the work of Buchanan in the 1970s. For a historical classification, see Schularick (2013). The literature also offers a bundle of explanations as to why exactly a tendency of politicians towards indebtedness could exist. For a brief overview, see the elaborations of FiscalFuture (n.d.) or SVR (2019).

2 Before 2009, the so-called Golden Rule had been in place since 1969 (SVR 2019).

3 Original source in German: "Die Haushalte von Bund und Ländern sind grundsätzlich ohne Einnahmen aus Krediten auszugleichen" (Art. 109 (3) GG).

4 There have been smaller reforms before and after 2011 as well. For a short overview, see Mühlbach (2022) or BMF (2022a).

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2.1 Current Fiscal Rule

In 2009, the Federal German Parliament ("*Bundestag*") and the Federal Council ("*Bundesrat*") fundamentally reformed the rule for public debt by introducing the fiscal rule of a debt brake. Before, from 1969 until the reform in 2009, German budgeting followed the so-called Golden Rule. This rule required that new public debt and public borrowing not exceed gross investment in the federal budget. An exception was only allowed "to avert a disturbance of the overall economic balance" (English translation by the authors, BMF 2022b, 4).[5] However, special funds ("*Sondervermögen*") were not subject to the limits for borrowing within this debt rule framework. Due to different points of criticism – *e. g.*, no debt ceiling or sanctioning mechanism, a trend towards borrowing to relieve the burden on current budgets, and various macroeconomic conditions – there was a desire for a new debt rule (SVR 2019).[6]

The current debt brake prohibits the issuance of sovereign bonds as a way to finance public budget. Next to this main principle, the debt brake consists of different components (SVR 2019; Dezernat Zukunft 2021a):

- *Structural Component:* allows a small deficit margin of 0.35 % of GDP at the federal level (at the state level the budget needs to be fully balanced)
- *Exemption of Financial Transactions:* exempts revenues or expenditures that do not change the net assets of the federal government[7]
- *Cyclical Component:* adapts deficit to cyclical fluctuations
- *Control Account:* in case the state spent more than allowed in previous years, repayment obligations result
- *Exemption Rule:* allows for very narrowly defined exceptions to the rule for instances of natural disasters or defence-related emergencies

In a nutshell, public net borrowing is only allowed under the conditions stated above.[8] The underlying calculation of the debt brake is as follows: the structural deficit and the cyclical component are added up, and the balance of the financial transactions is deducted from this sum.

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[5] Original source in German: "Ausnahmen waren nur zur Abwehr einer Störung des gesamtwirtschaftlichen Gleichgewichts möglich" (BMF 2022b, 4).

[6] In addition, a widely shared criticism is that the so-called Golden Rule did not adequately define investments.

For example, spending on personnel for basic research was not considered an investment, whereas expenditures such as the purchase of vehicles were categorized as investments (ZEW 2021). Against the backdrop of the climate crisis, the aging of society and the strains on public budgets, however, a definition of investments that are climate- and generation-friendly as well as future-oriented is relevant.

[7] One example of such a financial transaction is the premium pension ("*Aktienrente*"). It is classified as a financial transaction because the money is not spent but invested. Therefore, the premium pension is not subject to the debt brake (Handelsblatt 2022a).

[8] Certain special funds, *i. e.*, those established before 2011, are not taken into consideration of the debt brake (SVR 2019).

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The design of the German debt brake has been criticized repeatedly by various actors. One point of criticism is that it is designed more as a *deficit rule*, instead of a debt rule, as it solely prevents debt through budget spending (Dezernat Zukunft 2018). Interestingly, the reduction of state debt between 2010 and 2019 from 80 % to around 60 % "did not mainly come from overly prudent or austere public expenditure" (Hüther and Südekum 2020, 3) and therefore not primarily from the debt brake itself. Instead, during that time especially consumption spending even went up (e. g., due to social spending on pensions for mothers ("*Mütterrente*") or a grant program to encourage first time homeownership for young families ("*Baukindergeld*")). The main reason for debt consolidation in these years was due to GDP growth, and not due to lower public expenditures. Overall public debt increased by 500 billion Euros between 2007 and 2009, and it only declined by around 100 billion Euros through 2019. Hüther and Südekum describe this contradiction as follows: "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" (2020, 30 – 1). The current US President Joe Biden shares the opinion that the narrow focus on deficits "will come with a cost: more pain for more people, for longer than it has to be" (Biden 2021).

The *exemption of financial transactions* has also been criticized. Financial transactions are those payments that involve a direct asset. The aim of this regulation is to ensure that the state, for example, does not undertake privatisations in order to balance the budget. However, the distinction between financial transactions and investments is complicated and leads to many contradictions. For instance, the federal state cannot spend money to build a street, but it can spend money to buy a company, which then builds a street. The former is limited due to the debt brake, the latter is not (Dezernat Zukunft 2021a).

Third, the *cyclical component* and its calculation is part of various criticisms of the debt brake. Simply put, this component allows more debt in the case of economic downturn, whereas in economic upswing the state has to reduce its debt more rapidly. The cyclical component is thus supposed to be an instrument of countercyclical fiscal policy. In particular, the classification of whether an economy is in an upswing or a downswing and how a potential "normal" situation of the economy can be defined is subject of criticism. The factors used to calculate the cyclical component are therefore also criticised (e. g., production potential ("*Produktionspotenzial*")). For a detailed, more technical analysis, see for example Krahé *et al.* 2021.

