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Research Report

The cyclical component of the debt brake: Analysis and a reform proposal

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The cyclical component of the debt brake: analysis and a reform proposal

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Executive Summary

Reforming the debt brake (Schuldenbremse) is often understood to require constitutional change. Frequently overlooked, however, is that a crucial part of the debt brake is governed by ordinary law, namely the cyclical component (Konjunkturkomponente). By allowing for more or less net borrowing depending on the level of economic activity, this component was intended to enable a counter-cyclical fiscal policy, while both limiting and legitimising new spending. Sections 1-7 of this paper assess to what extent it is fulfilling this purpose.

We find that the cyclical component in its current form is no longer up to scratch, for four reasons. (1) Contrary to legal requirement, it does not take into account the latest social-scientific research. (2) It relies on an arbitrary notion of the “normal level” of economic activity and as a result delegates too much discretion to civil servants, who are insufficiently legitimised to exercise this discretion. (3) It no longer corresponds to the original intention of the legislators. (4) In the context of the Stability and Growth Pact, it was never intended to be used and implemented as it is in Germany now.

To address these shortcomings, sections 8 and 9 outline a reform proposal at the sub-constitutional level. We propose amending some of the inputs that go into the calculation of the cyclical component. Instead of largely projecting them forward from historical data, we outline how they could be specified on the basis of what generates sustainable public finances in the long run, namely the full utilisation of economic capacity to raise the long-term growth path. However, this proposal does not address some of the debt brake's more fundamental flaws. It is intended merely as a pragmatic first step towards a more democratic, coherent and sustainable fiscal policy in Germany.

#FISCAL POLICY

#GOVERNMENT DEBT

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1 Introduction

Banks create money by creating debt.¹ The state creates money by issuing bonds, that is, by taking on debt.² Through their money creation, both private banks and the central bank and the Treasury create new claims on the goods and services traded in their respective currency area: The central bank and the Treasury, by putting legal tender notes and coins into circulation, which creditors of monetary debt in their currency areas must accept; private banks, through the act of granting new loans, create new deposit money on their customers' accounts.³

As long as debt is issued in the sovereigns' own currency, there is no clearly identifiable limit on the amount of debt that can be created, neither for the state nor for the private sector. And while optimal financing structures can be calculated for particular private companies, at least under certain circumstances, there are no objective, universally valid benchmarks for optimal levels of government debt, e.g., in relation to gross domestic product (GDP). The effect of public deficits on fiscal sustainability is ambiguous: it depends on a range of factors, including financing costs, economic growth, the economy's structure, the level and development of demand, the specific expenditures financed with debt, and the monetary policy stance. *Due to the complexity of weighing these up, and because fiscal policy always involves the allocation of economic benefits and burdens, fiscal policy is inherently political.*

A government's decision to issue or to refrain from issuing debt can thus never be justified on a merely technical basis. Considerations that may appear purely technical cannot be divorced from inherently contentious assessments of the economic situation and future economic prospects. As Stefan Koriath writes: "Any new borrowing undertaken or not undertaken is a political decision that must be justified and answered for."⁴

The so-called **debt brake** (*Schuldenbremse*), Germany's constitutional balanced budget amendment, can be seen as a response to this predicament, by creating an institutional framework that both limits and legitimises new borrowing.

In this paper, we aim to shed light on the **cyclical component** (*Konjunkturkomponente*) of the debt brake. This cyclical component increases or decreases the amount of new debt permissible, depending on the economic situation. While the federal debt brake itself, including a provision for cyclical adjustment, is written into the German constitution (the *Grundgesetz*, or Basic Law, in Art. 109 and Art. 115) the *design* of the cyclical component is regulated by ordinary law. *A change in the cyclical component therefore does not require constitutional change.*

Our overall question is: **to what extent does the current design of the cyclical component still serve the debt brake's original mission**, namely that of ensuring the long-term sustainability of public finances and providing a democratically legitimised framework for limiting debt? More specifically, we investigate

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- 1 Bundesbank, "Die Rolle von Banken, Nichtbanken und Zentralbank im Geldschöpfungsprozess", in Monatsbericht April 2017 (Frankfurt am Main: Bundesbank, April 2017), p. 15-36; Bank of England, "Money creation in the modern economy", in Quarterly Bulletin 2014Q1 (London: Bank of England, March 2014), pp. 14-27.
 - 2 European Central Bank (ECB), "Monetary developments in the euro area: March 2021" (press release, ECB, 29 April 2021), accessed 31 May, 2021 <https://www.ecb.europa.eu/press/pr/stats/md/html/ecb.md2103-cd66fb2c1c.en.html>.
 - 3 Strictly speaking, only the central bank and the treasury create *legal* rights to products and goods available in a currency area, as they provide the legal tender that cannot be refused. In practice, however, it is mostly possible to pay with bank balances. Moreover, these bank balances can be converted one-to-one into legal tender and are protected by deposit insurance up to a sum of 100,000 euros.
 - 4 "Jede getätigte oder nicht getätigte Neuverschuldung ist eine politische Entscheidung, die begründet und verantwortet werden muss". Stefan Koriath, "Die Schuldenbremse – reparaturbedürftig?" (ifo Schnelldienst 4/2021, 74. Jahrgang, ifo Institut für Wirtschaftsforschung, 14. April 2021), p. 21, <https://www.ifo.de/publikationen/2021/zeitschrift-einzelheft/ifo-schnelldienst-042021>.

four questions: Is the current design of the cyclical component based on a scientifically sound foundation? Does it facilitate a democratically legitimate process for determining the permitted deficit? Does it correspond to the legislators' original intentions? And, finally, is it required or justified by EU law?

*In our analysis, we conclude that the current design of the cyclical component no longer serves its original mission. It fails to take into account the latest research, despite this being required by law. Its definition in law is not precise enough, so that it effectively delegates the decision on permissible new borrowing to technocratic actors who are insufficiently legitimised for decisions of this scope. Its current design does not correspond to the original legislative intention. Nor was its introduction legally necessary under the European fiscal rules. **Thus, the cyclical component of the debt brake is no longer fit for purpose. It can and should be reformed.***

Building on this analysis, we propose a reform of the cyclical component that reduces its current democratic deficit and takes into account the latest economic research, as well as the original intentions of the legislators. There are, however, other substantive and democratic problems of the debt brake which remain unaddressed by our proposed reform. We therefore emphasise that our contribution should be understood only as a first step towards a democratically legitimised system of public finance.

The paper begins with a description of the legal basis of the debt brake and the cyclical component, including the legal and mathematical definitions of the term **"normal level"**, which is central to its functioning. Sections 3 to 7 then offer a critical discussion of the prevailing arguments for the current design of the 'normal level'. Sections 8 and 9 outline our reform proposal and argue that it is in line with the original intention of the debt brake. A short conclusion follows.

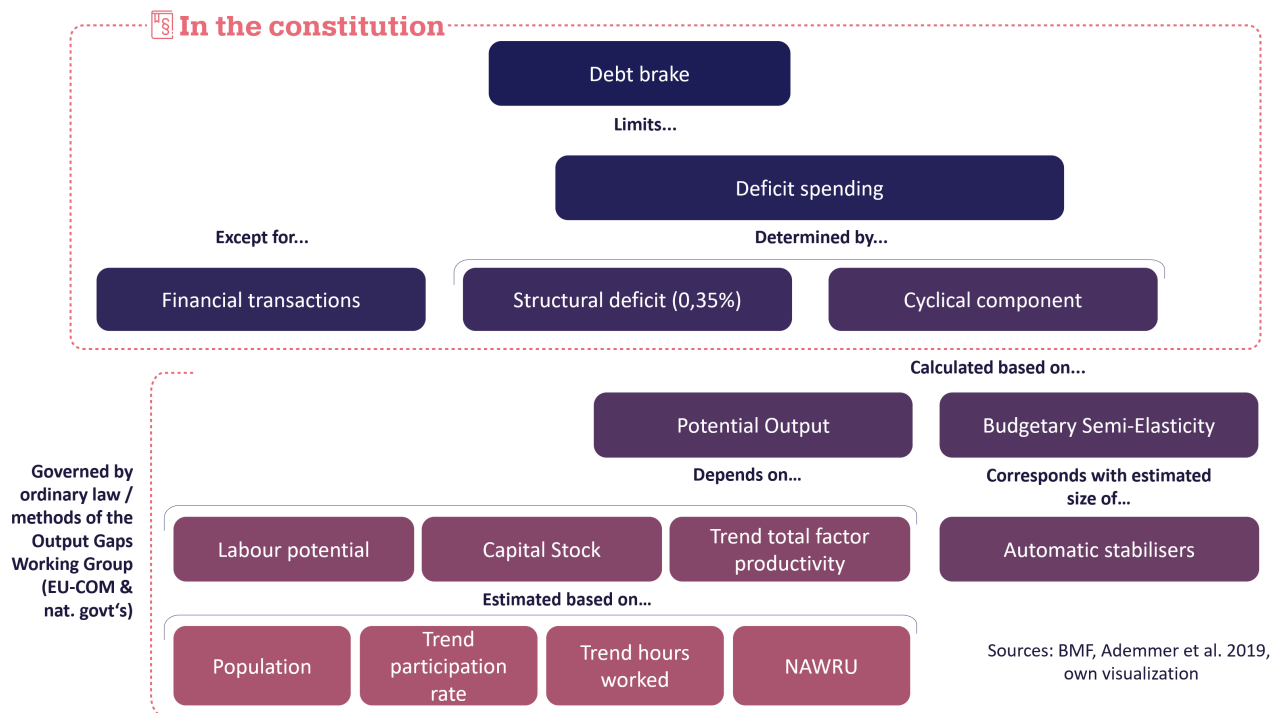
2 Legal structure of the debt brake and its cyclical component

i. Art. 115 GG

As mentioned above, the debt brake is written into the German constitution. Anchored in Article 115 of the Basic Law, it defines the maximum permissible **annual net borrowing** (*Nettokreditaufnahme*, or NKA) in absolute terms, excluding financial transactions. The amount of the permissible annual NKA is the sum of the maximum permissible structural deficit (0.35% of GDP) and a cyclical component, which is intended to increase or reduce the space for borrowing depending on the economic situation (see Figure 1). The definition of the cyclical component in Article 115 (2) sentence 3 of the Basic Law is vague: "In addition, in the event of economic activity deviating from the normal level, the effects on the budget shall be taken into account symmetrically in upswing and downswing."⁵ *The term "normal level" is neither further specified in Article 115 of the Basic Law nor is there an economic definition of it.*

⁵ "Zusätzlich sind bei einer von der Normallage abweichenden konjunkturellen Entwicklung die Auswirkungen auf den Haushalt im Auf- und Abschwung symmetrisch zu berücksichtigen." *Basic Law for the Federal Republic of Germany*, Article 115, accessed 31 May, 2021, https://www.gesetze-im-internet.de/gg/art_115.html.

Figure 1: The structure of the debt brake



ii. Implementation Act of Art. 115 GG

Section 5 (2) and (3) of the Implementation Act on Article 115 of the Basic Law (hereafter: *Implementation Act*) specify how the cyclical component is to be determined:

"(2) A deviation of economic activity from the normal level exists if an under- or over-utilisation of the overall economic production capacities is expected (output gap). This is the case if potential output, estimated on the basis of a cyclical adjustment procedure, deviates from the expected gross domestic product for the financial year for which the budget is prepared.

*(3) The cyclical component is the product of the output gap and budget sensitivity, which indicates how federal government revenues and expenditures change with a change in aggregate economic activity."*⁶

Paragraph (2) thus translates the comparatively vague concept of the "normal level" into the technical concept of "potential output". The difference between this estimated potential output of the economy and the expected actual GDP is defined as the **output gap**. Paragraph (3) defines the size of the cyclical component as the product of the output gap and the **budget sensitivity** (today's budgetary semi-elasticity⁷). By way of an example, the budgetary semi-elasticity for the federal government today is 0.2.⁸ This means that for every euro that the German economy is over/under-utilised (i.e. for every euro of the

⁶ „(2) Eine Abweichung der wirtschaftlichen Entwicklung von der konjunkturellen Normallage liegt vor, wenn eine Unter- oder Überauslastung der gesamtwirtschaftlichen Produktionskapazitäten erwartet wird (Produktionslücke). Dies ist der Fall, wenn das auf der Grundlage eines Konjunkturbereinigungsverfahrens zu schätzende Produktionspotenzial vom erwarteten Bruttoinlandsprodukt für das Haushaltsjahr, für das der Haushalt aufgestellt wird, abweicht.

⁷ Here, the German law does not yet seem to have been adapted to the further development of the European methodology; see Gilles Mourre, Caterina Astarita and Savin Princen, "Adjusting the budget balance for the business cycle: the EU methodology" (Economic Papers 536, European Commission, November 2014), https://ec.europa.eu/economy_finance/publications/economic_paper/2014/pdf/ecp536_en.pdf.

⁸ Bundesministerium der Finanzen (BMF), „Aufteilung der 2018 neu berechneten Budgetsemi-elasticität auf Bund, Länder, Gemeinden und Sozialversicherungen“, in *Monatsbericht April 2019* (Berlin: BMF, April 2019), <https://www.bundesfinanzministerium.de/Monatsberichte/2019/04/Inhalte/Kapitel-3-Analysen/3-6-budgetsemi-elasticitaet.html>.

output gap), the federal government is allowed to spend 20 cents less/more.

This Implementation Act does not provide any further details on the methodology for estimating potential output. It only provides a procedure by which the methodology is to be determined. According to Paragraph (4), the Federal Ministry of Finance and the Federal Ministry for Economic Affairs and Energy are responsible for this.⁹ They are mandated to determine this procedure "in accordance with the cyclical adjustment procedure applied within the framework of the European Stability and Growth Pact" and to further develop it according to the latest state of science (para. 4).

iii. Art. 115 Decree

Section 2 (2) of the Decree on the Procedure for Determining the Cyclical Component under Section 5 of the Article 115 Act (hereafter: *the Decree*) defines the term "potential output" and provides approximate guidance for the estimation methodology. However, the **definition of the term "potential output" is somewhat circular**: it is said to correspond to "the gross domestic product achievable with normal utilisation of the production factors" (sentence 1). The legally defined "normal level" is thus reached when potential output is reached, that is to say when the factors of production are utilised normally. But what is "normal" is not further defined.

Potential output is then estimated "with the help of a macroeconomic production function of the Cobb-Douglas type. This production function yields potential output as a combination of the normally utilised factors of production, labour and capital stock, multiplied by the trend in total factor productivity as a measure of technical progress at normal utilisation"¹⁰ (Sentences 2 and 3).

A Cobb-Douglas production function has the form

$$GDP = L^{\alpha} \times K^{1-\alpha} \times TFP$$

where GDP is gross domestic product, L the labour factor, K the capital factor and TFP stands for total factor productivity. α and $1 - \alpha$ define the production elasticities of labour and capital, that is to say how output changes depending on the respective input factor. The Decree does not contain the further specifications needed to operationalise this formula: in particular, a definition and statistical translation of the term "normal utilisation" (with regard to the production factors) remains absent.

The Implementation Act and the Decree, then, prescribe in detail how the "normal level" is to be calculated on the basis of normally utilised input factors, but do not further define the term "normal". *The legal design of the debt brake (specifically of the cyclical component) is based to a considerable degree on economic theory, such as the Cobb-Douglas production function, transcribed into legal texts.* Nevertheless, the determination of the cyclical component, and thus of the amount of the maximum permissible annual net borrowing, ultimately remains heavily dependent on how "normal utilisation" is to be interpreted. *This remains unspecified in the current design.*

⁹ "(4) Das Bundesministerium der Finanzen legt im Einvernehmen mit dem Bundesministerium für Wirtschaft und Energie die Einzelheiten des Verfahrens zur Bestimmung der Konjunkturkomponente in Übereinstimmung mit dem im Rahmen des Europäischen Stabilitäts- und Wachstumspaktes angewandten Konjunkturbereinigungsverfahren durch Rechtsverordnung ohne Zustimmung des Bundesrates fest. Das Verfahren ist regelmäßig unter Berücksichtigung des Standes der Wissenschaft zu überprüfen und fortzuentwickeln".

¹⁰ „mit Hilfe einer gesamtwirtschaftlichen Produktionsfunktion vom Typ Cobb-Douglas. Über die Produktionsfunktion ergibt sich das Produktionspotential als Kombination aus den normal ausgelasteten Produktionsfaktoren Arbeit und Kapitalstock, multipliziert mit dem Trend der totalen Faktorproduktivität als Maß für den technischen Fortschritt bei Normalauslastung“.

In the following four sections, we argue that this design of the cyclical component no longer meets the demands placed on it. Its current design

- does not take into account the latest social-scientific research;
- relies on an arbitrary notion of the “normal level” of economic activity that leaves key decisions to technical bodies that lack the democratic legitimacy to make these decisions autonomously;
- does not correspond to the original intention of the legislators, and,
- in the context of the Stability and Growth Pact, was never intended to be used and implemented as it is now.

Given these shortcomings, following the analytical sections of this paper we develop a proposal for an alternative that reduces the above shortcomings of the current design of the cyclical component.

3. The current estimation method for determining the “normal level” is not in line with latest research

As mentioned above, the Implementation Act provides a procedure by which to determine the methodology to estimate potential output. It states, in Section 5, Paragraph (4): “[t]he Federal Ministry of Finance, in agreement with the Federal Ministry for Economic Affairs and Energy, shall determine the details of the procedure for determining the cyclical component in accordance with the cyclical adjustment procedure applied within the framework of the European Stability and Growth Pact by decree without the consent of the Bundesrat. The procedure shall be reviewed and further developed on a regular basis, taking into account the state of scientific knowledge.”¹¹

However, a close review of the procedure as it currently stands reveals that it cannot be reconciled with the latest economic research. Several components of the economic theory drawn upon have been empirically refuted.

This fact is made more relevant by the EU’s introduction in 2002 of the current method to estimate potential output (which the Implementation Act evokes as the basis for the “normal level”) explicitly on the grounds that it “has the advantage of establishing a more direct link to economic theory [than statistical methods]”.¹² *The legitimacy of the method ought therefore to depend on its theoretical soundness, the extent to which that theory is consistent with recent empirical results, and on the extent to which the estimation results can be explained and understood on the basis of the alleged causalities.*

¹¹ Gesetz zur Ausführung von Artikel 115 des Grundgesetzes, Artikel 115-Gesetz - G 115, accessed 3. August, 2021, https://www.gesetze-im-internet.de/g_115/BJNR270400009.html. For the original German, see footnote 10 above.

¹² Cécile Denis, Kieran Mc Morrow and Werner Röger, “Production function approach to calculating potential growth and output gaps - estimates for the EU Member States and the US”. (Economic Papers No. 179, European Commission, 2002), https://ec.europa.eu/economy_finance/publications/pages/publication1706_en.pdf.

i. The Cobb-Douglas production function

To assess how theoretically sound the method actually is, then, we must recall that the estimation is done with help of the Cobb-Douglas production function. In recent years, research has shown that estimates of potential output with this function are problematic. **First, it ignores the effects of the demand side on potential, and second, the Cobb-Douglas function is, put simply, an imprecise description of the economy.**

As explained earlier, the Cobb-Douglas production function calculates an economy's productive capacity based on the input factors labour (L), capital (K), total factor productivity (TFP) as well as the two production elasticities α and $1 - \alpha$:

$$GPD = L^{\alpha} \times K^{1-\alpha} \times TFP$$

The method thus focuses exclusively on the supply side of the economy. Here, potential output depends only on the two factors used in production, labour and capital, and their total productivity. What is economically possible is seen entirely as a function of what firms are able to produce with the inputs at their disposal. *By this logic, then, demand impulses are irrelevant.*

The logic of this method, however, is inconsistent with what we know about the relationship between such demand impulses and long-term economic potential. Research has shown that strong demand – whether the result of government stimulus or foreign demand, for example – also creates potential for overall economic production.¹³ The intuition behind this holds water: *when demand is strong, firms will seek to expand capacity in order to make a higher profit*; an extreme example of this can be seen in the production of vaccine and the precursors needed during the Covid-19 crisis. The chemical company Evonik, for examples, became a producer of lipids within eight weeks, simply because there was strong demand.¹⁴ It is therefore likely that potential output is influenced by both supply and demand factors. More recent research develops methods of potential output estimation that take into account this very insight, namely that demand impulses affect potential output.¹⁵ Such research, however, is not taken into account in the current methodology.

In addition to revealing the method's analytical blind spot with regards to demand, recent research has also concluded that the Cobb-Douglas production function does not represent real economies well. It differs from other production functions in its definition of **production elasticities** (which describe how output changes in relation to an input) and **substitution elasticities** (which measure how easy or difficult it is to substitute one input for another). *Therefore, the extent to which the Cobb-Douglas function is a defensible model of economic reality depends on, among other things, whether there is empirical evidence for its implicit assumptions concerning these elasticities.*

In the Cobb-Douglas production function, the **production elasticities** of the input factors labour and capital, α and $1 - \alpha$ add up to one. This is based on the assumption of constant returns to scale: for example, if both inputs are doubled, then output doubles. *This assumption vastly simplifies the calculation, especially since under the further assumption of perfect competition, the elasticity of labour becomes equal to the labour share of income, that is to say the share of compensation of employees in GDP.* The labour share for the EU15

¹³ See for example J.W. Mason and Andrew Bossie, "Public Spending as an Engine of Growth and Equality: Lessons from World War II", Roosevelt Institute, 2020, <https://rooseveltinstitute.org/publications/public-spending-as-an-engine-of-growth-and-equality-lessons-from-world-war-ii/>.

¹⁴ Evonik, „Produktions-Start in Rekordzeit: Evonik liefert erste Lipide aus deutscher Produktion an BioNTech“ (. 22. April 2021), accessed 31. Mai, 2021, <https://corporate.evonik.de/de/produktions-start-in-rekordzeit-evonik-liefert-erste-lipide-aus-deutscher-produktion-an-biontech-157104.html>.

¹⁵ See for example: Claudia Fontanari, Antonella Palumbo and Chiara Salvatori, "Potential Output in Theory and Practice: A Revision and Update of Okun's Original Method", *Structural Change and Economic Dynamics*, Vol. 54 2020: 247-266.

averaged 0.63 between 1960 and 2003. Since this value is close to the 0.65 often used in the economic literature, is used as the elasticity of production for labour for all EU countries. No further justification is given as to why the value 0.65 instead of 0.63 is assumed.¹⁶

As mentioned above, the Cobb-Douglas function also contains **substitution elasticities** of capital and labour; these indicate how easily capital can be substituted for labour, or conversely labour for capital. These elasticities have a value of one, too. Empirical evidence for a value of one is scarce, however: As Sebastian Gechert et al. show in a meta-study of 3,186 estimates from 121 studies, the elasticity of substitution is most likely 0.5 and with 95% probability no higher than 0.6 – well below the elasticity implicit in Cobb-Douglas functions.¹⁷ Other evidence, however, suggests that the Cobb-Douglas elasticity may be too *low*: In particular, the declining labour share of income indicates an elasticity greater than one.¹⁸ These contradictory results are known to the European Commission. "However, given the difficulties associated with the alternatives", one of the Commission's reports states, "the Cobb-Douglas assumption of one appears to be an acceptable compromise".¹⁹

Without evaluating the appropriateness of this compromise, **it is clear that the Cobb-Douglas function is not a precise description of the world**. The assumed elasticities are either inconsistent with or cannot definitely be established by empirical evidence.

However, the Cobb-Douglas function isn't the only problem. Recent scholarship points to further problems with the currently used method: these relate to the *difficulty of calculating the labour potential and trend total factor productivity* (both needed to calculate potential output) and how their current estimation is insufficiently justified in light of recent research.²⁰

To calculate potential output (GDP_{pot}) instead of actual output (GDP), the input factors labour (L) and total factor productivity (TFP) are replaced in the production function by **labour potential (LP)** and the **trend in total factor productivity (TFPT)**, respectively.

Production:
$$GDP = L^\alpha \times K^{1-\alpha} \times TFP$$

Potential output:
$$GDP_{pot} = LP^\alpha \times K^{1-\alpha} \times TFPT$$

This is done by adjusting the input factors labour (L) and total factor productivity (TFP) for cyclical influences. But if the procedure is to be justified on the basis of economic theory, the calculations used in the calculation of LP and TFPT would have to be theoretically justifiable, too.

¹⁶ Karel Havik et al, "The Production Function Methodology for Calculating Potential Growth Rates & Output Gaps" (Economic Papers No. 535. European Commission, November 2014), p. 10, footnote 4, https://ec.europa.eu/economy_finance/publications/economic_paper/2014/pdf/ecp535_en.pdf.

¹⁷ Sebastian Gechert et al, "Measuring capital-labor substitution: The importance of method choices and publication bias", *Review of Economic Dynamics*, 2021, <https://www.sciencedirect.com/science/article/abs/pii/S1094202521000387>.

¹⁸ Alfonso Arpaia et al., "Understanding Labour Income Share Dynamics in Europe" (Economic Papers No. 379, European Commission, 2009), https://ec.europa.eu/economy_finance/publications/pages/publication15147_en.pdf.

¹⁹ Karel Havik et al, "The Production Function Methodology for Calculating Potential Growth Rates & Output Gaps" (Economic Papers No. 535. European Commission, November 2014), p. 10, footnote 4, https://ec.europa.eu/economy_finance/publications/economic_paper/2014/pdf/ecp535_en.pdf.

²⁰ This is a problem that is pointed out, for example, by Helmut Siekmann in *Sachs - Grundgesetz Kommentar* (Munich: C.H. Beck, 9th edition, 2021), paras. 74, 75.

ii. Labour potential

This is not the case for labour potential. Instead, the result of the calculation is strongly dependent on ex ante statistical assumptions. These assumptions cannot be derived unambiguously from sound social science; even after taking into account the best scientific evidence, they remain subject to judgment.

Labour potential (**LP**) is currently calculated as follows:

$$LP = \text{Population}_{15-74} \times PRT \times (1 - NAWRU) \times HWT$$

Here, PRT denotes the **trend in the participation rate**.²¹ NAWRU stands for the **non-accelerating wage rate of unemployment**, that is to say the lowest possible unemployment rate that does not lead to accelerating inflation. HWT stands for the **trend in annual hours worked** in gainful employment per employee.

The NAWRU was originally defined as the natural rate of unemployment, independent of all cyclical and seasonal influences.²² It has been subject to strong criticism in recent years.²³ The basis for this criticism was the decline of the unemployment rate in the US to below the NAIRU (the US equivalent of the NAWRU), starting in 2017 and continuing steadily until the onset of the Covid-19 pandemic²⁴ – with no signs of inflation. As a consequence, in the summer of 2020, the Federal Reserve (FED) decided to stop relying on the NAIRU as a central indicator and to instead pursue the goal of 'maximum employment'. The FED justified this move by stating that "given the dynamic nature of the economy, it is not possible to know precisely how far the unemployment rate can fall in a sustainable manner without causing excessive inflation"²⁵.

The unemployment rate for Germany was also below the NAWRU level from 2017 up until the crisis caused by Covid-19 in 2020.²⁶ Nevertheless, inflation remained at so low a level that, in order to fulfil its mandate, the ECB felt compelled to continuously expand its monetary policy toolbox and extended the purchasing programmes it originally started in 2015.

There are numerous possible explanations why excessive inflation does not occur even when unemployment is so low. Among other things, it may be that labour markets are more flexible than previously thought and that booms simply mobilise parts of the so-called hidden reserve, that is: people of working age who had withdrawn from the labour market. The larger supply of labour thus prevents wage inflation from rising. It is also possible that structural changes in the markets, such as the decline in collective bargaining coverage or the increasing market concentration in individual sectors, alter the relationship between labour demand and wages. Another possibility is that the inflationary consequences of low unemployment have been overestimated in the past, so that the pre-COVID constellation of low inflation and low

21 The participation rate, also known as the labour force participation rate, measures the share of the labour force, i.e. the total of employed and unemployed persons, in the total working-age population. The latter usually refers to those aged between 15 and 64, sometimes between 15 and 74.

22 Milton Friedman, "The Role of Monetary Policy", *American Economic Review* 58, no. 1 (March 1968): pp. 1-17.

23 See, among others, the "Nonsense Output Gap Campaign" (CANOO) by Robin Brooks, Adam Tooze and Philipp Heimberger; "The campaign against 'nonsense' output gaps", Bruegel, accessed 01 June, 2021, <https://www.bruegel.org/2019/06/the-campaign-against-nonsense-output-gaps/>.

24 "Natural Rate of Unemployment (Short-Term)," Federal Reserve Bank of St. Louis, accessed May 31, 2021, <https://fred.stlouisfed.org/series/NROUST>.

25 "What is the lowest level of unemployment that the U.S. economy can sustain?", U.S. Federal Reserve, accessed May 31, 2021, https://www.federalreserve.gov/faqs/economy_14424.htm.

26 "Gesamtwirtschaftliches Produktionspotenzial und Konjunkturkomponenten (Frühjahrsprojektion der Bundesregierung 2021)", published by the Federal Ministry for Economic Affairs and Energy Federal Ministry (BMWi) and the Federal Ministry of Finance (BMF), accessed 31 May, 2021, https://www.bmw.de/Redaktion/DE/Downloads/G/gesamtwirtschaftliches-produktionspotenzial-jahresprojektion-2021.pdf?__blob=publicationFile&v=6. Whereby the NAWRU calculation was adjusted ad hoc in the context of the Corona crisis, see European Commission, "EU-CAM estimation of potential output and output gaps in the context of the COVID-19 pandemic shock" (2020-I Spring Forecast, European Commission, April 2020), <https://cir.cabc.europa.eu/ui/group/671d465b-0752-4a2e-906c-a3effd2340ba/library/2b47f47e-24e8-460e-abc6-af3df6676fc0/details>.

unemployment needs no special explanation.²⁷ Yet another explanation might be a tendency for higher investments to be made into productivity increases during periods of low unemployment. These render wage increases non-inflationary.

As in the case of the Cobb-Douglas production function, then, the empirical evidence around the NAWRU is weak. The NAWRU may fail to describe the lowest possible unemployment rate at which there is no increase in wage inflation. In fact, there might not be a lowest possible unemployment rate that is largely independent of the business cycle. Heimberger and Kapeller (2017) demonstrate in their study that the NAWRU estimates from 1999 to 2014 were driven to a considerable extent by factors such as capital accumulation and real estate prices, two variables that are indisputably cyclical. This points to a weak evidentiary basis for the claim that the NAWRU describes purely structural unemployment, independent of the business cycle.²⁸

This is ultimately not surprising: the system of equations used to calculate the NAWRU does not isolate structural from cyclical factors; **it simply extrapolates the historical trend**.²⁹

$$NAWRU_t = NAWRU_{t-1} + \mu_{t-1} + \epsilon_t^p$$

stands for the current NAWRU; $NAWRU_{t-1}$ is the NAWRU of the previous year; μ_{t-1} is a so-called **stochastic drift term** (the term "stochastic drift" describes the change in the average value of a stochastic process); ϵ_t^p **is an error term** (a random deviation of the realised value from the expected outcome of the process and the reason why the process is not fully predictable). *Thus, the fact that the NAWRU changes slowly is not because it only includes structural factors, but because of the statistical definition chosen.*

Cyclical (that is short-term) unemployment is modelled as a stochastic process whose present value depends on cyclical unemployment in the last two time periods as well as on the error term ϵ_t^c :

$$(U_t - NAWRU_t) = \psi_1 (U_{t-1} - NAWRU_{t-1}) + \psi_2 (U_{t-2} - NAWRU_{t-2}) + \epsilon_t^c$$

U_t means the actual unemployment rate at the time t . $U_t - NAWRU_t$ i.e. the actual unemployment rate adjusted for NAWRU, represents cyclical unemployment. ψ_1 and ψ_2 are estimation parameters and ϵ_t^c an error term. The process described by the equation is **stationary**, meaning that the actual unemployment rate always moves back over time in the direction of the NAWRU – which is the unemployment rate at estimated potential output – and always fluctuates around it with the same variance. The cyclical component of unemployment is explained by the dispersion of the randomly generated values of the error term (which is set as input in for the calculation), but not on the basis of economic intuition. It becomes clear that **the desired characteristics of the unemployment components are not based on empirical research, but are already integrated into the model on the basis of statistical assumption.**

The NAWRU calculated here, supposedly adjusted for the business cycle, thus has less to do with the fundamental potential of the economy than with the actual state of the present and the last two years. If the economy is doing particularly badly at the moment or if current policies are promoting weak labour markets, the NAWRU would be deceptively high; if the opposite were true, it might be unreasonably low. The same applies to the trend in the participation rate (PRT) and the trend in hours worked (HWT), which are simply extrapolated from the past for the estimation purposes. In addition, the extrapolation methods themselves no longer

²⁷ This is argued by recent research on the U.S., which locates changes in the inflation rate since 1978 largely in changes in the expectations of economic agents, see Hazell et al, "The Slope of the Phillips Curve: Evidence from U.S. States" (NBER Working Paper 28005, May 2021), <https://www.nber.org/papers/w28005>.

²⁸ Philipp Heimberger, Jakob Kapeller and Bernhard Schütz, "The NAIRU determinants: What's structural about unemployment in Europe?", *Journal of Policy Modelling* 39, no. 5 (May 2017): pp. 883-908.

²⁹ With the addition of a temporal drift and the error term to account for observed fluctuations. The drift term itself is also specified in the third equation as a so-called random walk. Source: Martin Ademmer et al, "Potential output and output gap estimation: An Analysis of the EU Procedure and Possible Improvements" (Kiel Contributions to Economic Policy No. 19, February 2019), https://www.ifw-kiel.de/fileadmin/Dateiverwaltung/ifwPublications/ifw/Kieler_Beitraege_zur_Wirtschaftspolitik/2019/wipo_19.pdf.

correspond to the current state of research and suggest implausible trends over time.³⁰

iii. The trend in total factor productivity

Similarly, the use of total factor productivity (TFP) raises doubts about the theoretical soundness of the method of estimating potential output, and thus the "normal level". It cannot be observed; instead, it is determined residually. This means that the variable captures any and all influences on potential output that cannot be attributed to the two production factors labour and capital. Abramovitz (1956) therefore calls TFP a "measure of our ignorance."³¹ As a residual variable, TFP cannot be interpreted simply as a rate of technical progress, because it is also determined by changing structural characteristics of the economy, estimation errors of the current method, or any other changes that are not captured elsewhere in the model.

In order to determine the trend in total factor productivity, the TFPT, which is included in the determination of potential output (see p. 10), TFP need to be extrapolated. On the face of it, simply extrapolating forward our "measure of ignorance" seems like a daring procedure. But the crucial issue is that TFP and its trend TFPT tend to behave procyclically. They tend to fall in downturns and rise in upturns. According to Alexander Field, a 1% reduction in the unemployment rate of the US economy between 1890 and 2004 led to an increase in TFP growth of about 0.9%.³² *Here, as in the case of labour potential, we observe: the TFPT has little to do with the productivity trends of a (counterfactual) a-cyclical economy, and a lot more with current and very recent economic performance.* Here, too, the calculation of potential output is based more on poorly justified extrapolation from the recent past, less on coherent and theoretically grounded reasoning. This method is particularly troublesome when applied to the unobservable TFP, since it is not even clear *what* exactly is extrapolated from the past.

Summing up: **While the production function approach attempts to create a theoretical basis for the potential output calculation, central questions are ultimately left to statistical procedures or decided on the basis of what is expedient.** This is done both to ensure plausible results, and because the current state of economic theory cannot provide clear, robust, and reliable estimations of economic potential. Thus, the current European method for identifying the structural and cyclical components of unemployment contains no economic intuitions, but merely statistical decompositions of the data into historical trends and cycles.³³

If there were evidence that, on the whole, past economic performance corresponded with the economy's potential, such a procedure may be justifiable. But recent research paints a different picture: there are numerous reasons why economies can remain permanently below their potential. These include but are not limited to: lasting crisis damage (hysteresis effects), pessimistic expectations of the future that depress real investment, or issues arising from endogenously self-destabilising financial markets.³⁴ Summing up this section, **it is therefore difficult to argue that the current design of the cyclical component can be reconciled with the current state of social-scientific research.**

31 Moses Abramovitz, "Resource and Output Trends in the United States since 1870," *American Economic Review* 46, no. 2 (May 1956): pp. 5-23.

32 Alexander J. Field, "Procyclical TFP and the Cyclical of Growth in Output per Hour, 1890-2004" (Working Paper, Department of Economics at Santa Clara University, 2007), p. 1, <https://www.mcgill.ca/economics/files/economics/fieldpaper.pdf>.

33 See Philipp Heimberger, Jakob Huber and Jakob Kapeller, "The power of economic models: The case of the EU's fiscal regulation framework", *Socio-Economic Review* 18, no. 2 (April 2020): pp. 337-366.

34 For an overview, see Philippa Sigl-Glöckner et al, "A new German fiscal policy", (Working Paper No. 2/21, Forum New Economy, July 2021), pp. 14-16, <https://newforum.org/wp-content/uploads/2021/06/FNE-WP02-2021.pdf>.

4. Determining the maximum level of permissible net borrowing is to a large extent left to technocratic actors with insufficient legitimacy for the task

As outlined above, the legal basis for the cyclical component is contained in Article 115 (2) sentence 3 of the Basic Law, which stipulates that economic deviations from the “normal level” be taken into account. The definition of the “normal level” is decisive. Section 5 (2) of the Implementation Act specifies it:

“(2) A deviation of economic activity from the normal level exists if an under- or over-utilisation of the overall economic production capacities is expected (output gap). This is the case if potential output estimated on the basis of a cyclical adjustment procedure deviates from the expected gross domestic product for the financial year for which the budget is prepared.”³⁵

Additionally, the Article 115 Decree defines “potential output as the combination of the factors of production labour and capital at their *normal capacity utilisation* [emphasis added]”.³⁶ We have already established that the maximum permissible annual net borrowing (NKA) under the debt brake depends heavily on the definition of the term “normal” or “normal utilisation”, and that the legal framework does not provide any further definition of this term.

To sidestep this problem, the term could be interpreted as “what was the case in the past”. One could then argue, on that basis, that while the interpretation of the “normal level” as a continuation of the historical trend is not explicitly demanded or specified in the legal text, it is a justifiable specification of the term. As we explain below, however, neither the genesis of the term nor the currently used calculation of potential output support such an interpretation.

However, **even if the term were to be interpreted as continuation of a historical trend, this would still not be precise enough.** *The past never speaks for itself, but must always be made to speak through active analysis.* This means that the technocratic actors who carry out the extrapolation in practice have a significant amount of discretion in determining the new debt limit. But these actors are not sufficiently democratically legitimised to exercise this discretion legitimately.

i. History of the term

The term “normal level” first appears in the 1980/81 annual report of the German Council of Economic Experts (SVR), where it already refers to potential output.³⁷ Since at least the 1968/69 report, however, the estimate of potential output involved more than an extrapolation of historical trends.³⁸ Instead, it was assumed that all sectors of the economy except private enterprises were working at full capacity. The capacity utilisation of private enterprises, in turn, was calculated on the basis of the productivity of their capital. For this purpose, a complex procedure was used to derive their maximum capital productivity from past values of their capital productivity.³⁹ In contrast to the Swiss method today, for example, which determines the

³⁵ For the original German text, see [footnote 6](#) on p. 5 above.

³⁶ „das Produktionspotential als Kombination aus den normal ausgelasteten Produktionsfaktoren Arbeit und Kapitalstock“, § 2 section (2), sentence 3, Article 115 Decree.

³⁷ German Council of Economic Experts, “Jahresgutachten 1980/81 des Sachverständigenrates zur Beurteilung der gesamtwirtschaftlichen Entwicklung” (Printed Paper 9/17, German Bundestag, November 1980), p. 119, <https://dserver.bundestag.de/btd/09/000/0900017.pdf>.

³⁸ The first report with the corresponding methodological Annex IV, see „Sachverständigenrat zur Beurteilung der gesamtwirtschaftlichen Entwicklung“, *Alternativen Aussenwirtschaftlicher Anpassung: Jahresgutachten 1968/69* (Stuttgart and Mainz: Verlag W. Kohlhammer GmbH, 1968), https://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/download/gutachten/jg68_69.pdf.

³⁹ Annex VI, A in „Sachverständigenrat zur Beurteilung der gesamtwirtschaftlichen Entwicklung“, “Jahresgutachten 1985/86 des Sachverständigenrates zur Beurteilung der gesamtwirtschaftlichen Entwicklung” (Drucksache 10/4295, Deutscher Bundestag, November 1985), p. 194, <https://dserver.bundestag.de/btd/10/042/1004295.pdf>.

“normal level” by smoothing the long-term GDP trend, the German method refrained from simply equating the historical “normal utilisation” with the historical trend as early as 1968/69.⁴⁰

Accordingly, there was significant scepticism in the past as to whether the term “normal level” could be defined precisely. When the Federal Budget Code was amended in 1990, triggered by a ruling of the Federal Constitutional Court, the federal government rejected the idea of legally specifying the “normal level”. It gave the following justification:

“A legal limitation of borrowing conditional on a normal level of economic activity would require a more detailed definition of this term. [...] economics does not provide any unambiguous and certain definitions of how the rate of price increases, the level of employment, the external economic situation and how economic growth must be in a normal economic situation, either individually or in the overall context.

[...]

In order to take into account the multitude of conceivable cases, a legal rule would ultimately have to resort to undefined legal terms to describe the normal level of economic activity and the amount of appropriate borrowing in each case. This would not result in any clarification of the current legal situation [...].

The Federal Constitutional Court concedes that, because of the vagueness and the dynamic component of this concept and in view of the limited predictability of the level of economic activity, a statutory regulation on borrowing in normal economic circumstances may not be able to go beyond the creation of procedural precautions, including the establishment of the obligation to state reason. According to the decision of the Federal Constitutional Court, a precautionary limiting effect on borrowing is to be found in the fact that the budget legislator is required to render an account before itself.”⁴¹

The federal government thus regarded the “normal level” as a concept lacking an “unambiguous and certain definition”. A legal rule or regulation based on it would “ultimately have to resort to undefined legal terms”, which would not have resulted “in any clarification of the current legal situation”. The Budget Committee of the Bundestag agreed with the assessment. Neither the “normal level” of economic activity nor the “normal utilisation” of the factors of production was subsequently defined by law.