The governing parties of the 20th legislative period (2021-present) in Germany stipulated in their coalition agreement that the procedure for calculating the cyclical component should be evaluated and, if necessary, changed. In the context of a participatory process to link research and politics, the Federal Ministry for Economic Affairs and Climate Action in Germany is currently dedicated to this topic (BMWK 2022).[9] Interestingly, small changes in the method of calculation can shift the debt

[9] A revision of the calculation of the cyclical component is currently also taking place at the EU level, as voices from the academic community in particular have been raised that the EU Commission's current method has various weaknesses. The rule of the debt brake does not necessarily prescribe the EU Commission's method, but it usually refers to it (Priewe 2022).

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margin by mid-double-digit billions (Sigl-Glöckner *et al.* 2021). Therefore, a proper calculation method continuously adapted to research findings is crucial.

A fourth aspect of critic is the *structural component*, which allows a structural deficit of 0.35 % of GDP. This fixed number does not originate from economic theory, but is rather arbitrarily selected (Egger 2021). This perhaps would not be a problem if researchers did not perceive a gradual discrimination of structural public investments due to the design of this component of the debt brake (see *e. g.*, Bardt *et al.* 2019; Hüther and Südekum 2020). Looking at the public gross capital investments as a percentage of GDP, it stood at around 4.7 % back in the 1970s, but decreased over time, and today that percentage stands at 2.5 % (Destatis 2023).

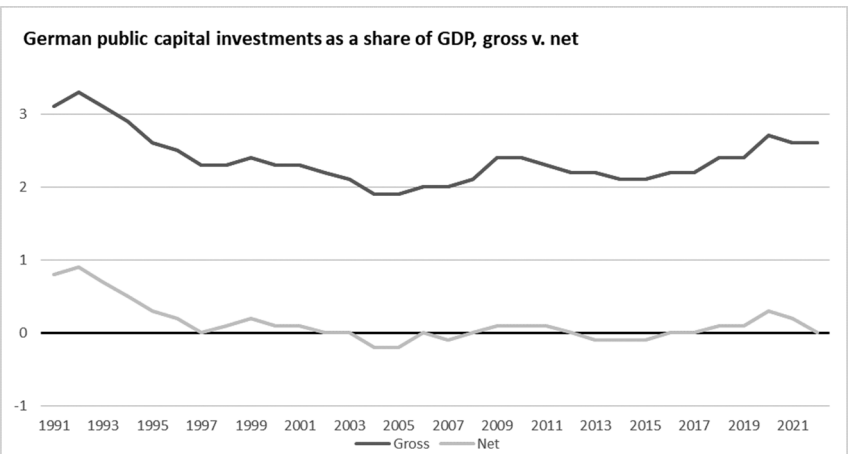

Figure 1: Capital investments in percentage of GDP
Source: Own depiction based on Destatis (2023).

The financial policy working group of the Heinrich Böll Foundation also emphasized the problem posed by the pressure to finance all (long-term) government expenditures from current revenues. This largely prevents the financing of future tasks and future investments (Finanzpolitischer Arbeitskreis HBS 2021).

In sum, there is a great deal of criticism of the German debt brake coming out of different perspectives in the literature; we only focused on some of these critiques.[10] In the next section, we will give real life examples demonstrating these critiques of the German debt brake.

[10] For further aspects or a more technical explanation, see *e. g.*, Sigl-Glöckner *et al.* (2021) who formulate a very fundamental and well-described criticism on the debt brake as it still is.

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2.2 Investment Backlog

In addition to the criticism from section 2.1, the debt brake as it currently exists has repeatedly been identified as one of the reasons for an investment shortfall, especially in the area of public infrastructure. In 2015, the economist Achim Truger, nominated in 2019 by the trade unions as a member of the German Council of Economic Experts (SVR), criticized the significant lack of public investment in Germany and mentioned the risk of a stagnating or even eroding public capital stock (Truger 2015). In 2017 the IMF recommended to the German government that "the available fiscal space should be used for initiatives that enhance the growth potential of the economy, such as investment in physical and digital infrastructure, childcare, refugee integration, and relief of the tax burden on labor" (IMF 2017, 1). Two years later, in 2019, various economists emphasized that the massive neglect of public investment over the last decades has become a major and serious challenge in Germany. They anticipate the need for public investment to the amount of 45 billion Euros per year for the next ten years (Bardt *et al.* 2019). Further researchers project an additional annual public investment requirement of around 50 billion Euros for the years 2023 – 2025 (SVR 2021). At the municipal level, studies quantify the sum of an investment backlog at around 159 billion Euros in 2021, especially in the area of schools and road infrastructure (KfW 2022).[11] This investment backlog also results in a public capital stock of municipalities – where most public investments actually take place – that has completely stagnated in the last few years (Hüther and Südekum 2020).