A quantitative description of the “normal level” had to wait until the introduction of the debt brake and the implementation of the reformed Stability and Growth Pact (SGP). Interestingly, the term “normal level” did

⁴⁰ Federal Department of Finance (FDF) and Federal Finance Administration (FFA), “Schuldenbremse und Ergänzungsregeln” (Presentation, Swiss Confederation), accessed 03 August, 2021, https://www.efv.admin.ch/dam/efv/de/dokumente/finanzpolitik_grundl/schuldenbremse/Schuldenbremse_Erganzungsr_Grundfolien_d.pdf.download.pdf/Schuldenbremse_Erganzungsr_Grundfolien_d.pdf.

⁴¹ „Eine gesetzliche Begrenzung der Kreditaufnahme bei wirtschaftlicher Normallage würde eine nähere Bestimmung dieses Begriffs voraussetzen. [...] die Volkswirtschaftslehre liefert keine eindeutigen und sicheren Festlegungen, wie die Preissteigerungsrate, der Beschäftigungsstand, die außenwirtschaftliche Situation und das wirtschaftliche Wachstum in einer wirtschaftlichen Normallage jeweils für sich sowie im Gesamtzusammenhang beschaffen sein müssen.[...]“

Um die Vielzahl denkbarer Fallgestaltungen zu berücksichtigen, müßte für eine gesetzliche Regelung letztlich auf unbestimmte Rechtsbegriffe zur Umschreibung der wirtschaftlichen Normallage und der Höhe der jeweils angemessenen Kreditaufnahme zurückgegriffen werden. Dies würde im Ergebnis keine Präzisierung der gegenwärtigen Rechtslage bedeuten [...].

Das Bundesverfassungsgericht räumt ein, daß eine gesetzliche Regelung zur Kreditaufnahme bei wirtschaftlicher Normallage wegen der Unbestimmtheit und der dynamischen Komponente dieses Begriffs sowie im Hinblick auf die begrenzte Vorhersehbarkeit der Wirtschaftsentwicklung über die Schaffung verfahrensmäßiger Vorkehrungen einschließlich der Festlegung von Begründungspflichten möglicherweise nicht wird hinausgehen können. Nach der Entscheidung des Bundesverfassungsgerichts ist ein die Kreditaufnahme begrenzender Effekt solcher Vorkehrungen darin zu sehen, daß der Haushaltsgesetzgeber gehalten sei, Rechenschaft vor sich selbst abzulegen.“ Federal Government, “Entwurf eines Vierten Gesetzes zur Änderung der Bundeshaushaltsordnung” (Drucksache 11/6939, Deutscher Bundestag, April 1990), p. 7, <https://dserv.bundestag.de/btd/11/069/1106939.pdf>.

not feature in the parliamentary debates surrounding the introduction of the debt brake. It seemed to be necessitated by the required synchronisation of German and European fiscal rules. (In section 6 below we question whether the SGP did in fact necessitate the implementation of the debt brake). *Overall, then, it is difficult to find evidence that a deliberate interpretation of the concept of “normal utilisation” as the historical average of economic activity was ever the intention of the legislator.* Instead, it seems that, historically, the term was considered to be an economic term, resistant to legal specification, and was therefore treated with corresponding caution. *Only when it had to be specified (at least allegedly) on the basis of higher-ranking legislation, were these doubts no longer expressed.*

ii. The EU anchoring approach

Leaving aside the historical intention of the German legislator, however, the EU's current method for calculating potential output, too, is clearly not intended as a mere extrapolation of the past. This is evident in the fact that, in order to ensure that the NAWRU (which is part and parcel of the potential output calculation) actually meets the requirement of identifying the "normal" or structural level unemployment, its estimation results are modified by means of the so-called **anchoring approach**.

In the anchoring approach, an "anchor value" of the NAWRU is calculated. The model then “forces the NAWRU [initially projected purely from the past] to revert to the anchor in the mid-term”, i.e. towards the end of the projection period.⁴² This anchor value attempts to map the impact of certain structural features on the NAWRU. These structural characteristics include, for instance, union density, the unemployment benefit replacement rate, or expenditure on active labour market policies.⁴³ In addition, a period is defined over which the NAWRU converges to its anchor value in the model.⁴⁴ For Germany, the IMF calculated an anchor of 6.2% for 2017, on the basis of the EU Commission's method, to which the NAWRU would tend within the next 15 years. The German NAWRU was 3.4% in 2017.^{45 46} So even if the NAWRU is de facto largely determined by the historical trend, especially in the short term, the intention of the calculation method as a whole is clearly not to merely extrapolate the past.⁴⁷

The interpretation of the “normal level” as historical trend is therefore not only difficult historically. It also doesn't correspond to the current design of the method of calculating potential output. Instead, a complex mixture of statistical and economic methods is used, hardly comprehensible for non-experts, both individually and in combination. As a direct result – according to experts of the EU Commission

⁴² Atanas Hristov et al, "NAWRU Estimation Using Structural Labour Market Indicators" (Discussion Paper 069, European Commission, October 2017), p. 2, https://ec.europa.eu/info/sites/default/files/dp069_en.pdf.

⁴³ Ibid. pp. 2-3, https://ec.europa.eu/info/sites/default/files/dp069_en.pdf.

⁴⁴ Based on the estimated values, the influences of structural variables are calculated in a panel regression. Cyclical variables are added as controls. Multiplying the estimated coefficients by the current or country-specific average values of the structural and cyclical variables yields a NAWRU anchor. Finally, the difference between previously estimated NAWRU and its anchor value is fitted with a linear convergence rule, according to which deviations from the anchor disappear over time. The estimated NAWRU thus converges towards the anchor value, which already takes the structural changes into account.

⁴⁵ Ademmer et al, "Estimating Potential Output and the Output Gap: An analysis of the EU procedure and possible improvements".

⁴⁶ BMWi and BMF, "Gesamtwirtschaftliches Produktionspotenzial und Konjunkturkomponente (Frühjahrsprojektion der Bundesregierung 2021)".

⁴⁷ The combination of economic theory and historical extrapolation used in the anchor procedure is also problematic. First, it leads to results whose plausibility is not obvious: must the German “normal level” include one million additional unemployed in 15 years? Why should this necessarily be the case if the German NAWRU has been falling continuously since 2004? Like the NAWRU itself, its estimation by anchor procedure is also disputed in the research community. Second, combining statistical estimation methods with the anchor procedure requires a number of additional assumptions: Should the NAWRU value in the short term, for example for the next year in each case, be a weighted average of the two methods, or based purely on the statistical estimation method? If the former, what weights should be applied to each method? If the latter, why should the anchor be meaningful in the long run if it is found to be irrelevant in the short run? Further assumptions need to be made for the medium and long-term: How fast should a convergence of the NAWRU to the anchor take place in the model? And should this occur on a linear path, as is currently the case, or on a logarithmic, polynomial or exponential path?

interviewed by Heimberger et al. – “Member States partially feel restricted in their political leeway as the fiscal framework assigns ‘a lot of power to the people that estimate potential outputs’”.⁴⁸

This points to the next problem: even if the “normal level” of economic activity, or the “normal utilisation” of production factors, is interpreted as a continuation of historical trends, this is not enough to avoid arbitrary and thus unjustifiable assumptions in their definition. *For it turns out that the past does not speak for itself; it must be made to speak through active interpretation.* In order to extrapolate it into the future, a number of methodological decisions have to be made. Here, there is considerable room for discretion. So while the current methodology for determining the “normal level” can indeed be described as, in part, an extrapolation of the past, it is by no means free of assumptions and discretion.

iii. The example of variance bounds in the NAWRU calculation

The existence of room for discretion, even in the mere statistical extrapolation of past trends, is evident in the calculation of the NAWRU. A central prerequisite for the estimability of the model used for calculating the NAWRU is that cyclical unemployment actually fluctuates around the NAWRU. To this end, the variances of the error terms, i.e. how far apart the randomly generated values of the error terms may be, must be limited.

Fioramanti (2016)⁴⁹ and Ademmer et al. (2019) demonstrate that **changes in these variance bounds have a significant impact on NAWRU estimates**. They contrast estimates made in 2014 and 2017. New limits were introduced for the autumn 2017 estimate, resulting in a NAWRU of 10.5 per cent in Italy. But if the 2014 limits had been used instead, Italy's NAWRU for 2017 would have been a full percentage point lower. To put this into context, one percentage point of unemployment in Italy in 2017 was equivalent to just under 300,000 people. **The variance bounds of the error terms newly defined by experts in the Output Gaps Working Group thus had the direct consequence that the Italian “normal level” now included 300,000 additional unemployed.** Thinking within the economic model, Italy would then have to ensure that 300,000 more people are unemployed by means of its fiscal policy due to the change in an arbitrarily chosen statistical parameter, in order to prevent the economy from overheating.

The example illustrates that NAWRU estimates are not robust to changes in model assumptions that are statistically necessary but cannot be clearly justified either theoretically or empirically. This is necessarily the case, given the nature of the concept: the “normal level” cannot be observed directly.⁵⁰ It is defined as a yardstick against which the actual situation is assessed. Just as the length of a metre cannot be found by observing nature without first defining the metre, the “normal level” of economic activity cannot be found by observing past economic data without first defining what is considered a “normal level”. **If this definition does not happen explicitly on the basis of economic theory, the definition happens implicitly, in the form of assumptions that have to be made in the process of statistical modelling.**

Summing up this section, the definition of the “normal level” as a past trend is therefore neither plausible nor does it contribute to a precise definition of the concept. An extrapolation of the “normal level” from historical data necessarily involves first defining which moments in the past count as normal. Where this is not done explicitly, it leaves significant discretion to those who, in specifying the extrapolation method, do so implicitly.

⁴⁸ Heimberger, Huber, Kapeller, “The power of economic models: The case of the EU's fiscal regulation framework”, p. 21

⁴⁹ Marco Fioramanti, “Potential Output, Output Gap and Fiscal Stance: Is the EC estimation of the NAWRU too Sensitive to be Reliable?” (MPRA Working Paper No. 73762, University Library of Munich (Germany), 2016), https://mpra.ub.uni-muenchen.de/73762/1/MPRA_paper_73762.pdf.

⁵⁰ See also Marco Buti et al, “Potential output and EU fiscal surveillance”, *VoxEU*, 23 September, 2019, <https://voxeu.org/article/potential-output-and-eu-fiscal-surveillance>.

According to Orsola Constantini, this absence of precision is no accident. She argues that it is precisely the indeterminacy of the “normal level” and thus of the cyclically adjusted deficit, that has contributed to its “incredible” rise in the hierarchy of the EU bureaucracy. “[T]he cyclically adjusted budget’s ability to throw a cloak of spurious statistical precision over any mix of cross pressures and interests made it a near perfect policy instrument for managing the conflicts”.⁵¹ Seen in this light, the law appears to be used to shift a deeply political issue to a technocratic level, where it can be negotiated without having to justify the outcome or even the basis of the negotiations before a democratic public.

5. The method currently used to estimate potential output does not correspond to the original intention of the legislator

The draft law on the debt brake formulated the intention behind the reform as follows: “The aim of the amendments to the Basic Law’s fiscal provisions is to improve the institutional conditions for ensuring the long-term sustainability of the Federal and Länder finances in accordance with the requirements of the reformed European Stability and Growth Pact.”⁵²

In this section, we argue that the method currently used for calculating potential output and thus the definition of the “normal level” does not correspond to the intention of the legislator to safeguard long-term budgetary sustainability.

i. Interpretation as a ban on permanent deficits via the cyclical component

Article 115, Section 2 sentence 2 of the Basic Law states the following concerning the “normal level”:

*“In addition, in the event of economic activity deviating from the normal level, the effects on the budget shall be taken into account symmetrically in upswing and downswing.”*⁵³

One way to interpret this clause is to read it as a requirement for the cyclical component to sum to zero over the course of an economic cycle. If this interpretation is chosen, estimates of potential output would have to be based on a moving average of past trends in output. These estimates of potential output would have to be independent of the *actual* potential of the economy, inasmuch as that can be determined by economic theory: *if potential output were systematically different from past trends and were, for example, on average higher than actual GDP, the output gap and thus the cyclical component would accordingly be greater than zero on average.* This would imply the possibility of permanent cyclical deficits, i.e. a cyclical component that is not zero over the course of an economic cycle.

But the same interpretation of this clause, as a prohibition on permanent cyclical deficits, would also call into question the appropriateness of the *current* method used to estimate potential output. While the method largely relies on extrapolating historical trends, the mean value of the output gaps from 1980 to

⁵¹ Orsola Constantini, “The Cyclically Adjusted Budget: History and Exegesis of a faithful estimate” (Working Paper No. 24, Institute for New Economic Thinking (INET), October 2015), p. 43, https://www.researchgate.net/publication/299343622_The_Cyclically_Adjusted_Budget_History_and_Exegesis_of_a_Faithful_Estimate.

⁵² „Ziel der Grundgesetzänderungen im Bereich der Finanzverfassung ist es, im Einklang mit den Vorgaben des reformierten europäischen Stabilitäts- und Wachstumspaktes die institutionellen Voraussetzungen für die Sicherung einer langfristigen Tragfähigkeit der Haushalte von Bund und Ländern zu verbessern.“ Bundestag parliamentary groups of the CDU/CSU and SPD, “Entwurf eines Gesetzes zur Änderung des Grundgesetzes (Artikel 91c, 91d, 104b, 109, 109a, 115, 143d)” (Drucksache 16/12410, Deutscher Bundestag, March 2009), <https://dserver.bundestag.de/btd/16/124/1612410.pdf>.

⁵³ For the original German, see [footnote 5](#) on p. 4 above.

2025 (the full range of available values) is -3.74 billion euros.⁵⁴ From 2009, the year in which the debt brake was introduced, to 2020, the output gap's mean value was even more negative, at -9.8 billion euros. It should be noted, however, that both the Great Financial Crisis and the Corona Crisis fell into this period, as well as an economic upswing. Even the current method of calculating potential output does not guarantee symmetry; its numbers do not correspond to the idea of a complete economic cycle with symmetrical fluctuation of output around potential.

In contrast, while not guaranteeing a cyclical component of zero over the course of a cycle, it does guarantee pro-cyclicality, that is to say a fiscal policy that amplifies both downturns and upturns and thus achieves the opposite of what the legislator was aiming for, namely an anti-cyclical fiscal policy that dampens economic fluctuations.

The pro-cyclical bias of the EU methodology for calculating potential output has been one, and perhaps the central, point of criticism since its introduction. The goal of reducing the pro-cyclical nature of the calculation was also one of the reasons for repeated methodological reforms that seem difficult to justify purely on grounds of economic theory.

An example of this type of reform is the partial replacement of the Phillips curve specification for *some*, but not all, EU Member states. The **Phillips curve** models the relationship between the unemployment rate and inflation or wage changes. After the 2014 reforms, Spaniards are now assumed to have rational expectations, while Germans continue to have adaptive expectations resulting from the past. There is no substantive justification for this. According to the Kiel Institute for the World Economy, "[f]rom a theoretical perspective [...] it remains unclear why a TCP [traditional Keynesian Phillips Curve] is used for some countries, while for others an NKP [New Keynesian Phillips Curve] is used. One reason for the switch from TCP to NKP is likely to have been significantly procyclical estimation results for some countries".⁵⁵ Heimberger, Huber and Kapeller confirm this assumption on the basis of interviews with those involved. It appears that this partial replacement was preceded by lengthy negotiations in which Spain sought an adjustment, while northern European countries insisted on retaining the TKP. In the end, a compromise was reached in which the NKP was adapted as the default option in the updated methodology, but countries were given the option to keep the TKP if they so desired.⁵⁶ *The impact of such changes is significant: if Germany had also switched to the NKP, the cyclical component for 2019 would have been €4.8 billion lower.*⁵⁷

The procyclicality of this method is, however, not an error. It is instead a *necessary* feature of any method for estimating potential output that seeks to prevent permanent cyclical deficits. This is simply because procyclicality is the direct result of using the historical trend to estimate current potential. That is to say, if the economy is doing well today, the potential output estimate for tomorrow moves in a correspondingly positive direction. And conversely, if the economy is performing poorly today, the potential output estimate for tomorrow moves in a correspondingly negative direction.

⁵⁴ Price-adjusted values, Federal Ministry for Economic Affairs and Energy Federal Ministry (BMWi) and Federal Ministry of Finance (BMF). „Gesamtwirtschaftliches Produktionspotenzial und Konjunkturkomponenten (Frühjahrsprojektion der Bundesregierung 2021)“, accessed on 31. Mai, 2021. https://www.bmwi.de/Redaktion/DE/Downloads/G/gesamtwirtschaftliches-produktionspotenzial-jahresprojektion-2021.pdf?__blob=publicationFile&v=6.

⁵⁵ „Aus theoretischer Sicht ist allerdings unklar, warum für einige Länder die TKP und für andere die NKP herangezogen wird. Daher dürften z.B. deutlich prozyklische Schätzergebnisse für einige Länder zu einer Umstellung von der TKP zu der NKP geführt haben.“ Ademmer et al, "Estimating Potential Output and the Output Gap: An analysis of the EU procedure and possible improvements", p. 19, footnote 6.

⁵⁶ Heimberger, Huber, Kapeller, "The power of economic models: The case of the EU's fiscal regulation framework", p. 22.

⁵⁷ The difference between the methods for Germany is still comparatively small: for Spain, the NAWRU 2019 calculated using NKP was 3.2 percentage points below the value that would have resulted from the use of TKP. This illustrates the influence of supposedly technical decisions and their consequences.

This evidently runs counter to the legislator's intention to prevent precisely such fiscal pro-cyclicality: "The symmetrical consideration of the cyclical effects on the budget is intended to prevent pro-cyclical behaviour."⁵⁸ *There is a clear contradiction, therefore, between the legislative requirements for calculating potential output: it is intended to prevent pro-cyclical fiscal policy; but on the other hand, the requirement to avoid permanent cyclical deficits demands a pro-cyclical methodology.*

ii. An alternative interpretation is more convincing

If one reads the above-quoted passage from Article 115 carefully, however, there is no explicit demand for a cyclical component that averages zero over time, but only for the "symmetrical consideration" of upswings and downswings. That is to say, every euro that the economy is above potential must be taken into account, when calculating the cyclical component, *in the same manner* as every euro that the economy is below potential. This is guaranteed as long as the automatic stabilisers are symmetrical.⁵⁹ *However, nothing stipulates that the calculation method be designed in such a way that the output gap (and thus the cyclical component) are mathematically forced towards zero on average and over time.*

This alternative interpretation is lent credence by the motivation given in the 2009 bill to amend Articles 109 and Article 115 of the Basic Law. This justification provides some indications of how to resolve the apparent contradiction between the goal of an anti-cyclical fiscal policy and the inherent procyclicality of a potential output estimation method intended to prevent permanent cyclical deficits.

The bill defines an increase in the debt-to-GDP ratio as the main problem to be addressed by the reform. Precisely why a rising debt-to-GDP ratio is a problem that necessitates reform is not stated explicitly; but the implicit concerns appear related to **intergenerational justice**, the **preservation of space for discretionary state action**, **adverse effects on growth and employment**, **compliance with the SGP** and the **long term containment of new debt issuance per se**.⁶⁰ The stated goal of the reform is to create rules that,

"in accordance with the philosophy of the preventive arm of the reformed European Stability and Growth Pact, ensure the long-term sustainability of the budgets of the German Federation and the Länder and, in accordance with this, to enable a fiscal policy that responds to the economic cycle and is geared to shaping the future".⁶¹

Intergenerational equity, however, fails to justify a prohibition of permanent deficits. To the contrary: because the effects of increasing debt across generations is contingent, that is to say they depend on the relationship between interest rates and economic growth, structural deficits can sometimes be *demanded* by intergenerational equity. As Olivier Blanchard says: "If the interest rate [on government bonds] is lower

⁵⁸ "Durch die symmetrische Berücksichtigung der konjunkturellen Auswirkungen auf den Haushalt wird bezweckt, ein pro-zyklisches Verhalten zu vermeiden." Bundestag parliamentary groups of the CDU/CSU and SPD, "Draft of a law to amend the Basic Law (Articles 91c, 91d, 104b, 109, 109a, 115, 143d)", p. 12.

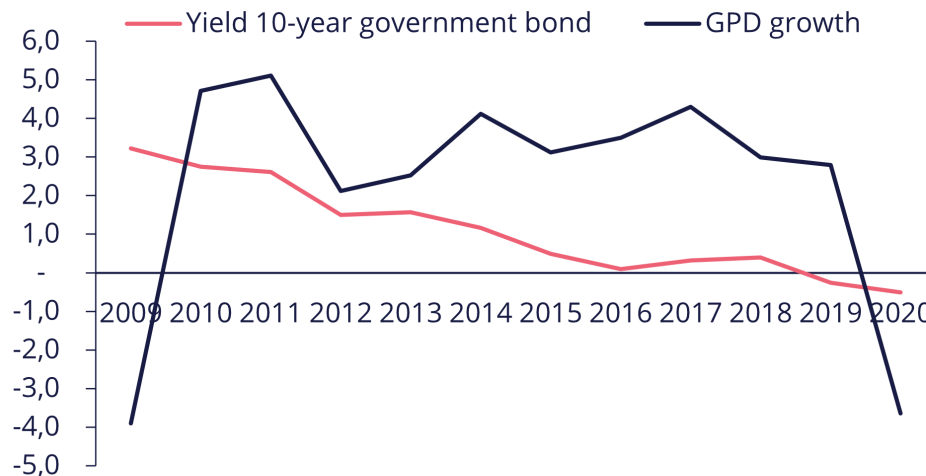
⁵⁹ This is also problematic from an economic point of view, as economic research today recommends asymmetrically designed automatic stabilisers with semi-automatic triggers, see e.g. Jason Furman and Lawrence H. Summers, "Automatic Stabilizers in a Low-Rate Environment" (Working Paper 20-2, Peterson Institute for International Economics, February 2020), <https://www.piie.com/system/files/documents/pb20-2.pdf>. However, we leave aside the issue in this paper.

⁶⁰ Bundestagsfraktionen der CDU/CSU und SPD, "Entwurf eines Gesetzes zur Änderung des Grundgesetzes (Artikel 91c, 91d, 104b, 109, 109a, 115, 143d)", p. 5 f.

⁶¹ „insbesondere in Übereinstimmung mit der Philosophie des präventiven Arms des reformierten europäischen Stabilitäts- und Wachstumspakts die langfristige Tragfähigkeit der Haushalte von Bund und Ländern sicherstellen und nach dieser Maßgabe eine konjunkturgerechte und zukunftsorientierte gestaltende Finanzpolitik ermöglichen sollen.“ Ibid.

than economic growth, then the [intergenerational] transfer [triggered by debt] is wealth enhancing."⁶² Since this has been case for all years since the introduction of the debt brake (except the crisis years of 2009 and 2020, see Figure 2 below), a general prohibition on taking on debt cannot be derived from a commitment to intergenerational justice. On the contrary: insofar as the transfers that result from debt are wealth-enhancing, acting in the interest of future generations can involve an increase in public debt, or, at the very least, cannot allow for a prohibition against it.

Figure 2: Comparison of 10-year Bund yields and German GDP growth, 2009-2020



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Source: Federal Reserve Bank of St. Louis

Another implied concern in the bill is the **preservation of fiscal space for discretionary state action**. This concern is well-grounded: If an increasing share of the federal budget must be devoted to interest payments, and is thus unavailable for other purposes, then the scope for active, discretionary fiscal expenditure is indeed limited. But this theoretical concern is not borne out by empirical evidence: the share of interest payments in the budget has fallen significantly since 1999, when it reached its previous peak of 17%, to below 2% in 2020 (2020 is an exception, as the budget was unusually large due to the Covid-19 crisis). Even in 2019, the share of interest payments in the federal budget was only 3%. What is more, if bunds are issued with negative yields, as has been the case since 2016,⁶³ the issuance of additional bonds *increases the scope for action*, since taking on new debt *generates additional revenues*.

To see this, notice that the federal government has increased its cash surplus (through issuing new bonds) to an average of more than 60 billion euros at the end of the month in 2019 (with an average expenditure of 188 billion euros per month). This choice was made, even though the ECB required governments to pay negative interest rates on government reserves exceeding 0.04% of GDP since July 2014 (equivalent to around 1.2 to 1.4 billion euros in the case of Germany).⁶⁴ Thus, despite the "penalty rate" on the balances of its Bundesbank account, the federal government incurs more debt than would strictly be necessary to provide liquidity. This is likely because the yield on the bonds issued during this period exceeds the amount of negative interest. The net interest income is therefore positive.

⁶² Own translation, in the original: "If the interest rate is less than the growth rate, then the transfer is welfare improving"; Olivier Blanchard, "Public Debt and Low Interest rates" (Working Paper 19-4, Peterson Institute for International Economics, February 2019), p. 4, <https://www.piie.com/system/files/documents/wp19-4.pdf>.

⁶³ Gerald Braunberger, "Eine neue Epoche am deutschen Kapitalmarkt", *Frankfurter Allgemeine Zeitung*, 14 June, 2016, <https://www.faz.net/aktuell/finanzen/anleihen-zinsen/negative-renditen-bei-bundesanleihen-14287430.html>.

⁶⁴ European Central Bank (ECB), *Decision of the European Central Bank of 5 June 2014 concerning interest rates on deposits, balances and excess reserves* (Frankfurt am Main: ECB, 2014), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014D0023%2801%29>.

Having said this: it is unpredictable how long negative nominal yields will last. Nor is it clear whether negative nominal yields are economically desirable, or for that matter, whether they are a relevant parameter for adjusting fiscal policy. What is clear is the following: the assumption that issuing new bonds *necessarily* limits the state's scope for action is empirically refuted. *Hence no general prohibition on taking on new debt can be derived from the goal of securing the state's future scope for action.*

This insight relates to possible concerns around the **growth and employment effects** of new debt, also implicit in the bill. If growth and employment effects are used as criteria for deciding on the appropriate level of deficits, there could even be situations in which the *state is in fact obliged to take on new debt*, or in which this would at least be objectively optimal. This is especially true if central bank interest rate policy has reached the effective lower bound (ELB), the point at which any further reduction in interest rates has a cooling effect on the economy. The ECB estimates that this could currently be the case a quarter of the time, twice as often as calculated when the euro was introduced.⁶⁵

But even if increases in growth and employment are not seen as valuable goals in themselves, and as only relevant with regard to debt sustainability, there are still weighty arguments for government deficits. As Jason Furman and Lawrence Summers write: "**Low interest rates mean that countries cannot afford not to undertake fiscal expansion**".⁶⁶ Sigl-Glückner et al.⁶⁷ argue that German fiscal policy today should primarily focus on supporting the full utilisation of labour, and not on directly avoiding debt; not because the sustainability of the federal budget is secondary, but *because a fully utilised labour force is the prerequisite for long-term sustainable fiscal policy in the face of demographic change and high transfer benefit rates*. Thus, a general ban on deficits cannot be justified with concerns of growth and employment effects either.

On the contrary: The prerequisite for limiting debt and rendering public finances sustainable in the long term is an anti-cyclical fiscal policy geared towards full employment. *Thus, while no general prohibition of government deficits, not even medium- or longer-term deficits, can be derived from the motivation provided in the bill, a pro-cyclical cyclical component undermines its stated objectives.*

iii. Use of the emergency clause should be minimised

We have established that the current methodology for calculating the cyclical component is pro-cyclical and sets narrow limits on permissible deficits. During major crises, then, the debt brake requires an emergency clause. And indeed, precisely this is found in Article 115 (2) sentence 5 of the Basic Law:

*"In the event of natural disasters or exceptional emergency situations beyond the control of the State that significantly affect the State's financial position, these credit ceilings may be exceeded on the basis of a resolution adopted by a majority of the members of the Bundestag."*⁶⁸

We argue that this emergency clause, in combination with an otherwise strictly limited and pro-cyclical deficit, creates disincentives whose effects are detrimental to the long-term sustainability of public finances.

⁶⁵ Isabel Schnabel, "High Debt, Low Rates and Tail Events: Rules-Based Fiscal Frameworks under Stress" (presentation, Third Annual Conference of the European Fiscal Board, Frankfurt am Main, 26 February, 2021), <https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp210226~ff6ad267d4.en.html>.

⁶⁶ Jason Furman and Lawrence H. Summers, "A Reconsideration of Fiscal Policy in the Era of Low Interest Rates" (Working Paper, Brookings Institution, 2020), p. 13, <https://www.brookings.edu/wp-content/uploads/2020/11/furman-summers-fiscal-reconsideration-discussion-draft.pdf>, emphasis original.

⁶⁷ Sigl-Glückner et al, "A New German Fiscal Policy".

⁶⁸ „Im Falle von Naturkatastrophen oder außergewöhnlichen Notsituationen, die sich der Kontrolle des Staates entziehen und die staatliche Finanzlage erheblich beeinträchtigen, können diese Kreditobergrenzen auf Grund eines Beschlusses der Mehrheit der Mitglieder des Bundestages überschritten werden.“

The budgets adopted during the Corona crisis illustrate this clearly, revealing three problems in particular: **(1) the emergency clause is too vague**, making it difficult to restrict its use to true emergencies; **(2) the additional room for manoeuvre is unlimited**, so that there are strong incentives to declare an emergency, and **(3) there is an incentive to borrow more than strictly necessary once an emergency has been declared**, in order to pre-empt sudden budget cuts once the emergency is over.

To illustrate how **vague** the clause is: even the events of 2020, when Germany had 1.7 million Covid-19 cases and 33,000 deaths due to the pandemic,⁶⁹ did not represent a clear emergency, according to Stefan Koriath.⁷⁰ However, while the pandemic years of 2020 and 2021 were credible candidates for the use of the emergency clause, an emergency was declared for 2022, too. This was done on the basis of the "impact of the Corona pandemic on the federal budget as well as [the] burdens resulting from supportive fiscal policy".⁷¹ Later in the same document, this is clarified as being about the "economic impacts of the Corona crisis and its consequences for the federal budget".⁷² Reacting to this, Stefan Koriath writes "strained public budgets do not represent an emergency in accordance with the debt rule".⁷³ A further complication is the example of German reunification given in the report of the Federalism Commission; it too would have constituted an emergency.⁷⁴

In the absence of a precise definition of what constitutes an emergency, the temptation to declare one in order to obtain fiscal leeway is significant. If this leeway is exploited, significant sustainability risks can arise in a very short time.

This temptation is amplified by the fact that borrowing in an emergency situation is **unlimited**. By way of an example, in 2020 the legislature used the possibility of additional debt-financed spending to increase, among other things, financing for the Energy- and Climate Fund (EKF) by 26 billion euros.⁷⁵ As this example demonstrates, there is an incentive to exploit genuine emergency situations for expenditures that could not otherwise be made under the debt brake. Since emergencies are temporary, this expenditure must then be made quickly and with limited planning lead time. This can lead to investment backlogs, suboptimal allocation and increased costs. *The overall result is a suboptimal use of state resources that hardly serves the long-term sustainability of public finances.*

Finally, the emergency rule encourages **borrowing more than immediately necessary**. For as soon as an emergency situation is over, the permissible borrowing is immediately reduced to the statutory limit of 0.35 per cent of GDP plus the cyclical component. Since the latter is currently designed to be pro-cyclical, cyclically permitted deficits *tend to be low after a crisis*. In 2022, for example, a cyclical component of just under 2 billion euros would have enabled a total net borrowing of only approximately 13 billion euros, or 0.3 - 0.4 per cent of GDP, a drastic decline from the 240 billion euros of the 2021 budget.⁷⁶ Due to declaring an emergency for 2022, too, the federal government was instead able to budget a deficit of 100 billion euros for

69 "RKI Daily Situation Report on Coronavirus Disease-2019 (COVID-19)," Robert Koch Institute, accessed July 3, 2021, https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Situationsberichte/Dez_2020/2020-12-31-de.pdf?__blob=publicationFile.

70 Koriath, "The debt brake - in need of repair?", p. 22.

71 „der Auswirkungen der Corona-Pandemie auf den Bundeshaushalt sowie [den] aus der unterstützenden Finanzpolitik resultierenden Belastungen“, Federal Ministry of Finance (BMF), *Regierungsentwurf 2022: Erfolgreich aus der Krise* (Berlin: BMF, June 2021), https://www.bundesfinanzministerium.de/Content/DE/Downloads/Oeffentliche-Finanzen/regierungsentwurf-bundeshaushalt-2022.pdf?__blob=publicationFile&v=2.

72 "die wirtschaftlichen Auswirkungen der Corona Krise und ihre Folgen für den Bundeshaushalt" *ibid.*

73 Koriath, "The debt brake - in need of repair?".

74 Die gemeinsame Kommission von Bundestag und Bundesrat zur Modernisierung der Bund-Länder-Finanzbeziehungen, *Die Beratungen und ihre Ergebnisse* (Berlin: Deutscher Bundestag und Bundesrat, 2010), p. 54, https://www.bundesrat.de/SharedDocs/downloads/DE/sonstiges/Abchlussbericht-Foeko-II.pdf?__blob=publicationFile&v=1.

75 Federal Ministry of Finance (BMF), *Government Draft 2022: Successfully Emerging from the Crisis*, p. 8.

76 Before adjustment for financial transactions.

2022, representing a significantly more gradual decline from 2021.⁷⁷

The permitted credit volume allowed under the emergency budgets was generous in view of the planned policy measures: going by the current pace of spending, the permitted credit limit for 2021 will not be exhausted.⁷⁸ In 2020, only 130 billion euros of the 218 billion euros of permitted net borrowing were needed.⁷⁹ While the federal government requested generous borrowing amounts for the years 2020 to 2022 – generally speaking an appropriate choice, given a dynamically evolving pandemic situation –, it had at the same time a reserve of 48 billion euros at its disposal, which, however, was "saved" for later years.⁸⁰

The Corona crisis thus shows that the emergency clause of the debt brake creates incentives to maximise borrowing in an emergency. **Just like an unconditional attempt to limit borrowing in normal times, this lack of a limit in times of emergency counteracts the goal of long-term sustainability of public finances.**

The question this poses is: what might be a better way to account for emergencies, that is, one that is better suited to rendering public finance sustainable?

One starting point for a proposal could be the following diagnosis: *emergency situations cannot be defined precisely, at the same time elected decision-makers have strong incentives to incur excessive debt.* This diagnosis would pose a thorny problem: the latter would make a narrow and precise demarcation of emergency situations desirable, to prevent excessive use of an emergency clause. But the former would stand in the way of exactly that, given the allegedly inherently uncertain nature of emergencies.

But on closer examination, this is not an accurate diagnosis. On the one hand, the alleged tendency of elected officials towards excessive deficits is less universal than feared. Jason Furman, President Obama's top economic adviser, reported in this regard: "I used to think that policymakers only made errors in one direction, which is irresponsibly large increases in deficits, and so that rules could play a useful role in constraining discretion. Over the last twenty-five years, however, one has seen many errors in the opposite direction".⁸¹

Blanchard et al. provide a theoretical rationale for why this might be the case in the Eurozone in particular:⁸² In a tightly integrated economic area like the Eurozone, large parts of any additional demand generated by crisis measures (or deficits generally) end up flowing into the economies of neighbouring countries. At the same time, however, the associated debt burden falls entirely on the budget and balance sheet of the country providing the stimulus. *This creates an incentive in each country to rely on the crisis measures and deficits of neighbouring countries and to adopt sub-optimally small measures themselves.* German and European fiscal

⁷⁷ Federal Ministry of Finance (BMF), *Government Draft 2022: Successfully Emerging from the Crisis*.

⁷⁸ From January to May 2021, borrowing amounted to 81 billion euros. If the pace of borrowing remains stable throughout 2021, this would result in annual borrowing of €195 billion, compared to a permitted ceiling of €240 billion in borrowing. Moreover, given the improving pandemic situation, it is questionable whether borrowing will continue to develop at the same pace. Data: BMF.

⁷⁹ Federal Ministry of Finance (BMF), "Vorläufiger Abschluss des Bundeshaushalts 2020" (Monthly Report January 2021, BMF, January 2021), <https://www.bundesfinanzministerium.de/Monatsberichte/2021/01/Inhalte/Kapitel-3-Analysen/3-3-abschluss-bundeshaushalt-2020.html>.

⁸⁰ Reserves are not used to save money, but only to shift commitment appropriations into the future. The money for the expenditure in question is borrowed at the time it is needed. Accordingly, the debt level also increases regardless of whether an expenditure is financed from a reserve or a deficit.

⁸¹ Jason Furman, "I don't love debt-to-GDP ratio: Obama's former chief economic adviser in DZ interview", *Department for the Future*, 12 May 2021, <https://dezernatzukunft.org/i-dont-love-schuldenquote-obamas-ehem-oberster-wirtschaftsberater-im-dz-interview/>.

⁸² Olivier Blanchard, Alvaro Leandro, and Jeromin Zettelmeyer, "Redesigning EU fiscal rules: From rules to standards" (Working Paper 21-1, Peterson Institute for International Economics, February 2021), <https://www.piie.com/publications/working-papers/redesigning-eu-fiscal-rules-rules-standards>. The authors describe this mechanism as "demand externalities", see p. 13.

policy in the decade before Covid-19 is fully compatible with this analysis: the fiscal leeway under the debt brake has not been fully exploited since its introduction,⁸³ despite repeated calls by the IMF and EU Commission (under the Macroeconomic Imbalance Procedure) to do just that.⁸⁴

In addition, many commentators and scholars lament the lack of demand and deficits that are too low in the aggregate in the Eurozone during this period.⁸⁵ This does not mean that there are no tendencies towards excessive debt; it does however temper the assumption that this tendency is universal.

On the other hand, returning to the second element of the original diagnosis, the identification and delimiting of an "emergency situation" (as long as this refers to acute events only) seems more feasible than it might appear at first glance. The problem, however, lies in one of the three criteria established by the Federalism Commission for this very purpose. According to the Commission's report, emergency situations must not only be "exceptional" and "significantly affect the budget", but the "occurrence [of the emergency situation] must [also] be beyond the control of the state".⁸⁶ The meeting of this last criterion is both difficult to identify (both the spread of a pandemic and the build-up of risks in the financial sector could probably be prevented by the state at certain points in time) and substantively problematic. Even, or indeed especially, if a disaster is the result of government action, the government will have to do everything in its power to contain the resulting damages. *This criterion, however, could be replaced, for example, by a criterion linked to human or economic harm.*

Both elements of this first diagnosis can thus be challenged. Neither do elected decision-makers seem to have a *universal* tendency towards excessive indebtedness, nor does a precise identification of emergency situations seem to be impossible.

If it is not a universal tendency to over-indebtedness that causes the emergency rule to be misused (by interpreting too broadly and exploiting it for excessive spending) the question remains what *does*? And what are the possibilities for improvement?

If one looks at the costs caused by emergency situations, only a part is directly due to combating the acute events, or their direct consequences. Far greater costs are often caused by the **indirect and medium-term consequences** of the acute emergency situation. According to Olga Jonas, in the case of pandemics, for example, only about 20% of the economic costs can be attributed to direct effects.⁸⁷ Thus, if one tries to address the financial needs resulting from an emergency situation by means of an exemption from the

⁸³ From 2011 to 2019, a total of €238 billion in NCA was designated as permitted to the federal government under the debt brake, and only €46 billion was spent. Data: Federal budget accounts.

⁸⁴ See, for example, European Commission, *Country Report Germany 2020* (Brussels: European Commission, February 2020), <https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:52020SC0504&from=EN>; European Commission, *Country Report Germany 2019* (Brussels: European Commission, February 2019), https://ec.europa.eu/info/sites/default/files/file_import/2019-european-semester-country-report-germany_en.pdf. In International Monetary Fund (IMF), *Staff Report for the 2019 Article IV Consultation* (Washington D.C.: IMF, July 2019), <https://www.imf.org/en/Publications/CR/Issues/2019/07/09/Germany-2019-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-47093>.

⁸⁵ See, for example, Matthew Klein, "The euro area's fiscal position makes no sense", *Financial Times Alphaville*, 14 March 2018, <https://www.ft.com/content/7b450539-c217-3ede-966d-0fc585681078>; Martin Sandbu, *The Economics of Belonging* (Princeton: Princeton University Press, 2020), pp. 134-7; Olivier Blanchard, Christopher Erceg and Jesper Lindé, "Jump Starting the Euro Area Recovery: Would a Rise in Core Fiscal Spending Help the Periphery?" (NBER Working Paper 21426, National Bureau of Economic Research, July 2015), https://www.nber.org/system/files/working_papers/w21426/w21426.pdf.

⁸⁶ Die gemeinsame Kommission von Bundestag und Bundesrat zur Modernisierung der Bund-Länder-Finanzbeziehungen, *Die Beratungen und ihre Ergebnisse* (Berlin: Deutscher Bundestag und Bundesrat, 2010), p. 54, https://www.bundesrat.de/SharedDocs/downloads/DE/sonstiges/Abchlussbericht-Foeko-II.pdf?__blob=publicationFile&v=1.

⁸⁷ Olga B. Jonas, "Pandemic risk" (Background Paper, World Development Report 2014, October 2013), p. 24, https://openknowledge.worldbank.org/bitstream/handle/10986/16343/WDR14_bp_Pandemic_Risk_Jonas.pdf?sequence=1&isAllowed=y.

debt brake, the term "emergency situation" must be interpreted broadly enough to also include the economic and social consequences of the emergency. But it is precisely this current broadness of the interpretation of the term that undermines efforts to delimit it.