The underinvestment in public infrastructure is not only a problem of being confronted with deficits in digitalisation, rails and roads in need of repair, or public buildings and schools in poor conditions. It is first and foremost a problem that leads to lower quality of life and dissatisfaction among residents, and it is an obstacle for companies in their business operations and investment decisions. The latter in turn can have negative consequences for the economy as a whole in the long run. Grömling and Puls (2018) found that around 68 % – more than two-thirds – of the companies they surveyed are impaired by existing infrastructure deficiencies on a regular basis.

Investments in public infrastructure can also be asserted to be an investment in the future. Taking a detailed look at the federal budget of the last 20 years, we can see rather few such future-oriented expenditures. Based on calculations by the Institute for the World Economy (IfW), around 62 % of government spending in 2021 in Germany could not be categorized as present- or future-oriented expenditures. Most government spending is incurred in the area of redistribution and pension benefits (Laaser and Rosenschon 2022).[12]

In order to master the challenges of the future, such as technological and ecological transformation or demographic change, we need a different approach to public finances and future expenditures. The investment backlog must be taken seriously and ad-

[11] Investment backlog is mainly defined as a required investment volume to bring infrastructure up to the level required today (KfW 2022).

[12] The Federal Audit Office (*Bundesrechnungshof*) even speaks of only 10 % of the funds in the federal budget which are discretionary and not fixed (BRH 2022).

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dressed urgently. Now it is becoming even clearer that not acting comes with a huge cost. This cost is addressed in the next chapter dealing with climate fiscal risks.

2.3 Climate Fiscal Risks

The fact that we need more and higher investments to cope with the challenges we face due to the climate crisis is well known. For a detailed analysis of numbers, see for example OECD (2017) or Krebs and Steitz (2021). What has not that often been part of the societal discussion so far are the (public) costs we face if we fail to invest today, or if we still support public expenditures that are harmful to the climate. As an example of the latter, the FOES Institute (*Forum Ökologisch-Soziale Marktwirtschaft*) concluded that in 2021 the "environmentally damaging financial flows [e. g. tax benefits] in Germany were almost twice as high as public spending on environmental protection" (English translation by the authors, Bär and Bitomsky 2022, 4).[13] Furthermore, if Germany fails to achieve its climate goals, FOES estimated that the public cost of purchasing additional emissions allowances from the EU cap and trade program (EU Emissions Trading System, EU-ETS) would alone cost 18.2 billion Euros through 2030 (Bär and Bitomsky 2022).[14]

A further category of additional costs is the increasing risk of extreme weather events. Since 2000, Germany had to pay a minimum of around 6.6 billion Euros on average per year for damages from extreme weather events. In 2018 and 2019, the public costs from heat waves and drought amounted to 35 billion Euros. In 2021 the costs for the damages due to floods rose to more than 40 billion Euros (BMUV 2022).

The costs of not using public expenditures to address and avoid climate and environmental damages are high, but "the costs of waiting or of forced forfeiture are in any case significantly higher" (English translation by the authors, Fischer and Fluchs 2021, 3).[15] Inaction also incurs costs for the economy which, like a decline in GDP, must be taken into account and should not be underestimated (OECD 2017). Other countries have begun to account for these costs through expenditures and budgeting processes. In addition to signing the Inflation Reduction Act, which invested $370 billion in clean energy technologies and emissions reductions (Hughes *et al.* 2022), US President Joe Biden directed his administration to begin the assessment of climate risks for government programs, assets and liabilities (The White House 2021). As part of its implementation, his budget office analyzed the development of US debt-to-GDP ratio under different emissions scenarios as part of the President's 2024 budget proposal, which lays out the administration's spending priorities ahead of Congress's annual budget legislation (Office of Management and Budget 2023).

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13 Original source in German: "[…] dass die umweltschädlichen Finanzflüsse fast doppelt so hoch ausfallen wie Ausgaben für den Umweltschutz" (Bär and Bitomsky 2022, 4).

14 The calculation is based on an approximated need for 260 million emissions allowances ("*Emissionsermächtigungen*") through 2030, and a current EU-ETS price of 70 €/per ton CO_2 (Bär and Bitomsky 2022).

15 Original source in German: "[…] die Kosten des Wartens beziehungsweise des erzwungenen Verzichts sind in jedem Fall deutlich höher" (Fischer and Fluchs 2021, 3).

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3. Criteria for a Forward-Looking Fiscal Policy

The previous chapter outlined essential arguments that highlight the need for a new fiscal policy framework. In addition to the fundamental criticism of the debt brake, the current fiscal rule (see section 2.1), there is a considerable need for investments in Germany (see sections 2.2 and 2.3). As in the 2010s, when the institutional and economic conditions for fiscal policy changed and fiscal policy required reform, today we find ourselves in a context of changing geostrategic, economic, scientific, and environmental conditions. We must perceive these changed conditions and evaluate new criteria for fiscal policy rules based on them. This includes asking ourselves again what the goal of a fiscal policy framework is, why we need it, and what we want to achieve with it. In addition, we need new indicators and metrics to measure its efficacy.

Looking at various proposals for changes to the debt brake, it becomes clear that most of the proposals are aimed at three overarching elements of fiscal policy: flexibility in the face of changing conditions, a fair distribution of resources between generations (and within generations), and a strong focus on real economic capacities when it comes to government finances. Roughly summarized, it can be said that debt rules should aim at ensuring these three functions. We will have a closer look at all of them in this section.