The current design of the cyclical component thus induces a **dilemma**: *If the term "emergency situation" is interpreted narrowly, so that it only covers the immediate efforts of combating disasters, the federal government lacks the capacity to act to effectively counter the medium-term crisis effects. If, instead, the term is interpreted broadly, it threatens to thwart the functioning of the debt brake as a whole.*

This dilemma emerges because the current method of estimating potential output allows for only a small cyclical component after a crisis. That is to say, the fiscal space *without* emergency regulation is very limited. If potential output is estimated on the basis of past trends, then the post-crisis potential will be significantly below the pre-crisis level. This is regardless of whether the economic damage is really long-term or not, since either way the crisis years enter into the calculation.⁸⁸ A lower estimate of potential output, in turn, means a smaller output gap and thus a smaller cyclical component. *As a result, a fiscal policy that does not make use of the emergency exemption after the immediate crisis is particularly constrained.* This is despite the fact that increased needs are very likely to persist and an excessively restrictive fiscal policy runs the risk of choking off the economic recovery. *Thus, the primary problem with the emergency rule today is that it must be used for purposes for which it was not intended: counter-cyclical fiscal policy that helps a crisis-ridden economy get back on its feet.*

To prevent the permanent expansion (born out of fiscal necessity) of the term "emergency situation", one must adopt a methodology for calculating the cyclical component that does not define potential output on the basis of the crisis years, and in doing so, minimises it (i.e., potential output and, by extension, the cyclical component of the deficit). **Instead, a method that is more strongly oriented towards the actual limits on an economy's potential would be helpful.** As long as economic activity was below those limits, there would be room for fiscal manoeuvre. The federal government would not have to resort to the emergency clause to get the economy going again, allowing use of the clause to be limited to the immediate disaster situation itself.

A method based on identifying the upper limits on economic activity would, in the phase following a crisis, have at least two advantages over the extending of the emergency situation: First, one would escape the need to make ex ante assumptions on the duration of medium-term crisis effects. *Since all crises are different, it seems impossible to make universally valid assumptions concerning their disparate effects, especially not ex ante.* Second, an expansion of the emergency definition, in pursuit of financing needs, would be blind to a crucial risk: *an overheating of the economy and rising inflation as a result of fiscal policy measures.* In contrast, a cyclical component based on actual economic potential aims to reduce precisely this risk. Inflation begins at the point where the state stimulates the economy through additional, debt-financed demand to an extent that demand exceeds economic potential.

Finally, if a cyclical component based on actual potential were to be suspended for a longer period of time, in order to allow for more borrowing in an emergency, the hurdle for justifying the emergency would be

⁸⁸ During the Covid-19 crisis, both the German government and the EU Commission made assumption-based ad hoc adjustments to the methodology for calculating potential output to avoid this effect. For example, the EU Commission assumed that labour hours would return to their pre-crisis level in 2021 and used the average of the 2021 and 2019 values for its calculations in 2020 to avoid the Corona crisis having an impact on the future trend. See European Commission, "EU-CAM estimation of potential output and output gaps in the context of the COVID-19 pandemic shock" (2020-I Spring Forecast, European Commission, April 2020), <https://circabc.europa.eu/ui/group/671d465b-0752-4a2e-906c-a3effd2340ba/library/33d00e84-57be-4e93-969d-1f72bcc8289d/details>.

significantly higher than it is today. One would require a credible argument that the crisis-related expenditures are important enough to justify incurring a substantial inflation risk (as a result of excess demand pushing up against potential). *This, too, would promote the limitation of the rule to actual emergencies.*

Overall, dealing with emergency situations seems to be one of the fundamental challenges for fiscal rules: where such exemptions create the wrong incentives, they risk jeopardising sustainable finances. If, instead, they define emergencies too narrowly, they risk the uncertain and potentially very large costs of a state unable to act during or after crises. **An adjustment of potential output calculations that renders them less pro-cyclical after crises and thus gives more room for manoeuvre within a regulated framework could be a first step to tackle this challenge.**

Summarising this section, the method currently used to determine potential output, and hence the cyclical component, does not accord with the **intentions of the legislator** at the time of introducing the debt brake. The method is pro-cyclical; it prevents the kind of deficit spending that contributes to the long-term sustainability of public finances; and, with its rule for emergency situations, creates incentives that undermine the long-term sustainability of fiscal policy. As a result, the current method does not serve to realise the legislator's intention of ensuring the long-run sustainability of public

Today, as in 2009, "the economic and institutional framework conditions [have] changed considerably."⁸⁹ It is high time to adjust the cyclical component to these conditions, to realign it with the original intention of the legislator.

6. The SGP did not require the introduction of the debt brake in its current form

A final objective of the reform of Article 109 of the Basic Law in 2009 was to lay down a set of basic principles for the limitation of net borrowing

"which, in particular in accordance with the philosophy of the preventive arm of the reformed European Stability and Growth Pact, ensure the long-term sustainability of the budgets of the German Federation and the Länder and, in accordance with this, to enable a fiscal policy that responds to the economic cycle and is oriented towards the future".⁹⁰

One could, therefore, conclude that there was simply no alternative to the introduction of the debt brake, including the "normal level" as defined according to the EU method for determining the cyclical component. A closer look, however, does not confirm this necessity. The reform of the SGP in 2005 did not require the introduction of the debt brake with a quantifiable cyclical component that automatically limits borrowing. *On the contrary, the EU method for calculating the cyclical component was never intended to be used in this quantitative and automated fashion.*

⁸⁹ "die wirtschaftlichen und institutionellen Rahmenbedingungen [haben sich] erheblich verändert". Bundestag parliamentary groups of the CDU/CSU and SPD, "Draft of a law to amend the Basic Law (Articles 91c, 91d, 104b, 109, 109a, 115, 143d)", p. 5.

⁹⁰ "die insbesondere in Übereinstimmung mit der Philosophie des präventiven Arms des reformierten europäischen Stabilitäts- und Wachstumspakts die langfristige Tragfähigkeit der Haushalte von Bund und Ländern sicherstellen und nach dieser Maßgabe eine konjunkturgerechte und zukunftsorientierte gestaltende Finanzpolitik ermöglichen sollen", Ibid. p. 5.

The EU Commission uses potential output estimates to calculate **structural budget balances**. The structural budget balance (additionally adjusted for one-off effects)⁹¹ represents but *one* pillar of the preventive arm of the SGP. Under this arm, countries with a debt-to-GDP ratio of more than 60% are to limit their structural budget deficit to 0.5% of GDP. Member states can temporarily deviate from this in order to undertake structural reforms or investments.

In contrast to the EU's structural budget balance, the structural deficit under the debt brake is capped at 0.35% *regardless of the debt level*. Public spending is adjusted only for financial transactions. Already prior to any structural adjustment, the SGP thus gives considerably more leeway than the debt brake. This greater leeway is found (1) in a higher permitted structural deficit and (2) in rules that give more discretion. These rules lead to the cyclical adjustment procedure being less important in the SGP than under the debt brake in determining the maximum permissible net borrowing.

Moreover, the EU Commission also subjects the cyclical adjustment procedure itself to a **plausibility check** and does not rely on a quantitative automatism. Under the so-called "constrained judgement approach", the EU Commission is permitted to deviate from an output gap estimate, if a plausibility tool developed specifically for this purpose assesses (with a high degree of probability) the calculated output gap as too small. The Commission can then redefine the output gap within a certain framework.⁹² The structural budget balance is then re-calculated on this basis, and the Commission's fiscal surveillance results are adjusted accordingly.

There is a reason why there are numerous intermediate steps between the calculation of structural budget balances and the verification of (non-)compliance with European fiscal rules: the European Commission fundamentally rejects the practice of automatically deriving binding quantitative targets from the calculation of potential output. As Marco Buti et al. write: "Whilst the EU's fiscal surveillance system is an essentially rules-based system, the fact that it is based on an unobservable variable — and could, in extreme circumstances, lead to the imposition of legally binding sanctions on a specific country — makes it clear that the EU never intended it to be used for the taking of automatic decisions".⁹³

This clear rejection is in stark contrast to the role that estimates of potential output play in the German fiscal rules: here, potential output estimates are used to quantitatively define the "normal level" mentioned (but not specified) in Articles 109 and 115 of the Basic Law, in order to derive binding limits on German fiscal policy (without qualitative plausibility checks). *Germany thus opted for rules that build on the specifications and potential output calculation methods of the EU, but use them in a way that the EU Commission explicitly excludes for itself.* It is, therefore, difficult to justify the use of the EU methodology for calculating the cyclical component of the German debt brake on the grounds that it is the only way to comply with the SGP.

What is more, while Germany interprets and implements the fiscal parts of EU economic governance very strictly, it exhibits persistent macroeconomic imbalances in the form of excessive current account surpluses under the EU's macroeconomic imbalances (MIP) procedure. Despite repeated warnings, it is

⁹¹ Note that, in the German case too, an ex-post overshooting of the maximum permissible NKA does not violate the debt brake. Instead, the amount by which the realised deficit exceeded the permitted NKA is booked onto a control account. If the accumulated negative balance of the control account exceeds 1.5% of GDP, it must then be reduced. Sources: European Commission, "Vade Mecum on the Stability & Growth Pact: 2019 Edition" (Institutional Paper 101, European Commission, 2019), p. 9, https://ec.europa.eu/info/sites/default/files/economy-finance/ip101_en.pdf; Federal Ministry of Finance (BMF), *Kompendium zur Schuldenregel des Bundes (Schuldenbremse)* (Berlin: BMF, March 2021), https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Oeffentliche_Finanzen/Schuldenbremse/kompendium-zur-schuldenbremse-des-bundes.pdf?__blob=publicationFile&v=9.

⁹² The framework is determined by all results defined as plausible under the existing methodology and the range set by the plausibility tool. See European Commission, "Vade Mecum on the Stability & Growth Pact: 2019 Edition", p. 19.

⁹³ Marco Buti et al, "Potential output and EU fiscal surveillance", *VoxEU*, 23 September, 2019, <https://voxeu.org/article/potential-output-and-eu-fiscal-surveillance>.

making insufficient progress in curbing them.⁹⁴ Sigl-Glückner et al. explain the central role of a full-capacity-utilisation- or high-pressure fiscal policy in reducing the current account surplus.⁹⁵ In particular, a long-standing import deficit⁹⁶ suggests that domestic demand is too weak. Domestic demand can be strengthened via government deficits: firstly because fiscal deficits directly create additional demand, secondly because they increase labour utilisation and thus raise the wage level, which in turn boosts domestic consumption. Third, because, in the current context, higher domestic consumption and government investments are likely to result in higher investment by private companies. A more expansive fiscal policy would thus be an important building block in reducing Germany's excessive macroeconomic imbalances.⁹⁷ *The overly strict implementation of the SGP into German law and the resulting interpretation of the "normal level" as potential output can thus hardly be justified as the optimal strategy for meeting EU economic governance requirements.*⁹⁸

Finally, the Federal Government actively co-develops the method for determining potential output at the EU level through the Output Gaps Working Group (OGWG). Both the Federal Ministry of Finance (BMF) and the Federal Ministry for Economic Affairs and Energy (BMWi) participate in the OGWG. The OGWG requires unanimous decisions⁹⁹ and works with the EU's Economic Policy Committee, which is chaired by a head of unit from the Federal Ministry of Finance. In reaching a consensus on methodological adjustments to modelling and estimation methods, the decision-makers are "fully aware of the trade-offs",¹⁰⁰ according to the EU Commission. Germany's role is therefore by no means limited to the implementation of rules passed down from the EU Commission, but is actively involved in their design and future further development.

Concluding this section, the SGP reforms of 2005 *did not necessitate* the adoption of the current design of the cyclical component and the current interpretation of the "normal level" according to the EU method developed by the OGWG. On the contrary, *the EU itself explicitly rejects automatic decisions based on potential output calculations*. Finally, *Germany is actively involved in the development of the EU methodology* and has the possibility to introduce proposals for changes within the framework of the OGWG at any time.

94 European Commission, *Germany - Review of Progress on Policy Measures relevant for the Correction of Macroeconomic Imbalances* (Brussels: European Commission, 4 December, 2017), https://ec.europa.eu/info/sites/default/files/economy-finance/germany_sm_published_07032018.pdf.

95 Sigl-Glückner et al, "A New German Fiscal Policy".

96 An import deficit is the same as an export surplus.

97 Heike Belitz et al, "Öffentliche Investitionen als Triebkraft privatwirtschaftlicher Investitionstätigkeit" (Politikberatung kompakt 158, German Institute for Economic Research (DIW), 2020), https://www.diw.de/de/diw_01.c.808561.de/publikationen/politikberatung_kompakt/2020_0158/oeffentlich_e_investitionen_als_triebkraft_privatwirtschaftliche_investitionstaetigkeit_gutachten_fuer_das_bundes_finanzenministerium_fe_3/19.html.

98 In addition, the EU's MTO would in itself allow greater fiscal leeway than the debt brake, as it allows for a structural deficit of 0.5%, whereas the debt brake limits this to 0.35%: The limitation of net borrowing under the debt brake is thus less in line with European rules than that it sets a stricter framework. Accordingly, the EU Commission also regularly recommends, as part of its assessment of the conformity of the German budget with the MTO, that the fiscal space remaining until the MTO is reached should be used for additional spending to strengthen potential growth and domestic demand. See European Commission, "Vade Mecum on the Stability & Growth Pact: 2019 Edition", p. 34; European Commission, *Commission Opinion on the updated Draft Budgetary Plan of Germany 2018* (Brussels: European Commission, November 2017) p. 8, https://ec.europa.eu/info/sites/default/files/economy-finance/swd_on_de_updated_dbp_2018_egreffe.pdf; European Commission, *Commission Opinion on the Draft Budgetary Plan of Germany 2019* (Brussels: European Commission, November 2018), p. 9, https://ec.europa.eu/info/sites/default/files/economy-finance/swd-2018-de_en.pdf; European Commission, *Commission Opinion on the updated Draft Budgetary Plan of Germany 2020* (Brussels: European Commission, November 2019), p. 9, https://ec.europa.eu/info/sites/default/files/economy-finance/swd2019_913_en_autre_document_travail_service_part1_v3.pdf.

99 Heimberger, Huber, Kapeller, "The power of economic models: The case of the EU's fiscal regulation framework", p. 15.

100 Havik et al, "The Production Function Methodology for Calculating Potential Growth Rates & Output Gaps", p. 6.

In summary: The interpretation of the “normal level” as potential output estimated via the current EU methodology

- does not take into account the latest social-scientific research;
- relies on an arbitrary notion of the “normal level” of economic activity that leaves key decisions to technical bodies that lack the democratic legitimacy to make these decisions autonomously;
- does not correspond to the original intention of the legislators, and,
- in the context of the Stability and Growth Pact, was never intended to be used and implemented as it is in Germany now.

On the contrary, in the current economic context, this particular implementation of the cyclical component thwarts the original intention of the legislator and uses the European calculation method in a way that the EU itself rejects and whose macroeconomically negative consequences it criticises.

However, the insight that the current interpretation of the “normal level” is poorly justified says little about its *policy influence*. If that were small, one could argue that the need for a rule, any rule, suffices to justify its current implementation. As we argue below, however, it does significantly constrain policy, and hence cannot be left to stand as is.

7. The assumptions behind the normal level significantly constrain the available policy space

As described above, potential output estimates are based on, among other things, an extrapolation of the **trend participation rate (PRT)** of the working-age population currently in the labour market, the **trend number of hours worked per employed person per year (HWT)** and the **unemployment rate in equilibrium**.

The deeper assumption behind these methodological choices is that the future will develop as the past has done. An impact of political action (or exogenous trend breaks) on potential output is not considered. Yet the influence of policy is difficult to deny. Both the participation rate and annual hours worked are obviously factors that can and are influenced by policy decisions. For example, tax- and contribution-free (but healthcare-granting) mini-jobs make working hours that result in an income exceeding 450 euros unattractive for those looking for supplemental income only. The so-called “Ehegattensplitting”, a particular mode of joint tax filing in a marriage or civil union, has a similar effect, strongly reducing the incentive for the lower-earning partner — often women — to work as many hours as they would otherwise do.¹⁰¹ In addition, the extent to which parents, and especially women, can take up employment often depends on the availability of childcare.¹⁰² It is, therefore, *fundamentally questionable to calculate an allegedly objective aggregate labour potential (and thus aggregate potential output) that is supposed to determine a “normal level” of economic activity independent of government policies*.

However, the very assumption that government policy leaves potential output, i.e. the “normal level”, unchanged restricts fiscal policy space: For if a policy actually expands potential output, say, by expanding childcare, and the labour force participation rate of women increases as a result, this will be

¹⁰¹ Bach et al, “Reform des Ehegattensplittings: nur eine reine Individualbesteuerung erhöht die Erwerbsanreize deutlich” (DIW Wochenbericht No. 41/2011, German Institute for Economic Research (DIW), October 2011), <https://www.econstor.eu/bitstream/10419/152206/1/11-41-3.pdf>.

¹⁰² See e.g. Susanne Wanger, “Development of employment, working time and volume of work by gender: results of the IAB Working Time Accounts by Age and Gender (AZR AG) for the years 1991 - 2019” (IAB Research Report 16/2020, Institute for Employment Research (IAB), 2020), p. 30, <http://doku.iab.de/forschungsbericht/2020/fb1620.pdf>.

understood, arithmetically, as *overutilization*. In an economy whose potential is estimated on the basis of historical trends, any upwards deviation from past trends, even if driven by deliberate policy action, will appear as overheating. As a result, internal to this current method, the government would be forced to cut back spending or raise taxes in order to counteract the alleged threat of overutilisation (and inflation).

This is particularly worrying in the context of today's method of calculating potential output, which, as we've shown, is largely based on statistical extrapolation from the past. Since an alleged overutilisation leads to an obligation to save, and this obligation to save in turn counteracts the increase in the level of employment, *it can remain invisible if de facto potential output has actually increased*. In the (historical-statistical) method of extrapolation, what is extrapolated into the future is *today's low realised output*.¹⁰³ Thus, in their analysis of the impact of the potential output estimation method used today, Philipp Heimberger and Jakob Kapeller conclude that these estimation methods are performative, i.e. they *shape* the future potential that they are supposed only to estimate. As a result, in their assessment democratic policy making is currently constrained by an "intransparent expert cage".¹⁰⁴

8. If there is no “normal level”, how do we best and most legitimately approximate it?

i. A democratic deficit is the fundamental problem

In view of the analysis developed above, it is more than questionable whether the cyclical component in its current form is still fit for purpose. Behind the individual issues identified above, however, there seems to be a deeper problem: The legitimacy of the current method of determining the “normal level” seems to presuppose that potential output is understood as an objective variable, untouched by political judgements and actions, that describes what *is* (as opposed to a target variable that describes what *should be*).

This assumption is difficult to maintain, both in light of recent economic research and in light of European and American economic experience since the 2008 financial crisis. *Both of these suggest that there are in fact multiple possible development paths for economies* (see also Sigl-Glöckner et al. on the economic background), *which are influenced by fiscal policy itself*. Looking forward, there is no single “normal level”, no one “potential output” that can be estimated going forward. The problem is not an inaccurate measurement of reality, or insufficient progress in economic research, but the fact that there are always **several possible futures** that can result from different policy strategies.

The identification of the “normal level” with potential output calculated according to the current method therefore seems difficult to maintain. This implementation of the “normal level” implicitly prejudices certain political decisions, e.g. about female labour force participation or hours worked, often in direct conflict with political objectives explicitly defined elsewhere. Examples would be the goals of full employment and reduction of long-term unemployment set out in the coalition agreement of CDU/CSU and SPD¹⁰⁵, or the

¹⁰³ A conditional exception to this mechanism are those structural features that are directly included in the calculation of the NAWRU anchor. But the anchor value mainly influences the NAWRU values at the back end of the projection period. Thus, it has a relatively small influence on the cyclical component and thus the allowed NCA of the respective coming year.

¹⁰⁴ Philipp Heimberger and Jakob Kapeller, "The performativity of potential output: pro-cyclicality and path dependency in coordinating European fiscal policies", *Review of International Political Economy* 24, no. 5 (2017): pp. 923-924.

¹⁰⁵ CDU, CSU und SPD, „Koalitionsvertrag der 19. Legislaturperiode: Ein neuer Aufbruch für Europa Eine neue Dynamik für Deutschland Ein neuer Zusammenhalt für unser Land“ (Berlin: CDU, CSU und SPD, 07 February 2018), p. 12, line 370, <https://www.bundesregierung.de/resource/blob/656734/847984/5b8bc23590d4cb2892b31c987ad672b7/2018-03-14-koalitionsvertrag-data.pdf>.

reduction of structural imbalances that contribute significantly to the pay gap between women and men.¹⁰⁶ Meeting these goals *requires* that potential output as calculated today (i.e. on the basis of extrapolating historical long-term unemployment rates, participation rates of women and part-time employment) be exceeded tomorrow.

In an ideal world, then, decisions on permissible net borrowing (NKA) should be taken out of the hands of technocratic administration and handed back to the regular democratic process. The debt brake and the concept of the “normal level”, which delineate the permissible NKA, however, are anchored in the German Constitution.

What can be done, then – leaving aside the preferred option of constitutional change, the required two-thirds majority for which seems unlikely to emerge at present – to nevertheless reduce the democratic deficit?