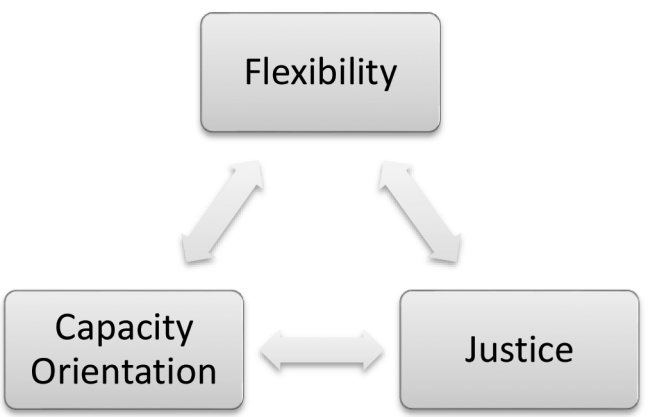

Figure 2: Elements of a future-oriented fiscal policy
Source: Own depiction.

A three elements model for a future fiscal policy is also similarly proposed by the financial policy working group of the Heinrich Böll Foundation (Finanzpolitischer

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Arbeitskreis HBS 2021), which it calls a "fiscal triad," as well as by the researchers Sigl-Glöckner *et al.* (2021), which refer to it as "three pillars." The former calls the three dimensions invest (*i. e.*, a debt brake with an investment deficit limit), green (*i. e.*, European climate protection via EU Green Bonds), and solid (*i. e.*, always balance current budgets). The latter names the three pillars full utilization of the labour market, effective automatic stabilizers, and productive investments as main factors for future fiscal policy. All three models can stand as complementary analyses for a future-oriented fiscal policy.

In the following sections, we describe the three elements flexibility, justice and capacity orientation in more detail.

3.1 Flexibility

A future-oriented fiscal policy framework should exhibit a certain scope of play for reacting to changing parameters.[16] On the one hand, fiscal policy needs to consider changing economic, ecological and global circumstances. On the other hand, it must incorporate both current and new research and data analysis. In the following paragraphs we give examples of why flexibility of fiscal policy is needed concretely.

3.1.1 Flexibility in an Era of Changing Environments

The economic environment changes constantly and fiscal policy has to adapt to these changing circumstances as quickly as possible, for instance when interest rates or prices change. Developing and utilizing specific economic indicators to predict possible changes of the fiscal policy strategy can be helpful. Since we discuss the context of inflation in section 3.3, we will only address the context of interest rates here.

A frequently voiced criticism of the debt brake is based on a lack of reaction to changing circumstances. Germany had been in a low-interest environment for years, and the discussion about limiting government debt came primarily from a time when interest rates were high. This low interest rate environment is an optimal context to drive necessary public investments (Südekum 2021). As early as 2007, so even before the introduction of the debt brake, the SVR wrote that there is no convincing justification for a government debt limit when the growth rate is greater than the interest rate (SVR 2007). While policymakers should grapple with this criticism during eras of low interest rates, we now find ourselves in a different environment.

Beginning in the middle of 2021 interest rates began to rise. This development shows how important it is to have fiscal policy rules that can react flexibly to a certain degree. Interest rates can change: as they do, government borrowing needs to respond. To this end, Sigl-Glöckner *et al.* (2021) propose the introduction of a new *interest rate early warning indicator* so that one can identify and respond to dynamics in interest rates, interest payments and public debt at an early stage.

[16] Interestingly, Christian Kastrop, who has been the head of the working group designing the debt brake back in the days, now advocates a so called "breathing debt brake", which can react more flexible, *e. g.*, when specific indicators change (Egger 2021). Priewe (2022) also speaks of the necessity of abandoning rigid rules.

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3.1.2 Flexibility in Times of Abrupt Crisis

In case of severe crisis, like the Corona pandemic or Russia's war of aggression against Ukraine, a country needs the ability to quickly mobilize targeted spending. In this way the state can stimulate or stabilize both the demand and the supply side (Bofinger *et al.* 2020). That is why the current debt brake regulation includes an explicit exception for crisis situations, which are defined as natural disasters or other "extraordinary emergency situations" (Art. 115 GG). Due to these ongoing crisis situations, the German government has applied the exception clause and has therefore been able to have three years in a row of exceptionally high net borrowing. For 2020, net borrowing was around 130 billion Euros, for 2021 around 215 billion Euros and for 2022 around 138 billion Euros (SVR 2022).[17] In addition, two special funds were adopted. One for the German armed forces ("*Sondervermögen Bundeswehr*") to finance defence spending over the next five years with 100 billion Euros. The other one, with 200 billion Euros, is being used to alleviate economic and societal consequences resulting from the Russian war of aggression ("*Wirtschaftsstabilisierungsfonds* (WSF)") (SVR 2022). This is one positive element of the current fiscal rule: that it largely gives the opportunity to react flexibly and efficiently to crisis situations.

3.1.3 Flexibility in Light of New Research Findings

As the field of data analysis advances, certain paradigms of fiscal policy can change. Considering and evaluating new research is essential for a future-oriented fiscal policy framework.

Differentiated view on debt-financed government spending: The findings of Olivier Blanchard question the need for reducing debt-financed public spending per se. He emphasizes that his point is not necessarily to have more public debt in general, but rather "to have a richer discussion of the costs of debt and of fiscal policy than is currently the case" (Blanchard 2019, 1197). This reinforces our stated elements of fiscal policy to be flexible with respect to new research ideas.

Differentiated View on Measured Variables: The most commonly used variable for guidance is still the debt-to-GDP ratio, calculated by dividing outstanding gross debt by GDP. One of the simplest critiques on this guidance variable is the misleading comparison of a stock with a flow variable, as debt is measured at a given point in time and GDP is measured over a time period. A resulting problem is that as soon as the time period of the denominator changes, like from one year to one month or one month to one decade, the whole debt-to-GDP ratio changes. There is no clear consensus on which of the denominator's units of time allows for a meaningful analysis. Furthermore, the debt ratio is not a constant benchmark in the sense that a debt ratio of 60 % in the 1990s means the same as 60 % debt ratio would in 2023 (Dezernat Zukunft 2021b). Clearly, the changing economic and political contexts and the mounting criticism of the indicator's ability to be measured necessitate a discussion about the use of

[17] A majority of members of the German parliament is required to apply the exception clause of the debt brake. If this had not been the case, net borrowing by the German government would only have been allowed to amount to around 25 billion euros for 2021 and 2022, for example (SVR 2022).

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the debt-to-GDP ratio as a meaningful measurement variable (Hüther and Südekum 2020; Sigl-Glöckner *et al.* 2021).

Differentiated View on the Underlying Assumptions in General: The question which variables should be measured is followed by questioning the general underlying assumptions why debt rules are introduced. At the beginning of section 2, we elaborated briefly the economic background behind the concept of debt rules. Mostly the focus lies on the explanation of a possible tendency of policymakers to carry out deficit spending ("deficit bias"). Schularick describes this aspect as follows: "When governments borrow, economists' intuition is that incentive problems abound and that the temptation to finance economically wasteful pet projects or serve special interests at the cost of future generations is too big to be contained" (2013, 192). Sigl-Glöckner et al. provide a similar explanation: "The underlying assumption here is that politics in a democracy systematically tends to decide on irresponsibly high deficits" (2021, 6). However, both researchers critically question these underlying economic assumptions. "This assumption leads to equating a ceiling with a target. But this assumption is no longer up to date," Sigl-Glöckner et al. (ibid.) stress. And Schularick underlines that "worries about imprudent fiscal management in democratic societies are popular, but rest on surprisingly weak empirical foundations" (2013, 204). The authors' research highlights a more fundamental problem in the economic debate: While solutions are sought on the surface, it sometimes goes unnoticed that general assumptions or theories are no longer tenable, or at least need to be put to the test. Sigl-Glöckner et al. (2021) take this argument a step further, saying that a strict debt ceiling is no longer the right way to go if one wants to pursue sustainable and forward-looking fiscal policy.

3.2 Justice

When we talk about fiscal policy, we talk about the distribution of resources. Fiscal policy has a big impact on income and wealth of different societal groups, and on the question of who decides how resources are used. Fiscal policy can have an influence on intergenerational as well as intra-generational justice. In the following section, we will focus on intergenerational justice because it will play a central role when discussing investment needs of the transformation toward a climate neutral economy; it will be key when talking about future-oriented policy. However, in the end we will shortly address the issue of intra-generational justice and why some of the concerns regarding intergenerational justice should be geared more towards intra-generational justice.

3.2.1 Intergenerational Justice

The argument that debt is passed on to future generations, limiting their scope of action, is often used to limit debt-financed government spending. However, it is becoming increasingly apparent that this view is short-sighted (see *e. g.*, Breuer 2021 or Sigl-Glöckner *et al.* 2021). On the one hand, not only liabilities but also government bonds are passed on to future generations such that there is not primarily cash flow from one generation to the next, but also between different groups within one generation. On the

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other hand, the cost to future generations when it comes to omitted investment and omitted wealth created through investment, also has to be considered.

In sections 2.2 and 2.3 we elaborated on the amount of future-oriented investments and long-term priorities that needed to be prepared for upcoming ecological and demographic challenges. There is a wide consensus that the element of intergenerational justice must be fully taken into account in the design of state debt rules. In the political and scientific debate, there are various approaches how intergenerational equity can be taken into account and measured more concretely.

One approach is given by the Leibniz Centre for European Economic Research (ZEW), in line with the call made by the Commission of Experts on Research and Innovation on the government to examine "a future quota, which supports a fixed share in the budget for investments in the areas of education, research, new technologies, environmental and climate protection as well as modern infrastructure for digitalization" (EFI 2021, 35). Due to a so-called "present bias," public expenditures with an immediate benefit tend to be promoted more than those with a benefit (only) occurring in the long-run (Yared 2019). As today's goals, like economic transformation, exhibit long-term horizons they can get postponed to future budget plans and to receive less priority in current budgets. To combat this tendency, the ZEW developed and operationalised a so-called "future quota" for public budgets.[18] A central point of their proceeding has been to expand the concept of capital. Next to what is usually understood as capital, physical capital, the ZEW also includes human capital, technical knowledge and natural capital in the category of capital, since all of these represent key variables for an economy to grow and to prosper. Using their developed concept, the ZEW concludes that the "future quota" for the federal budget in 2019 was 18.3 % (and 17.02 % for the federal budget in 2021) – *i. e.*, in 2019, only around 18 % of the federal budget could be categorized as future expenditures.[19]