The specific implementation of the debt brake and in particular the calculation of the NKA ceiling is set down in a decree issued by the federal government. **This calculation procedure can be adjusted**, within the leeway left by the more general rules laid down in the constitution.

ii. Tax smoothing methods fail as alternatives for determining the “normal level”

If the search for potential output proves unsuccessful for fundamental macroeconomic reasons, and if statistical extrapolation leaves too much discretion to those who implement it, the question emerges: what alternative procedures are available for determining the “normal level”?

Some Länder, for example, use tax-smoothing procedures for this purpose. With this method, the cyclical component is derived from deviations of tax revenues from their trend, not from deviations of output from potential output per se. Problematically, the development of expenditures is not included in the calculations, even though cyclical fluctuation affects those too, particularly via the automatic stabilisers (at the federal level to an even greater extent than at the state level).¹⁰⁷ Smoothing out only the effect of declining or rising revenues, but not of rising or declining expenditures, thus ignores one half of the fiscal balance.

Like the output gap calculation based on the EU methodology, the tax smoothing procedures used today rely on statistical procedures to extrapolate and then modify the historical trend. Here, too, numerous assumptions are necessary, and here, too, science does not issue unique recommendations concerning how the assumptions should be made, resulting in considerable discretion for whoever performs the calculation. In the case of tax smoothing, these include: the period over which the trend is determined (30 years in Baden-Württemberg, 21 years in Hamburg and eight years in Rhineland-Palatinate); the method used to extrapolate the trend (geometric mean in Baden-Württemberg and Rhineland-Palatinate, least squares method in Hamburg)¹⁰⁸; and the method used to adjust for tax law changes (none in Baden-Württemberg, ad-

¹⁰⁶ CDU, CSU und SPD, „Koalitionsvertrag der 19. Legislaturperiode: Ein neuer Aufbruch für Europa Eine neue Dynamik für Deutschland Ein neuer Zusammenhalt für unser Land“, p. 24, line 972.

¹⁰⁷ Bundesministerium der Finanzen (BMF), „Aufteilung der 2018 neu berechneten Budgetsemmielastizität auf Bund, Länder, Gemeinden und Sozialversicherungen“.

¹⁰⁸ Bundesbank, “Zur Konjunkturbereinigung der Länder im Rahmen der Schuldenbremse”, in *Monthly Bulletin March 2017* (Frankfurt am Main: Bundesbank, March 2017), pp. 35-58, <https://www.bundesbank.de/resource/blob/693394/5db64ce881426c33a79f9f6cb145f74a/mL/2017-03-konjunkturbereinigung-data.pdf>.

justment for tax law changes passed by 31 March as well as certain short-term changes in Hamburg, and adjustment of the rule extrapolation factor, which can also take into account probable tax law changes, in Rhineland-Palatinate).¹⁰⁹

Moreover, in contrast to the macroeconomically-based calculation method, the tax smoothing method does not consider the possible borrowing requirements of an anti-cyclical fiscal policy. **According to the Bundesbank, tax smoothing methods thus "fundamentally ignore the objective of the debt brake to identify the cyclical effects in the budget** (automatic stabilisers of the business cycle)".¹¹⁰ Due to its assumption- and hence discretion-rich nature, as well as its direct contradiction with the purpose of the cyclical component of the debt brake, tax smoothing methods therefore seem unsuitable as alternatives to the current potential output approach.

iii. Adjustment of input factors in the potential output calculation is a better alternative

A better alternative to reduce the democratic deficit would be to stop determining the inputs for the potential output calculation (such as the labour force participation rate) via arbitrary statistical procedures. These necessarily involve considerable discretion in their execution. From a democratic standpoint, it would be preferable to determine inputs instead via an explicitly political and regularly recurring decision-making process.

Below, we therefore propose to **adjust the inputs** for the calculation of potential output for the purpose of determining the maximum permissible net borrowing (NKW) under the debt brake **on the basis of three criteria**:

- (1) Wherever there is no clear scientific evidence, the political process should decide. Technical expertise, ideally provided by an independent institution, could support this process (for example, by setting out the implications of different options).
- (2) Where the method remains based on economic theory and statistics, it should be in line with the latest research, as required by Section 5 (5) of the Article 115 Act.¹¹¹ If the latest research fundamentally questions the methodology used, (1) applies.¹¹²
- (3) Input values should conflict as little as possible with democratic consensus and existing rights: Where a democratic consensus already exists, it should be taken into account, because "financial law is instrumental law"¹¹³.

In view of the numerous difficulties of identifying the "normal level", the reform options presented here are based on minimum criteria that must be fulfilled for the national economy to be at full potential. *They serve to replace an arbitrary, methodologically questionable procedure that has weighty political consequences with a democratically legitimised alternative involving fewer technical assumptions*, which would reduce the available discretion in the design and execution of the calculation procedure by the civil service.

¹⁰⁹ Ibid.

¹¹⁰ "Sie lösen sich aber grundsätzlich von der Zielsetzung der Schuldenbremse, die Konjunkturreffekte im Budget (automatische Stabilisatoren der gesamtwirtschaftlichen Entwicklung) zu identifizieren", Ibid, p. 43.

¹¹¹ Gesetz zur Ausführung von Artikel 115 des Grundgesetzes (Artikel 115-Gesetz - G 115), accessed am 01. Juni, 2021, https://www.gesetze-im-internet.de/g_115/BJNR270400009.html.

¹¹² A possible reference point for the "state of research" could be whether other public institutions in OECD countries have challenged or abolished the relevant methods, as happened, for example, with the NAIRU recently, the US equivalent of the NAWRU.

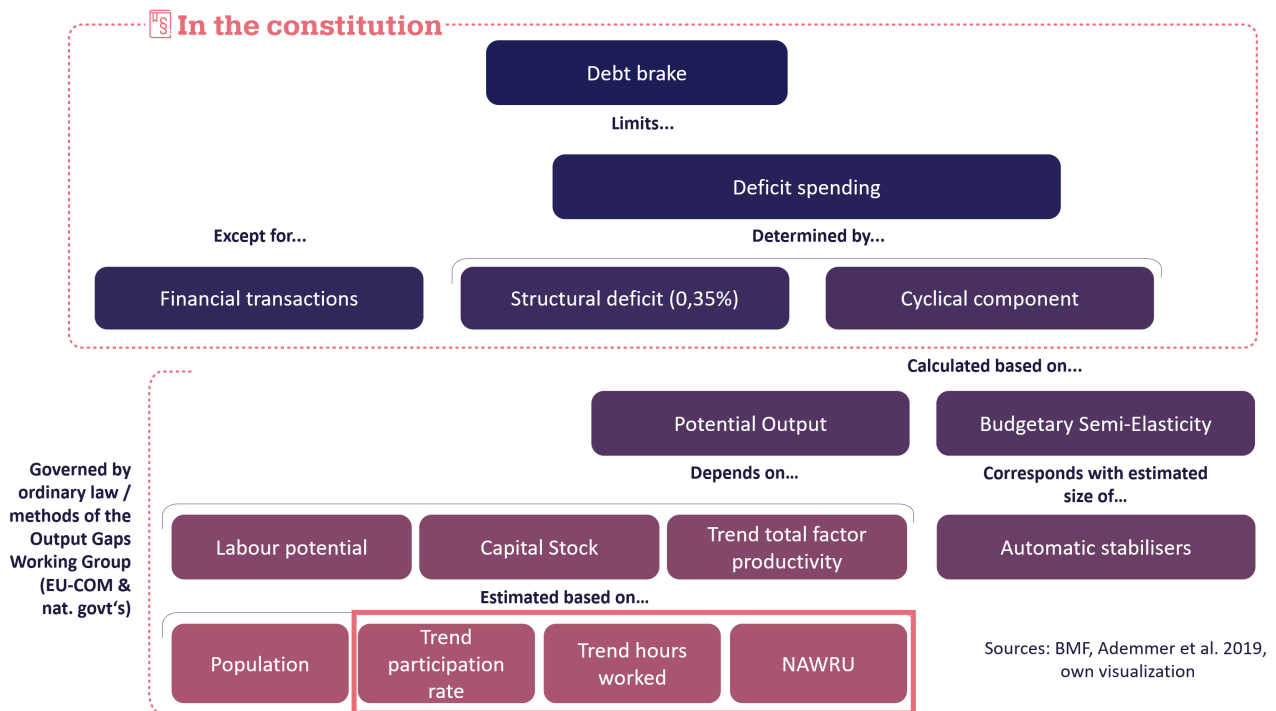
¹¹³ „Finanzrecht ist dienendes Recht“, Stefan Koriath, 'S 44 Finanzen' in Wolfgang Hoffmann-Riem et al. , *Grundlagen des Verwaltungsrechts: Band III* (Munich: C.H. Beck, 2nd edition, 2012), p. 95.

Below, we propose adjustments to the inputs for calculating potential output through the political decision-making process. In doing so, our proposals deliberately refrain from modifying the existing calculation method per se. After all, alternative calculation approaches, too, are controversial. Instead of changing the overall method, our proposals thus focus on modifying input factors that are explicitly political in nature and whose calculation has already been modified repeatedly over the years (see red box, Figure 3).

The guiding principle behind our proposals is to define potential output on the basis of what generates sustainable public finances in the long run. Given today's macroeconomic and demographic circumstances (already visible in the federal budget), **the full utilisation of economic capacity** appears to be decisive. Together with the legally prescribed interpretation of the "normal level" as potential output, this results in a definition of the normal level as full utilisation of economic capacities.¹¹⁴

The fiscal impact of the proposed modifications has been calculated with the model used by the EU Commission and on the basis of the annual macroeconomic dataset (AMECO) of the European Commission's Directorate General for Economic and Financial Affairs. All data used here are taken from the spring projection of 2020 and therefore already include some of the projected economic consequences of the Covid-19 pandemic.

Figure 3: Reform of the cycle component by adjusting input factors to estimate potential output



¹¹⁴ Sigl-Glöckner et al, "A New German Fiscal Policy".

iv. A proposal

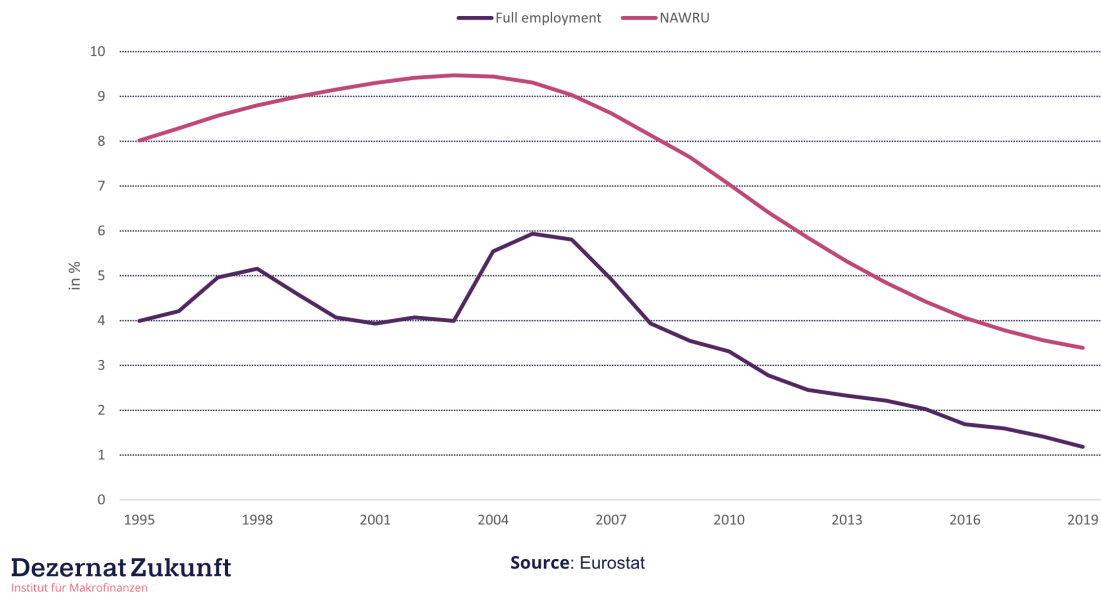
Modification 1: From NAWRU to full employment.

In view of the numerous difficulties involved in estimating the **NAWRU**, we propose a simplification that locates potential output (i.e. the “normal level”) at the point where the largest possible part of the labour force is employed, that is, at **full employment**. Since there is no generally valid quantitative definition of the term,¹¹⁵ we propose as a first proxy for full employment to **adjust the unemployment rate for the share of long-term unemployed**. Short-term, frictional unemployment will always exist. However, the notion that there are people who are actively looking for employment, have registered with the Federal Employment Agency, are available to their placement efforts, and yet are permanently unable to find work, is not reconcilable with the *concept of full capacity utilisation*.

Admittedly, this adjusted unemployment rate, too, has a clearly cyclical component, one of the criticism of the NAWRU given above.¹¹⁶ Compared to the NAWRU, however, it is closer to the politically declared goal of full employment and targets more precisely that part of unemployment that creates the largest costs for the federal budget (since the costs of long term unemployment are to a large extent not covered by the revenues of unemployment insurance, which run separately from the federal budget).

The following figure illustrates the unemployment rates according to this definition and compares them with the NAWRU. The recalculated unemployment rates are noticeably lower than the NAWRU over time.

Figure 4: Unemployment rates at full capacity



Replacing the NAWRU with a full employment indicator could return the decision on desired working times to the democratic process: it does not seem possible to define full employment in purely scientific terms. The concrete modification proposed here would be an immediate improvement: it would reduce the

¹¹⁵ In practice - e.g. in German economic policy since the Stability Act of 1967 - full employment is located at an unemployment rate between two and three percent, but this value is not recognised in research, as the controversial research debate around the NAWRU shows.

¹¹⁶ Further research on how full employment could be specified quantitatively and, as far as possible, a-cyclically, would therefore be useful.

conflict between the goals implicitly presupposed in the calculation of potential output and those explicitly defined in the law (as well as in the coalition agreement of the 2017-2021 government).¹¹⁷ In the medium and long term, the quantitative determination of what full employment means could then be adjusted on a regular basis via the democratic political process, in accordance with the three criteria described above.

Modification 2: Equal opportunities in accordance with Article 3 GG.

Our second proposed modification also addresses the quantitative dimension of the labour market, by zooming in on the **female labour force participation rate**. According to Eurostat¹¹⁸ and the Federal Employment Agency, the participation rate of men has been consistently above 80% since 2005, while that of women has been more than 10 percentage points lower at times.¹¹⁹ In 2019, 83.5% of men aged 15-64 participated in the labour market, but only 74.9% of women – a gap of 8.6 percentage points. In contrast, the gap is only about 3.4 percentage points in Sweden, 3.3 in Finland and as low as 2.3 in Lithuania. In the following calculations, in light of the figures from Northern Europe, a target value of three percentage points is presupposed for the participation gap between men and women. In 2019, this results in an overall maximum labour force participation rate of 76.6%, compared to the 73.9% of actual participation implied in the European Commission's calculations. The same value is then assumed for 2020 and 2021, a conservative approach, given the steady increase in labour force participation rates over the last 20 years.

By replacing the statistical extrapolation of labour force participation, which inherently brings a significant margin of discretion to those executing the calculation, with a clearly formulated social target, this modification also contributes to the implementation of the three criteria listed above. It should also be noted that in the description of the European method from 2002, the Commission itself made it a goal to calculate potential output on the basis of gender-specific participation rates. It ultimately refrained from doing so only because of the poor availability of data. *From today's perspective, this is no longer a valid objection, since the available data from Eurostat and national labour market authorities now allow for a calculation of gender-specific rates.*

Modification 3: Eliminate involuntary and non-essential part-time work

The third variation of the input factors of the calculation method concerns the number of working *hours* per employed person. In Germany, just under twelve million people worked part-time in 2019,¹²⁰ with an average weekly working time of 19.5 hours.¹²¹ Deriving general statements about the extent of underemployment in Germany from these figures is complex, because reliable data specifically related to part-time workers and their motivations over longer periods is lacking here. However, the reasons for part-time employment have been surveyed for some years in the Europe-wide Labour Force Survey.¹²² Respondents can indicate whether they work part-time because

- they could not find full-time employment (2019: 8.7%),
- they care for children or incapacitated adults (24.3%),
- other family or personal responsibilities prevent full-time work (14.1%),

¹¹⁷ The goal of full employment is stated in the “Stabilitätsgesetz” or Stability Act.

¹¹⁸ Eurostat data key: lfsa_argan.

¹¹⁹ See [footnote 17](#), p. 9 above, for the definition of the labour force participation rate.

¹²⁰ Eurostat data key: lfsa_epgaed.

¹²¹ Eurostat data key: lfsa_ewhun2.

¹²² Eurostat data key: lfsa_epgar.

- they are sick or unable to work full-time (4.1%),
- they are in education or vocational training (10.8%) or
- they have other reasons (38.1%).

We consider the first three reasons as indicative of involuntary or non-necessary part-time work, which could be avoided depending on labour market conditions and social infrastructure investments. Under full utilisation of an economy's potential, these persons could be available as workers. According to this definition, 47.1% of part-time workers – or 5.6 million people – could have worked more hours in 2019.

In the working time preferences also included in the Labour Force Survey, a majority of underemployed respondents have consistently indicated about 10 additional hours of work per week as a preference.¹²³ Since these time preferences cannot be matched to the reasons for part-time employment, this scenario is only considered as an upper limit. There is also no information available on how many hours those who do not work full-time due to family obligations would increase their working hours in the case of sufficient childcare provision. Therefore, in a conservatively estimated scenario, the weekly working hours of the involuntarily or non-necessarily underemployed are increased by five hours only, that is, one additional hour per day. This adjustment of hours, too, follows the three criteria outlined earlier, by accepting the will of those who would like to work more.

The **three modifications** described here replace assumptions and inputs that are partially arbitrary, partially economically questionable. These assumptions implicitly contribute to the selection of a target path for the productive capacity of the economy and – if they run counter to goals explicitly defined by policy elsewhere – lead to contradictory policies. Instead, we propose to replace them with assumptions that bring fiscal policy in line with explicitly politically set goals. *Replacing these inputs and assumptions (1) returns fiscal policy to the democratic process, (2) reduces the need to rely on scientifically controversial methods and (3) increases the overall coherence of economic policy.*

The latter in particular is a factor that could contribute to the sustainability of public finances: if policymakers are explicitly responsible for the assumptions underlying labour potential, they are under greater pressure to present appropriate measures to ensure that this potential is in fact achieved.

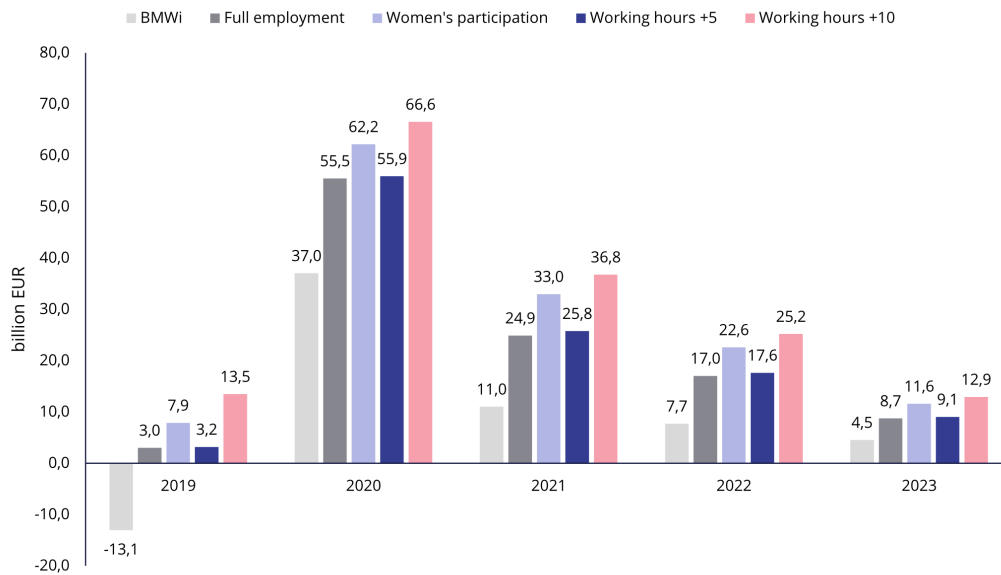
Next, we estimate the size of the cyclical component that would be implied by our proposals. The results are presented below.

Economic components

Four individual scenarios result from the previous descriptions:

| | |
|------------------------------|--|
| Full employment | Adjustment of the unemployment rate for the share of the long-term unemployed |
| Women's participation | Reduce the gender gap in participation rates to three percentage points |
| Working hours +5 | Increase the average weekly working time of 5.6 million part-time workers by five hours. |
| Working hours +10 | Increase the average weekly working hours of 5.6 million part-time workers by ten hours. |

Figure 5: Cyclical component for the individual scenarios



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Source: Own calculations

In a first step, we look at the cyclical component implied by the individual scenarios from 2019 to 2023.¹²⁴ For comparison, we also list the baseline numbers from the Federal Ministry for Economic Affairs and Energy (BMWi) 2020 estimate, which is calculated with inputs arrived at via the statistical extrapolation methods described above.^{125 126} In the BMWi estimate, an overheating of the economy was determined for 2019 — and thus a negative cyclical component of — 13.1 billion euros. Together with the 0.35% of GDP in permitted structural deficits, this implied a required surplus of 2.5 billion euros.¹²⁷ In contrast, all four alternative scenarios show a slight underutilisation, which would have allowed additional borrowing under the cyclical component of up to EUR 13.5 billion, and thus a maximum permissible net borrowing of EUR 24.1 billion.