Schnitzer and Truger (2022) emphasize another approach: the economic point of view of an intertemporal equivalence principle. According to this principle, debt-financed public investments are necessary to guarantee intergenerational equity. This creates long-term planning security for the economy and prosperity for the society (*ibid.*). To do so, the authors name two options: "legally independent extra budgets as investment companies who take out loans," or a "credit-financed formation or filling of reserves, or legally dependent special funds from which the necessary expenditure is financed in later years" (*ibid.*, 13). Schnitzer and Truger deliberately propose solutions within the framework of the current German debt rule, as they see on the one side the exceptional urgency, and on the other side the limited room for concrete re-

[18] The ZEW concretely differentiated between "investments" and "future expenditures" to also separate their analysis from the prior "investment quota." Further details regarding their method see ZEW (2021).

[19] As a clear cut comparison the authors state the still used "investment quota," which has been around 10.9 % in 2019 and 12.4 % in 2021 (ZEW 2021).

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forms of the debt brake due to the absence of qualified majorities in the parliament and the Federal Council.[20]

Due to the relevance of sustainable and future-oriented investments, the proposal to supplement the debt brake with an investment rule also came up again and again, and not only in the research sphere. Members of the federal parliament in Germany for example have proposed an investment rule based on the loss of value of infrastructure (Bayaz and Hajduk 2019).

Politicians always have to juggle between the interests of current and the interests of future generations. Since there tend to be more incentives to prioritize present tasks, and since many current important tasks tend to entail a long-term horizon, one solution may be to establish such a future quota within the federal budget. This would presumably reflect the element of intergenerational justice in budget plan decisions.

Both approaches are naturally interrelated with the other two fiscal policy elements. For example, the more broadly defined term of "future expenditures" is also key to demonstrating flexibility around new research outcomes, and the "future quota" also enables an evaluation in terms of the element capacity orientation (ZEW 2021). Even if the boundaries between the elements cannot always be clearly demarcated, the approaches mentioned in this section deliberately focus on the element of intergenerational equity, since this is where the constant trade-off between present and future orientation of fiscal policy is most pronounced.

3.2.2 Distributional Justice

State expenditure does not only have an impact on intergenerational justice, but also has distributional effects within one generation (Holtfrerich *et al*. 2015). This effect is hard to qualify, because it depends on the composition of state expenditure, the progressiveness of the tax system and the distribution of sovereign bonds (Krämer and Anselmann 2014). Going beyond this, even for specific countries, the distributional effect cannot be easily determined due to difficulties in quantifying the distributional effects of expenditure and the lack of data when it comes to the distribution of bonds (Krämer and Anselmann 2014). The structure of beneficiaries tends to reflect the general distribution of wealth. However, sovereign bonds are mostly held by financial intermediaries, meaning that subsequent cash flows to households are hard to trace in more detail (Arbogast 2020). In addition, any theoretical quantification of distributional effects must be compared to possible alternatives, such as not investing or increasing taxes. Nonetheless, when formulating specific fiscal decisions under specific political conditions, an awareness of this mechanism is important.

3.3 Capacity Orientation

The discussion on fiscal policy often centres on possibilities and constraints of the legal framework or the amount of money appropriated under the budget legislation for a

[20] A reform of the debt brake requires an amendment to the constitution, *i. e.*, a two-thirds majority in the Federal German Parliament ("*Bundestag*") and the Federal Council ("*Bundesrat*") (Breuer 2021).

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given year. However, what allows fiscal policy to achieve political goals is the actual use of disposable resources (*i. e.*, technology, labour, energy, land, natural resources). This is strongly bound by material capabilities and constraints at a given moment in time, such that the budget is often not exhausted. The share of funds spent ("*Mittelabfluss*") and the development of prices are two possible indicators of existing capabilities. In the short run, decision makers implementing a future-oriented fiscal policy should analyse and consider existing capacities. In the long run, as decision makers define new political goals, they should ensure that existing capacities adapt and expand such that these goals can be achieved.

3.3.1 Spending Capacity

With the increasing investment backlog in recent years and growing awareness that the transformation of the economy requires huge (public) investments, problems regarding the share of funds spent have gotten somewhat more attention and have been analysed from different points of view.

The climate and transformation fund ("*Klima- und Transformationsfonds*", KTF) is a good example to illustrate problems with the spending rate ("*Mittelabfluss*"). It is used to finance measures that aim to reach climate neutrality and is one of the central vehicles for the German Federal Government to push for economic transformation. In 2022, the KTF had a spending capacity of 28 billion Euros. However, only roughly half of this amount (13.7 billion Euros) was actually used (BMF 2023). In political debates these figures are sometimes used to argue that there is no need for the amount of resources provided, but many studies show that much more (public) investment is necessary to reach climate neutrality (Klaaßen and Steffen 2023). Therefore, it can be assumed that the actual reason for the low spending rate are capability constraints.

The reasons for the low spending rate are diverse. The official report on the KTF highlights a shortage of skilled workers ("*Fachkräftemangel*"), supply bottlenecks, long processing times in municipalities, and delays in the development of funding guidelines as examples of why the Fund's expenditures were lower than its funding. With regards to the programme on modular renovation ("*serielle Sanierung*") the report states that "the delay in granting out funds resulted in particular from the fact that there is not yet a market for the prefabrication of construction elements and plant technologies on which to build. The development is more time-consuming than planned," which is why the funding is not flowing out at the planned rate (English translation by the authors, BMF 2023, 16).

Having a look into the broader literature, three reasons for the low spending rate can be identified: Constraints in the real economy, limited state capacity, and inefficiencies in the way money is distributed.

Economic Constraints: The first and foremost reason for a lack of use of funds are constraints in the real economy such as a shortage of skilled workers ("*Fachkräftemangel*") and bottlenecks in the supply chain ("*Lieferengpässe*"). The literature highlights how capacity limits in the construction sector inhibit investments (e. g., Feld 2018; Scheller *et al.* 2021).

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Such capacity constraints can only be addressed through long-term supply policies, for instance by setting targeted incentives to increase capacities or by improving access to education in the relevant areas. Also, long-term and binding political commitments to certain programmes is important, so that businesses and municipalities can view it as worthwhile to expand capacity, since the support from the programme will eventually materialize (Puls 2020).

Until these supply-policies show an effect, the state has to adapt the size of the respective programmes to material constraints to inhibit inflation. In a subsequent section, we will deal with the question how the state can avoid financing programmes, which drive inflation and at the same time use opportunities to lower prices.

State Capacity: The lack of state capacity on all governmental levels may also be a reason for a lack of resource utilization. In particular, the lack of personnel and financial resources in municipalities is one of the key barriers identified in the literature (Berlin Institut für Bevölkerung und Entwicklung 2020; KfW 2022). This can either be addressed by improving the financial base of municipalities (Scheller *et al.* 2021) or by making personnel costs eligible for funding in federal funding guidelines and reducing municipalities' own resource requirements (Berlin Institut für Bevölkerung und Entwicklung 2020).

In surveys, a lack of personnel is named as one of the central causes for the growing investment backlog (KfW 2022). Funds for sufficient staff are lacking (Brand 2022) and job offers are often not competitive (Feld *et al.* 2019). Departments responsible for communal construction ("*Bauverwaltung*") are especially affected (Scheller *et al.* 2021; Feld *et al.* 2019). This problem will intensify in coming years because a large proportion of municipal employees are about to retire (Brand 2022). When it comes to financial resources, many municipalities are not able to meet own resource requirements (Berlin Institut für Bevölkerung und Entwicklung 2020).

The literature suggests several solutions to these problems. Generally speaking, the financial base of many municipalities has to be improved and both the literature and public debates provide many suggestions as to how to do this. Examples and approaches range from setting up a communal investment programme with predictable disbursements (Geißler 2021) to taking over outstanding debt of municipalities ("*Altschuldenregelung*") to a reform of the tax system. To fill vacant positions more quickly, salaries have to be improved and municipalities have to become more attractive as an employer, especially in the coming years (Brand 2022). Alternatively, when it comes to the design of funding guidelines, personnel costs could be made eligible for funding and municipal resource requirements lowered.

Inefficiencies in the Funding System: The way in which public funding is organized ("*Fördermittelsystem*") is inefficient (e. g., Partnerschaft Deutschland 2021). This is particularly detrimental when real capacity constraints are added. The problems mentioned most frequently in the literature can be broadly summarized into three categories: the availability of useful information; the time intensity of bureaucratic requirements and processes; and high resource requirements, which often keep municipalities or NGOs from applying for grants.

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Inefficiencies occur at different steps along the process and on different state levels, meaning that there is not one solution to address this problem, but rather that a number of smaller changes will improve the situation. Some examples of potential solutions are putting funding guidelines into consistent schemas and developing a central platform for all funding programs on the federal, state and EU-levels (Sydow 2018).

Another suggestion is to implement single points of contact for different programmes where funding recipients can ask questions, get support in the application process and get into contact with other funding recipients (e. g., Partnerschaft Deutschland 2021). When it comes to the time intensity of bureaucratic requirements, digitization is key. The time needed to fulfil bureaucratic requirements also depends on how much accountability federal ministries prescribe, since there is a direct trade-off between time and the number and length of control mechanisms, both of which should be taken into account when designing the system.

Last but not least, the resource requirements have to match the situation of those organisations who are supposed to profit from or implement the programmes. Future federal funding should also consider covering costs for permanent personnel and lowering requirements for matching funds. This is particularly the case when it becomes evident that a particular programme is not attractive enough with existing resource requirements.

3.3.2 Economic Capacity: State Programmes and the Development of Prices

Inflation has been back since 2021. After years of bewilderment over why inflation was not rising despite central banks' zero interest rate policies, today's rising inflation is not driven by excessive consumption but by supply bottlenecks. In the last two years, inflation has often been used as an argument to lower government spending (e. g., Handelsblatt 2022b). Indeed, while government spending can have a major impact on prices, government spending does not necessarily have to drive prices up. It can also be without having an effect on prices, or even bring prices down (Weber *et al*. 2022).

The green transition requires high levels of public investment, meaning that the state has to use its full economic capacity. To do so, it needs to take a differentiated view on the relationship between the level of government spending and the development of prices. The relationship depends on the type of spending as well as existing capacities.