The effects of the pandemic show a clear increase in the permitted cyclical deficits for all years from 2020 onwards. As can be seen, the output gap narrows year by year after 2020. This is inherent in the method. It always assumes that the output gap is closed in the final year of the estimate, here 2024. The cyclical component is therefore by definition 0 for the final year.

¹²⁴ The European Commission's estimation method provides for the closure of the output gap at the end of the forecast period. The spring projection 2020 ends in 2024. For this year, there is therefore a cyclical component of zero in all scenarios, which is not explicitly depicted.

¹²⁵ For the purpose of comparability, the spring 2020 projection is also used for the BMWi. If the more current figures from the autumn projection were used instead, the cyclical components would increase slightly. The maximum margin for 2021 would be EUR 12.8 billion instead of EUR 11 billion. These are only small deviations that do not affect the argument developed in this paper.

¹²⁶ At this point it should be mentioned that the calculations of the BMWi differ slightly from those of the European Commission. Since the reform options presented refer specifically to Germany, the BMWi data are used for comparison.

¹²⁷ Calculated on the basis of the spring 2020 projection and the financial transactions budgeted in the 2019 federal budget.

Figure 6 shows the effects of combining all three proposals, showing one scenario with five additional working hours (blue) and one with ten (red):

Figure 6: Cyclical component for the triple scenarios

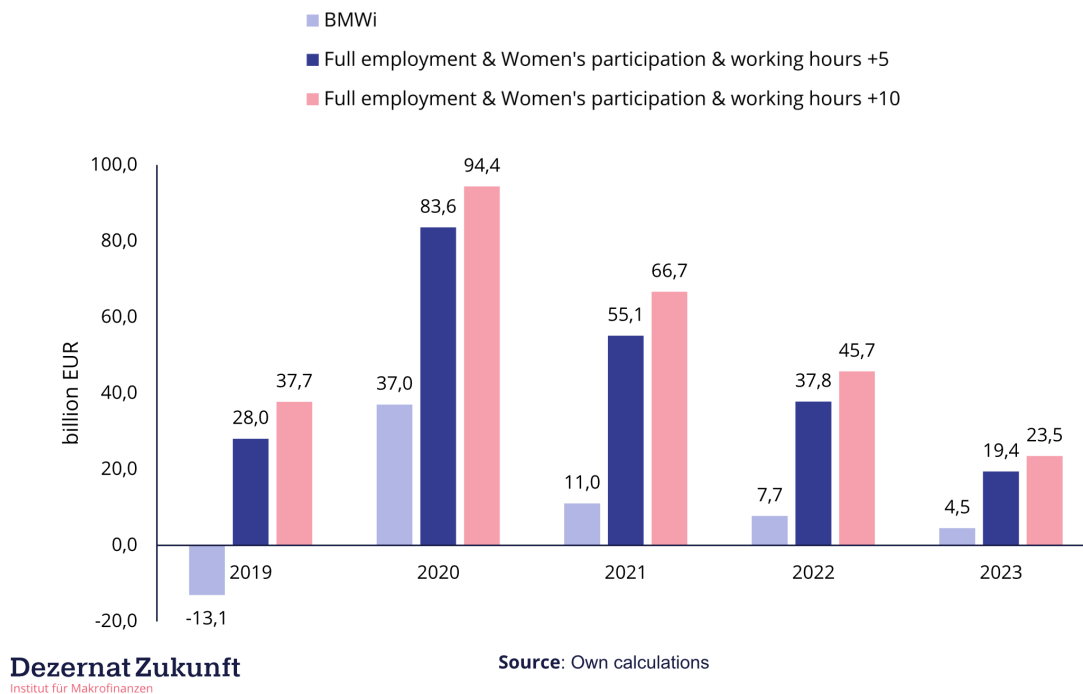
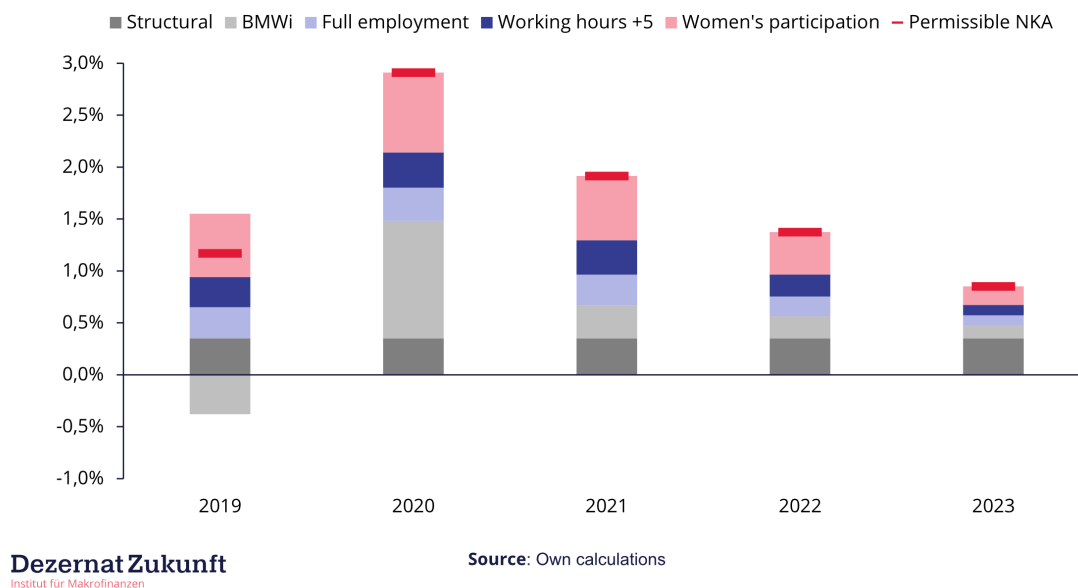


Figure 7 shows the total maximum permissible net borrowing (NKA) for the more conservative scenario (five additional working hours per week) in relation to GDP. The chart first shows the structural deficit permitted under the debt brake (dark grey, 0.35% of GDP), then the cyclical components of the respective years according to the current calculation method of the BMWi (light grey). The individual components of the three modifications are then stacked on top.¹²⁸ The red bar shows the total permissible new debt in the triple scenario *full employment & women's participation & working hours +5*.

¹²⁸ In addition to the structural and cyclical components, permitted net borrowing under the debt brake also includes balances from financial transactions and repayment obligations from the control account. These two components are ignored in the calculations presented here for the sake of simplification.

Figure 7: Net borrowing permitted under the debt brake as a result of the reforms and contributions of the individual reforms, in % of GDP



Summing up, the amendment of these input factors for the calculation of potential output estimates would enable higher deficits, without permitting unlimited or excessive deficits. In contrast to the debt brake's emergency clause, which removes any cap on net borrowing, a firm ceiling remains. Moreover, this ceiling cannot be extended without limits, since input factors designed according to our approach outlined above are comparatively easy to check for plausibility.

Amending the debt brake's cyclical component in this way could be sufficient to reduce the need for recourse to the emergency clause. For example, a substantial part of the planned new borrowing of 99.7 billion euros for 2022¹²⁹ could be managed within the amended framework presented here: in addition to the 45.7 billion euros of borrowing permitted under the cyclical component (see Figure 6 above), an estimated 11.5 billion euros (0.35% of GDP) would be permitted as the structural deficit, so that net borrowing of up to 57.2 billion euros would be permitted *under the debt brake*.¹³⁰ If, as proposed in Sigl-Glückner et. al, the automatic stabilisers were expanded, too, increasing the budgetary semi-elasticity of the federal budget from 0.203 to at least 0.44, **the entire deficit estimated in the draft budget for 2022 would be permissible under the debt brake, without any recourse to the emergency clause.**¹³¹

¹²⁹ Federal Ministry of Finance (BMF), "Vorläufiger Haushaltsabschluss 2020" (Press release, BMF, 19 January 2021), accessed 01 June, 2021, <https://www.bundesfinanzministerium.de/Content/DE/Pressemitteilungen/Finanzpolitik/2021/01/2021-01-19-vorlaeufiger-haushaltsabschluss-2020.html>.

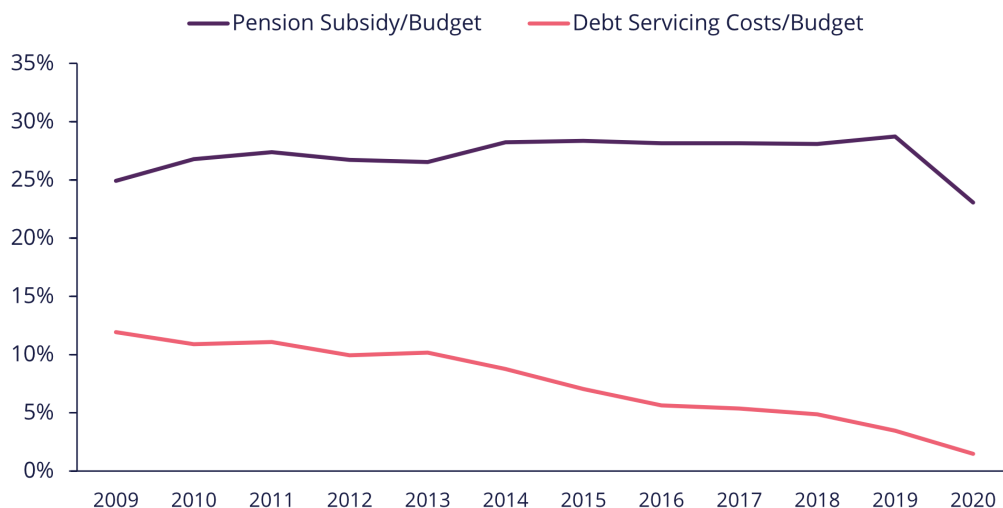
¹³⁰ Before adjustment for financial transactions.

¹³¹ Alternatively, it would be possible to plan without headroom, contrary to recent practice. If the economic situation then develops worse than predicted, it would be permissible to exceed the projected deficit during implementation, and to record this in the control account. Based on the balance in the control account, amounting to 52.0 billion euros in 2021, a realised deficit of 99.7 billion euros against a planned and permitted NKA of 57.2 billion euros would leave a positive balance of 4.4 billion euros at the end of the year. A negative balance in the control account would require compensating surpluses, but only once this negative balance exceeds 1.5% of GDP, and even then, reducing the excess deficit shall proceed in line with the economic cycle. See Federal Ministry of Finance (BMF), *Kompendium zur Schuldenregel des Bundes (Schuldenbremse)* (Berlin: BMF, March 2021), https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Oeffentliche_Finanzen/Schuldenbremse/kompendium-zur-schuldenbremse-des-bundes.pdf?__blob=publicationFile&v=9.

9. Are the proposed amendments in line with the original intention of the debt brake?

The purpose of introducing the debt brake was to ensure the long-term sustainability of public finances. The drivers of public debt (un)sustainability have changed considerably since the beginning of the 2000s: While the cost of servicing existing debt continues to fall, accounting for only 6.5 billion euros or 1.5% of the federal budget in 2020,¹³² the subsidy from the general federal budget to the public pension insurance system now amounts to about 102 billion euros or 23% of the federal budget (see Figure 8 below).¹³³ In view of future increases in the old-age dependency ratio,¹³⁴ projected to rise from 31% (2020) to 49% (2040)¹³⁵, the financing of pensions is a challenge for the coming years that is already visible today. Mastering this challenge will largely depend on bringing as many people of working age as possible into well-paid and secure employment.

Figure 8: Comparison of subsidy to general pension insurance and interest costs as a share of the federal budget



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Source: BMF

In view of the challenges we face, the **current design of the debt brake is counterproductive**: *as soon as the employment rate, the labour force participation rate, and working hours have reached their historical averages, the cyclical component is supposed to reduce demand.* However, ensuring the long-run sustainability of fiscal policy today *requires* that the historical averages of the employment rate, labour force participation, and hours worked are *exceeded* and that a permanently high utilisation of our labour force potential prevails.

¹³² Even if the interest rate on the ten-year federal bond were to rise to 1% in 2030 (a scenario that far exceeds expectations) and an annual deficit of 1% were to occur, the interest costs would amount to less than 3% of the federal budget in 2030, at about 14 billion euros. Calculations: Future Department.

¹³³ Whereby both the share of pension subsidies and interest payments were particularly low in 2020 due to the Corona-related size of the budget; in 2019, the interest rate ratio was 3.5%, and the share of pension subsidies in the federal budget was 29%.

¹³⁴ Ratio of the number of people over 66 to the number of people between 22 and 66.

¹³⁵ „Koordinierte Bevölkerungsvorausberechnung für Deutschland - Variante 1: Moderate Entwicklung bei niedrigem Wanderungssaldo (G2L2W1)“, Statistisches Bundesamt (Destatis), accessed 01. Juni, 2021, <https://service.destatis.de/bevoelkerungspyramide/#!y=2020>.

The adjustment of the Decree on the Implementation Act of Article 115 of the Basic Law described in this paper would therefore restore the lost coherence between the original objective of the debt brake and its administrative implementation. To this end, we have proposed minimum criteria for the definition of the "normal utilisation of production factors" and made a proposal on how input factors could be redefined by politicians on the basis of those criteria. This would mean that the interpretation of the "normal level" would no longer be left to technocratic actors who, in the current design, have an excessive amount of discretionary power to which they are not democratically entitled. Above all, however, it would shift the analytical and political focus back to the actual challenges that threaten the long-term sustainability of public finances, rather than continuing to chase the ghosts of the past.

Having said this, since the future development of government bond yields is unpredictable, the interest-to-budget ratio should also be monitored. In the event of a significant increase – this could be defined as a one percentage point rise – a strategic review of fiscal policy could be mandated, in order to ensure congruence with the long-term goal of the debt brake (see also Sigl-Glückner et al.).

Finally, our proposals would also help to preserve the original intention of the debt brake in another respect. The amendments would reduce the likelihood that the debt brake's emergency clause would de facto be extended to phases of economic weakness in the future. These periods of weakness, which often occur in the aftermath of acute emergencies, require a gradual reduction in fiscal support, rather than an abrupt end, in order not to jeopardise the recovery of the economy. In the case of the financial crisis, this gradual reduction was made possible by the debt brake's gradual phase-in, a mechanism that is no longer available today. The case of the Covid-19 crisis demonstrates how the concept of an "exceptional emergency" was already extended into 2022, precisely to prevent an abrupt end to supportive fiscal policy. If the current design of the cyclical component is maintained, it is likely that a similar procedure will be repeated in the future. By allowing for a gradual reduction of fiscal support *within the rules*, in contrast, the proposed amendment of the cyclical component would reduce the risk of a fiscal policy characterised by regular and excessive use of the emergency clause, in which no benchmarks exist for the desirable deficit level. In this sense, too, the proposals outlined here would correspond to the original intention of the debt brake.

Even if the fundamental problem of comparing current economic performance with a counterfactual, barely quantifiable "normal level" remains, our reform proposals thus create a coherent, economically sensible and politically more legitimate alternative to the status quo.

10. Conclusion

The current version of the debt brake relies on the concept of potential output to define the "normal level" of economic activity. Potential output in turn is calculated using the procedure defined by the EU's Output Gap Working Group. This procedure has at least four major shortcomings that we described in detail above. In particular, we have shown that the current design of the cyclical component:

- does not take into account the latest social scientific research (see 3.);
- relies on an arbitrary notion of the "normal level" of economic activity that leaves central decisions to technical bodies that lack the democratic legitimacy to make these decisions autonomously (see 4.);
- does not correspond to the original intention of the legislator to combine the long-term safeguarding of the sustainability of public finances with a fiscal policy that responds to variations in economic activity (see 5.), and,
- that in the context of the Stability and Growth Pact (SGP) was never intended to be used and implemented as it is now (see 6.).

To address these shortcomings, we outlined **a minimally invasive first reform step**: we propose amending the inputs that go into the calculation of the cyclical component of the debt brake. In particular, the input values for unemployment at potential, hours worked, and the participation rate could be revised (see 8.). Such a reform would both (1) increase the coherence of economic and fiscal policy as a whole and (2) restore coherence between the original objective of the debt brake and its administrative implementation. The former would be achieved by ensuring that the economic development path implicitly set by fiscal policy would no longer contradict policy objectives formulated elsewhere, such as the elimination of long-term structural unemployment, the better integration of women into the labour market and the reduction of unnecessary part-time work. The latter would be done by promoting higher labour market utilisation, with the particular aim of stabilising the pension system and thus contribute to the long-term sustainability of public finances in a meaningful way.¹³⁶

Our proposal – *for an explicitly political determination of the inputs for calculating potential output according to a fixed set of criteria* – does not claim entirely to eliminate the four major shortcomings mentioned above. It could, however, represent a pragmatic first step towards reforming the most problematic aspects of the debt brake and thereby contribute to the re-democratisation, coherence and long-term sustainability of German fiscal policy.

Bibliography

- Abramovitz, Moses. „Resource and Output Trends in the United States since 1870“. *American Economic Review* 46, no. 2 (May 1956): 5–23.
- Ademmer, Martin, Jens Boysen-Hogrefe, Kai Carstensen, Philipp Hauber, Nils Jannsen, Stefan Kooths, Thies Rossian und Ulrich Stolzenburg. „Schätzung von Produktionspotenzial und -lücke: Eine Analyse des EU-Verfahrens und mögliche Verbesserungen“. Kieler Beiträge zur Wirtschaftspolitik Nr. 19, Februar 2019. https://www.ifw-kiel.de/fileadmin/Dateiverwaltung/IfW-Publications/-ifw/Kieler_Beitraege_zur_Wirtschaftspolitik/2019/wipo_19.pdf.
- Arpaia, Alfonso, Esther Pérez und Karl Pichelmann. „Understanding Labour Income Share Dynamics in Europe“. Economic Papers No. 379, Europäische Kommission, 2009. https://ec.europa.eu/economy_finance/publications/pages/publication15147_en.pdf.
- Belitz, Heike, Marius Clemens, Stefan Gebauer und Claus Michelsen. „Öffentliche Investitionen als Triebkraft privatwirtschaftlicher Investitionstätigkeit“. Politikberatung kompakt 158, Deutsches Institut für Wirtschaftsforschung (DIW), 2020. https://www.diw.de/de/diw_01.c.808561.de/publikationen/politikberatung_kompakt/2020_0158/oeffentliche_investitionen_als_triebkraft_privatwirtschaftli_schungsgutachten_fuer_das_bundes_nanzministerium_fe_3/19.html.
- Beveridge, William H. „Vollbeschäftigung in einer freien Gesellschaft“. Hamburg: Verlag für Wirtschaft und Sozialpolitik, 1946.
- Blanchard, Oliver, Christopher Erceg und Jesper Lindé. „Jump Starting the Euro Area Recovery: Would a Rise in Core Fiscal Spending Help the Periphery?“. NBER Working Paper 21426, National Bureau of Economic Research, Juli 2015. https://www.nber.org/system/files/working_papers/w21426/w21426.pdf.
- Blanchard, Olivier. „Public Debt and Low Interest rates“. Working Paper 19-4, Peterson Institute for International Economics, Februar 2019. <https://www.piie.com/system/files/documents/wp19-4.pdf>.
- Blanchard, Oliver, Alvaro Leandro und Jeromin Zettelmeyer. „Redesigning EU fiscal rules: From rules to standards“. Working Paper 21-1, Peterson Institute for International Economics, Februar 2021. <https://www.piie.com/publications/working-papers/redesigning-eu-fiscal-rules-rules-standards>.
- Braunberger, Gerald. „Eine neue Epoche am deutschen Kapitalmarkt“. *Frankfurter Allgemeine Zeitung*. 14. Juni, 2016. <https://www.faz.net/aktuell/finanzen/anleihen-zinsen/negative-renditen-bei-bundesanleihen-14287430.html>.
- Bruegel. „The campaign against ‘nonsense’ output gaps“. Accessed 01. Juni, 2021. <https://www.bruegel.org/2019/06/the-campaign-against-nonsense-output-gaps/>.
- Bundesbank. „Zur Konjunkturbereinigung der Länder im Rahmen der Schuldenbremse“, In *Monatsbericht März 2017*, 35-58. Frankfurt am Main: Bundesbank, März 2017. <https://www.bundesbank.de/resource/blob/693394/5db64ce881426c33a79f9f6cb145f74a/mL/2017-03-konjunkturbereinigung-data.pdf>.