In some areas, active fiscal policy can help expand capacities and thus lower prices or minimize the risk of abrupt price increases (*ibid.*). Different instruments, such as direct investments, subsidies, or purchase guarantees that create incentives for private actors can be used for this purpose. In public debate, the importance of public investment for fighting inflation has so far only played a minor role (for an overview of the debate on inflation see *e. g.*, FiscalFuture 2023). Yet, in many cases, public investment has precisely this goal (Robert Habeck in Spiegel 2022). In a situation in which energy prices are a key driver of inflation, the expansion of renewables and the development of an LNG infrastructure are good examples of public investments that can fight inflation (EWI 2022). It may be that the investments drive the prices of relevant construction materials up in the short term. In the medium term, they are expected to bring about a general reduction in the price level through a stabilization of energy prices.

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At the same time, the risk that government programmes drive up certain prices because capacities cannot be expanded in the short-run must also be taken into account. The government grant programme for electric cars ("*Umweltprämie*") is often seen as such a programme. During and after the COVID-19 crisis, delivery times for electric cars were already long and the industry reached full capacity, to such an extent that observers suspected the programme might not have had the desired effect, at least during that time (Krahé and Sigl-Glöckner 2022). However, there are also studies that attribute an effect to the programme. In the medium term, it might have reduced prices through an incentive to increase capacities, resulting in economies of scale (Haan *et al.* 2022). Generally speaking, there has been too little research in this area to name specific programmes that clearly increase prices. However, more research is needed, and decision makers should take this risk into account as one of the possible outcomes when planning government programmes.

In addition to the potentially price-increasing or decreasing effect of government programs, there may also be phases in which government spending has no effect on prices or is even used to stabilize them. This was the aim with stimulus packages after the financial crisis in 2008 or during the COVID-19 pandemic. It shows once again how different the relationship between government spending and price developments can be.

It has become clear that a future oriented fiscal policy has to put real economic capacity and constraints in the forefront of its thinking. A future-oriented fiscal policy has to analyse the expected price effects of large programs in advance and incorporate this analysis into decision making. Finally, this policy should avoid driving prices and use fiscal policy to stabilize important prices where possible.

We live in times where real economic bottlenecks have become an issue once again. It is becoming evident that fiscal policy has to take into account the fact that institutional and economic structures play a central role when implementing government programs. In the same way, expanding structures and thereby capabilities can solve problems that the appropriations ("*Ausgabeermächtigungen*") alone cannot solve. Future research is needed to operationalize this finding and turn it into a guiding factor for policymaking and policymakers.

4. Conclusion

As economic and political conditions change, specific ideas, rules or even institutions should also be scrutinized critically and, if necessary, be adapted to a changed situation. We should also refocus our attention on the question of what goals fiscal policy measures are intended to achieve and what role fiscal policy actually should have in governance. As the world faces the climate crisis, as the EU debates a potential fiscal union, and as Germany confronts demographic challenges, the discussion should increasingly revolve around these questions of goals and measures in fiscal policy. The economists Sigl-Glöckner *et al.* emphasize: "There is [still] little in the way of a concrete, positive answer as to how government finances should be structured to ensure long-term prosperity and sustainability as well as to support the goals of a democratic

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society" (English translation by the authors, 2021, 39).[21] Bardt *et al.* also share this opinion: "It is clear that completely new concepts must be developed for these tasks [decarbonisation of the economy, demographic aging] in order to secure prosperity in our country" (English translation by the authors, 2019, 3).[22] And the current president of the US, Joe Biden, mentioned in a speech in 2021 that "we should be less focused on the deficit and more focused on the investments we make, and can make now, in jobs, keeping families out of poverty, and preventing long-term economic damage."

Due to today's circumstances the need for reframing and reforming fiscal frameworks is great. As the IMF has reported, "fiscal policy will have to balance different priorities including climate, aging, the Sustainable Development Goals, and gender equality" (2022, 19). The elements of fiscal policy required to meet today's challenges are part of many political and societal debates. In our article we elaborate and emphasise three main elements a future-oriented fiscal policy has to fulfil: flexibility in the face of changing conditions, a fair distribution of resources between and within generations, and a strong focus on real economic capacities when it comes to government finances.

The time to address the historical, institutional, scientific, and political background of fiscal policy rules, like the debt brake, is now. Just as policymakers weighed the opportunities and risks when the Golden Rule was introduced in Germany in the 1960s, now at last it is also time for today's decision makers to rethink fiscal frameworks. More generally, this discussion is, at its core, also a discussion about the role of the state, and it depends on what narrative about the state is dominant at the time.

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[21] Original source in German: "Es findet sich kaum eine konkrete, positive Antwort darauf, wie die Staatsfinanzen ausgestaltet werden sollten, um langfristigen Wohlstand und Tragfähigkeit zu sichern sowie die Ziele einer demokratischen Gesellschaft zu unterstützen" (Sigl-Glöckner *et al.* 2021, 39).

[22] Original source in German: "Fest steht, dass für diese Aufgaben völlig neue Konzepte zu entwickeln sind, um den Wohlstand hierzulande zu sichern" (Bardt *et al.* 2019, 3).

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