- Bundesbank. „Die Rolle von Banken, Nichtbanken und Zentralbank im Geldschöpfungsprozess“. In *Monatsbericht April 2017*, 15-36. Frankfurt am Main: Bundesbank, April 2017. <https://www.bundesbank.de/resource/blob/614448/c0acb63e33120467bbb3615c63dc7e1a/mL/2017-04-geldschoepfungsprozess-data.pdf>.
- Bundesministerium der Finanzen (BMF). *Bundeshaushalt 2019*. Berlin: BMF, 2019. https://www.bundeshaushalt.de/fileadmin/de.bundeshaushalt/content_de/dokumente/2019/soll/Haushaltsgesetz_2019_Bundeshaushaltsplan_Gesamt.pdf.
- Bundesministerium der Finanzen (BMF). „Aufteilung der 2018 neu berechneten Budgetsemielastizität auf Bund, Länder, Gemeinden und Sozialversicherungen“. In *Monatsbericht April 2019*. Berlin: BMF, April 2019. <https://www.bundesfinanzministerium.de/Monatsberichte/2019/04/Inhalte/Kapitel-3-Analysen/3-6-budgetsemielastizitaet.html>.
- Bundesministerium der Finanzen (BMF). „Vorläufiger Haushaltsabschluss 2020“. Pressemitteilung, BMF, 19. Januar 2021. Accessed 01. Juni, 2021. <https://www.bundesfinanzministerium.de/Content/DE/Pressemitteilungen/Finanzpolitik/2021/01/2021-01-19-vorlaeufiger-haushaltsabschluss-2020.html>.
- Bundesministerium der Finanzen (BMF). „Mit guter Finanzpolitik wirksam gegen die Krise“. Accessed 01. Juni, 2021. https://www.bundesfinanzministerium.de/Web/DE/Themen/Oeffentliche_Finanzen/Bundeshaushalt/Bundeshaushalt-2022/bundeshaushalt-2022.html.
- Bundeministerium der Finanzen (BMF). „Vorläufiger Abschluss des Bundeshaushalts 2020“. Monatsbericht Januar 2021, BMF, Januar 2021. <https://www.bundesfinanzministerium.de/Monatsberichte/2021/01/Inhalte/Kapitel-3-Analysen/3-3-abschluss-bundeshaushalt-2020.html>.
- Bundesministerium der Finanzen (BMF). *Kompendium zur Schuldenregel des Bundes (Schuldenbremse)*. Berlin: BMF, März 2021. https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Oeffentliche_Finanzen/Schuldenbremse/kompendium-zur-schuldenbremse-des-bundes.pdf?__blob=publicationFile&v=9.
- Bundesministerium der Finanzen (BMF). *Monatsbericht Mai 2021*. Berlin: BMF, 2021. https://www.bundesfinanzministerium.de/Monatsberichte/2021/05/Downloads/monatsbericht-2021-05-deutsch.pdf?__blob=publicationFile&v=3.
- Bundesministerium für Wirtschaft und Energie Bundesministerium (BMWi) und Bundesministerium der Finanzen (BMF). „Gesamtwirtschaftliches Produktionspotenzial und Konjunkturkomponenten (Frühjahrsprojektion der Bundesregierung 2021)“. Accessed 31. Mai, 2021. https://www.bmwi.de/Redaktion/DE/Downloads/G/gesamtwirtschaftliches-produktionspotenzial-jahresprojektion-2021.pdf?__blob=publicationFile&v=6.
- Bundesministerium für Wirtschaft und Energie Bundesministerium (BMWi) und Bundesministerium der Finanzen (BMF). „Gesamtwirtschaftliches Produktionspotenzial und Konjunkturkomponenten (Jahresprojektion der Bundesregierung 2017)“. Accessed 31. Mai, 2021. https://www.bmwi.de/Redaktion/DE/Downloads/G/gesamtwirtschaftliches-produktionspotenzial-jahresprojektion-2017.pdf?__blob=publicationFile&v=4.
- Bundesregierung. „Entwurf eines Vierten Gesetzes zur Änderung der Bundeshaushaltsordnung“. Drucksache 11/6939, Deutscher Bundestag, April 1990. <https://dserver.bundestag.de/btd/11/069/1106939.pdf>.

- Bundestagsfraktionen der CDU/CSU und SPD. „Entwurf eines Gesetzes zur Änderung des Grundgesetzes (Artikel 91c, 91d, 104b, 109, 109a, 115, 143d)“. Drucksache 16/12410, Deutscher Bundestag, März 2009. <https://dserver.bundestag.de/btd/16/124/1612410.pdf>.
- Buti, Marco, Nicolas Carnot, Atanas Hristov, Kieran Mc Morrow, Werner Roeger und Valerie Vandermeulen. „Potential output and EU fiscal surveillance“. *VoxEU*. 23. September, 2019. <https://voxeu.org/article/potential-output-and-eu-fiscal-surveillance>.
- CDU, CSU und SPD. *Koalitionsvertrag der 19. Legislaturperiode: Ein neuer Aufbruch für Europa Eine neue Dynamik für Deutschland Ein neuer Zusammenhalt für unser Land*. Berlin: CDU, CSU und SPD, 07. Februar 2018. <https://www.bundesregierung.de/resource/blob/656734/847984/5b8bc23590d4cb2892b31c987ad672b7/2018-03-14-koalitionsvertrag-data.pdf>.
- Constantini, Orsola. „The Cyclically Adjusted Budget: History and Exegesis of a faithful estimate“. Working Paper No. 24, Institute for New Economic Thinking (INET), October 2015. https://www.researchgate.net/publication/299343622_The_Cyclically_Adjusted_Budget_History_and_Exegesis_of_a_Fateful_Estimate.
- Denis, Cécile, Kieran Mc Morrow und Werner Röger. „Production function approach to calculating potential growth and output gaps – estimates for the EU Member States and the US“. *Economic Papers* No. 179, Europäische Kommission, 2002. https://ec.europa.eu/economy_finance/publications/pages/publication1706_en.pdf.
- Eidgenössisches Finanzdepartement (EFD) und Eidgenössische Finanzverwaltung (EFV). „Schuldenbremse und Ergänzungsregeln“. Präsentation, Schweizerische Eidgenossenschaft. Accessed 03. August, 202. https://www.efv.admin.ch/dam/efv/de/dokumente/finanzpolitik_grundl/schuldenbremse/Schuldenbremse_Erganzungsr_Grundfolien_d.pdf.download.pdf/Schuldenbremse_Erganzungsr_Grundfolien_d.pdf.
- Europäische Kommission. *Germany – Review of Progress on Policy Measures relevant for the Correction of Macroeconomic Imbalances*. Brüssel: Europäische Kommission, 4. Dezember, 2017. https://ec.europa.eu/info/sites/default/files/economy-finance/germany_sm_published_07032018.pdf.
- Europäische Kommission. *Commission Opinion on the updated Draft Budgetary Plan of Germany 2018*. Brüssel: Europäische Kommission, November 2017. https://ec.europa.eu/info/sites/default/files/economy-finance/swd_on_de_updated_dbp_2018_egreffe.pdf.
- Europäische Kommission. *Commission Opinion on the Draft Budgetary Plan of Germany 2019*. Brüssel: Europäische Kommission, November 2018. https://ec.europa.eu/info/sites/default/files/economy-finance/comm-2018-8013-de_en_1.pdf.
- Europäische Kommission. *Länderbericht Deutschland 2019*. Brüssel: Europäische Kommission, Februar 2019. https://ec.europa.eu/info/sites/default/files/file_import/2019-european-semester-country-report-germany_en.pdf.
- Europäische Kommission. „Vade Mecum on the Stability & Growth Pact: 2019 Edition“. Institutional Paper 101, Europäische Kommission, April 2019. https://ec.europa.eu/info/sites/default/files/economy-finance/ip101_en.pdf.
- Europäische Kommission. *Länderbericht Deutschland 2020*. Brüssel: Europäische Kommission, Februar 2020. <https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:52020SC0504&from=EN>.

- Europäische Kommission. „EU-CAM estimation of potential output and output gaps in the context of the COVID-19 pandemic shock“. 2020-I Spring Forecast, Europäische Kommission, April 2020. https://ec.europa.eu/info/sites/default/files/economy-finance/swd-2018-de_en.pdf.
- Europäische Kommission. *Commission Opinion on the Draft Budgetary Plan of Germany 2020*. Brüssel: Europäische Kommission, November 2019. https://ec.europa.eu/info/sites/default/files/economy-finance/swd2019_913_en_autre_document_travail_service_part1_v3.pdf.
- Europäische Zentralbank (EZB), *Beschluss der europäischen Zentralbank vom 5. Juni 2014 über die Verzinsung von Einlagen, Guthaben und Überschussreserven*. Frankfurt am Main: EZB, 2014. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014D0023%2801%29>.
- Europäische Zentralbank (EZB). „Monetary developments in the euro area: March 2021“. Pressemitteilung, EZB, 29. April 2021. Accessed 31. Mai, 2021. <https://www.ecb.europa.eu/press/pr/stats/md/html/ecb.md2103~cd66fb2c1c.en.html>.
- Evonik. „Produktions-Start in Rekordzeit: Evonik liefert erste Lipide aus deutscher Produktion an BioNTech“. Pressemitteilung, Evonik, 22. April 2021. Accessed 31. Mai, 2021. <https://corporate.evonik.de/de/produktions-start-in-rekordzeit-evonik-liefert-erste-lipide-aus-deutscher-produktion-an-biontech-157104.html>.
- Federal Reserve Bank of St. Louis. „Natural Rate of Unemployment (Short-Term)“. Accessed 31. Mai, 2021, <https://fred.stlouisfed.org/series/NROUST>.
- Field, Alexander J.. „Procyclical TFP and the Cyclical Growth in Output per Hour, 1890-2004“. Working Paper, Department of Economics at Santa Clara University, 2007. <https://www.mcgill.ca/economics/files/economics/fieldpaper.pdf>.
- Fioramanti, Marco. „Potential Output, Output Gap and Fiscal Stance: Is the EC estimation of the NAWRU too Sensitive to be Reliable?“. MPRA Working Paper No. 73762, University Library of Munich (Germany), 2016. https://mpra.ub.uni-muenchen.de/73762/1/MPRA_paper_73762.pdf.
- Fontanari, Claudia, Antonella Palumbo, Chiara Salvatori. „Potential Output in Theory and Practice: A Revision and Update of Okun’s Original Method“. *Structural Change and Economic Dynamics* 54 (2020): 247–266.
- Fraktionen der CDU/CSU und SPD im Bundestag. „Entwurf eines ... Gesetzes zur Änderung des Grundgesetzes (Artikel 91c, 91d, 104b, 109, 109a, 115, 143d). Drucksache 16/12410, Deutscher Bundestag 16. Wahlperiode, 24.03.2009. <https://dip21.bundestag.de/dip21/btd/16/124/1612410.pdf>.
- Friedman, Milton. „The Role of Monetary Policy“, *American Economic Review* 58, no. 1 (March 1968): 1–17.
- Furman, Jason und Lawrence H. Summers. „A Reconsideration of Fiscal Policy in the Era of Low Interest Rates“. Working Paper, Brookings Institution, 2020. <https://www.brookings.edu/wp-content/uploads/2020/11/furman-summers-fiscal-reconsideration-discussion-draft.pdf>.
- Furman, Jason und Lawrence H. Summers. „Automatic Stabilizers in a Low-Rate Environment“. Working Paper 20-2, Peterson Institute for International Economics, Februar 2020. <https://www.piie.com/system/files/documents/pb20-2.pdf>.

- Furman, Jason. „I don't love Schuldenquote: Obamas ehem. oberster Wirtschaftsberater im DZ-Interview“. *Dezernat Zukunft*. 12. Mai, 2021. <https://dezernatzukunft.org/i-dont-love-schuldenquote-obamas-ehem-oberster-wirtschaftsberater-im-dz-interview/>.
- Gechert, Sebastian, Tomas Havranek, Zuzana Irsova, Dominika Kolcunova. „Measuring capital-labor substitution: The importance of method choices and publication bias“, *Review of Economic Dynamics*, 2021. <https://www.sciencedirect.com/science/article/abs/pii/S1094202521000387>.
- Grundgesetz für die Bundesrepublik Deutschland*. Artikel 3. Accessed 01. Juni, 2021. https://www.gesetze-im-internet.de/gg/art_3.html.
- Grundgesetz für die Bundesrepublik Deutschland*. Artikel 109a. Accessed 31. Mai, 2021. https://www.gesetze-im-internet.de/gg/art_109a.html.
- Grundgesetz für die Bundesrepublik Deutschland*. Artikel 115. Accessed 31. Mai, 2021. https://www.gesetze-im-internet.de/gg/art_115.html.
- Gesetz zur Ausführung von Artikel 115 des Grundgesetzes*, Artikel 115-Gesetz - G 115,. Accessed 01. Juni, 2021. https://www.gesetze-im-internet.de/g_115/BJNR270400009.html.
- Hamilton, James D. „Why you should never use the Hodrick-Prescott Filter“. *Review of Economics and Statistics* 100, no. 5 (Dezember 2018): 831–843.
- Havik, Karel, Kieran Mc Morrow, Fabrice Orlandi, Christophe Planas, Rafal Raciborski, Werner Röger, Alessandro Rossi, Anna Thum-Thysen and Valerie Vandermeulen. „The Production Function Methodology for Calculating Potential Growth Rates & Output Gaps“. *Economic Papers* 535, Europäische Kommission, November 2014. https://ec.europa.eu/economy_finance/publications/economic_paper/2014/pdf/ecp535_en.pdf.
- Hazell, Jonathon, Juan Herreño, Emi Nakamura and Jón Steinsson. „The Slope of the Phillips Curve: Evidence from U.S. States“. *NBER Working Paper* 28005, Mai 2021, <https://www.nber.org/papers/w28005>.
- Heimberger, Philipp und Jakob Kapeller. „The performativity of potential output: pro-cyclicality and path dependency in coordinating European fiscal policies“. *Review of International Political Economy* 24, no. 5 (2017): 923-924. <https://doi.org/10.1080/09692290.2017.1363797>.
- Heimberger, Philipp, Jakob Kapeller und Bernhard Schütz, „The NAIRU determinants: What's structural about unemployment in Europe?“, *Journal of Policy Modeling* 39, no. 5 (May 2017): 883-908. <https://doi.org/10.1016/j.jpolmod.2017.04.003>.
- Heimberger, Philipp, Jakob Huber und Jakob Kapeller. „The power of economic models: The case of the EU's fiscal regulation framework“. *Socio-Economic Review* 18, no. 2 (April 2020): 337-366. <https://doi.org/10.1093/ser/mwz052>.
- Hoffmann-Riem, Wolfgang., Eberhard Schmidt-Aßmann, Andreas Voßkuhle, Christoph Enders, Wolfram Höfling, Peter M. Huber, Wolfgang Kahl, Stefan Koriath et al. *Grundlagen des Verwaltungsrechts: Band 3*. München: C.H. Beck, 2. Auflage, 2012.

- Hristov, Atanas, Christophe Planas, Werner Roeger und Alessandro Rossi. „NAWRU Estimation Using Structural Labour Market Indicators“. Discussion Paper 069, Europäische Kommission, Oktober 2017. https://ec.europa.eu/info/sites/default/files/dp069_en.pdf.
- Internationaler Währungsfonds (IWF). *Staff Report for the 2019 Article IV Consultation*. Washington D.C.: IWF, Juli 2019. <https://www.imf.org/en/Publications/CR/Issues/2019/07/09/Germany-2019-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-47093>.
- Jonas, Olga B. „Pandemic risk“. Background Paper, World Development Report 2014, Oktober 2013. https://openknowledge.worldbank.org/bitstream/handle/10986/16343/WDR14_bp_Pandemic_Risk_Jonas.pdf?sequence=1&isAllowed=y.
- Klein, Matthew C.. „The euro area’s fiscal position makes no sense“. *Financial Times Alphaville*, 14. März 2018. <https://www.ft.com/content/7b450539-c217-3ede-966d-0fc585681078>.
- Korioth, Stefan. „Die Schuldenbremse – reparaturbedürftig?“. ifo Schnelldienst 4/2021, 74. Jahrgang, ifo Institut für Wirtschaftsforschung, April 2021. <https://www.ifo.de/publikationen/2021/zeitschrift-einzelheft/ifo-schnelldienst-042021>.
- Mason, J.W. und Andrew Bossie. Public Spending as an Engine of Growth and Equality: Lessons from World War II. Roosevelt Institute. 2020. <https://rooseveltinstitute.org/publications/public-spending-as-an-engine-of-growth-and-equality-lessons-from-world-war-ii/>.
- Mourre, Gilles, Caterina Astarita und Savin Princen. „Adjusting the budget balance for the business cycle: the EU methodology“. Economic Papers 536, Europäische Kommission, November 2014. https://ec.europa.eu/economy_finance/publications/economic_paper/2014/pdf/ecp536_en.pdf.
- New Zealand Treasury. *Fiscal Strategy Report: Budget 2004*. Wellington: New Zealand Treasury, 2004. <https://www.treasury.govt.nz/sites/default/files/2007-09/fsr04.pdf>.
- New Zealand Treasury. *The Wellbeing Budget 2019*. Wellington: New Zealand Treasury, 2019. <https://www.treasury.govt.nz/publications/wellbeing-budget/wellbeing-budget-2019-html>.
- Sachs, Michael. *Sachs — Grundgesetz Kommentar* (München: C.H. Beck, 9. Auflage, 2021).
- Sachverständigenrat zur Beurteilung der gesamtwirtschaftlichen Entwicklung. *Alternativen Aussenwirtschaftlicher Anpassung: Jahresgutachten 1968/69* (Stuttgart und Mainz: Verlag W. Kohlhammer GmbH, 1968), https://www.sachverstaendigenrat-wirtschaft.de/fileadmin/dateiablage/download/gutachten/jg68_69.pdf.
- Sachverständigenrat zur Beurteilung der gesamtwirtschaftlichen Entwicklung. „Jahresgutachten 1980/81 des Sachverständigenrates zur Beurteilung der gesamtwirtschaftlichen Entwicklung“. Drucksache 9/17, Deutscher Bundestag, November 1980. <https://dserver.bundestag.de/btd/09/000/0900017.pdf>.
- Sachverständigenrat zur Beurteilung der gesamtwirtschaftlichen Entwicklung. „Jahresgutachten 1985/86 des Sachverständigenrates zur Beurteilung der gesamtwirtschaftlichen Entwicklung“ (Drucksache 10/4295, Deutscher Bundestag, November 1985). <https://dserver.bundestag.de/btd/10/042/1004295.pdf>.

Sandbu, Martin. *The Economics of Belonging*. Princeton: Princeton University Press, 2020.

Schnabel, Isabel. „High Debt, Low Rates and Tail Events: Rules-Based Fiscal Frameworks under Stress“. Vortrag, Third Annual Conference des European Fiscal Board, Frankfurt am Main, 26. Februar, 2021. <https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp210226~ff6ad267d4.en.html>.

Sigl-Glöckner, Philippa, Max Krahé, Pola Schneemelcher, Florian Schuster, Viola Hilbert und Henrika Meyer. „Eine neue deutsche Finanzpolitik“. FNE Working Paper No. 2-21, Forum New Economy, Juli 2021. <https://newforum.org/wp-content/uploads/2021/06/FNE-WP02-2021.pdf>.

Statistische Bundesamt (Destatis). „Arbeitszeitwünsche 2019: Knapp 2,1 Millionen Erwerbstätige wollten mehr, 1,5 Millionen wollten weniger arbeiten“. Pressemitteilung Nr. 468, Destatis, 25. November, 2020. https://www.destatis.de/DE/Presse/Pressemitteilungen/2020/11/PD20_468_133.html.

Statistisches Bundesamt (Destatis). „koordinierte Bevölkerungsvorausberechnung für Deutschland - Variante 1: Moderate Entwicklung bei niedrigem Wanderungssaldo (G2L2W1)“. Accessed 01. Juni, 2021. <https://service.destatis.de/bevoelkerungspyramide/#ly=2020>.

U.S. Federal Reserve. „What is the lowest level of unemployment that the U.S. economy can sustain?“. Accessed 31. Mai, 2021. https://www.federalreserve.gov/faqs/economy_14424.htm.

Verordnung über das Verfahren zur Bestimmung der Konjunkturkomponente nach § 5 des Artikel 115-Gesetzes (Artikel 115-Verordnung - Art115V), Accessed 7. Juni, 2021, <http://www.gesetze-im-internet.de/art115v/BJNR079000010.html>.

Wanger, Susanne. „Entwicklung von Erwerbstätigkeit, Arbeitszeit und Arbeitsvolumen nach Geschlecht: Ergebnisse der IAB-Arbeitszeitrechnung nach Alter und Geschlecht (AZR AG) für die Jahre 1991 – 2019“. IAB-Forschungsbericht 16/2020, Institut für Arbeitsmarkt- und Berufsforschung (IAB), 2020. <http://doku.iab.de/forschungsbericht/2020/fb1620.pdf>.

Werdning, Martin, Klaus Gründler, Benjamin Läpple, Robert Lehmann, Martin Mosler und Niklas Potrafke. „Tragfähigkeit der öffentlichen Finanzen: Spielt sie noch eine Rolle?“. ifo Schnelldienst 9/2020, 73. Jahrgang, ifo Institut für Wirtschaftsforschung, 16. September 2020. <https://www.ifo.de/DocDL/sd-2020-09-werdning-et-al-tragfaehigkeit.pdf>.

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