Rules versus discretion:

the macroeconomic dynamics and hysteresis of fiscal policy

Von der Fakultät für Gesellschaftswissenschaften der Universität Duisburg-Essen

zur Erlangung des akademischen Grades

Dr. rer. pol.

genehmigte Dissertation

von

Paetz, Christoph

aus

Berlin, Deutschland

1. Gutachter: Prof. Dr. Achim Truger

2. Gutachter: Prof. Dr. Till van Treeck

Tag der Disputation: 26. September 2022

UNIVERSITÄT
DUISBURG
ESSEN

Open-Minded

UNIVERSITY DUISBURG-ESSEN

DISSERTATION

Rules versus discretion: the macroeconomic dynamics and hysteresis of fiscal policy

---

Author:
Christoph PAETZ
Email:
christoph.paetz@posteo.de

Supervisors:
Prof. Dr. Achim TRUGER
Prof. Dr. Till van TREECK

A thesis submitted in fulfillment of the requirements for the degree of Dr. rer. Pol.

in the

Institute of Socio-Economics
Faculty of Social Sciences

October 19, 2022

UNIVERSITY DUISBURG-ESSEN

Abstract

Faculty of Social Sciences
Institute of Socio-Economics

Rules versus discretion:
the macroeconomic dynamics and hysteresis of fiscal policy

by Christoph PAETZ

This dissertation deals with highly relevant issues in fiscal policy. It addresses research questions at the intersection of macroeconomics and comparative political economy which look at the short- and long-term effects of both discretionary and rules-based fiscal policy.

We discuss the role of the state in macroeconomic policy and relate to the literature on political models of fiscal policy. Given the stark fiscal involvement in latest crises, comparatively high levels of public debt, an uncertain consolidation path in the near future, massive public investment needs for social-ecological transformation and digital transition, and controversial debates among academics and politicians on how these issues can be solved under the current set of national as well as supranational fiscal rules, this dissertation is very timely. The work is of particular relevance for the political and socio-economic literature on inequality, political polarization, and trust in the state.

Against the background of new empirical findings highlighting the importance of active discretionary fiscal policy and decisive historical experiences with rules-based frameworks, this dissertation tackles many aspects that are vital for the evaluation of fiscal rules. Is there a role for discretionary fiscal policy in stabilizing the economy? Has there been a robust underestimation of fiscal multipliers and their persistence in the past? Does austerity constitute short-run pain but long-term gain, or does it cause severe hysteresis effects on economic activity? Which fiscal instruments are most effective? What are the macroeconomic effects of social security contributions and benefits? Was fiscal policy over the last three decades procyclical in the euro area? Has the cyclical behavior of fiscal policy been affected by the implementation and augmentation of fiscal rules? What are the political economy consequences of consolidations? Why do some countries experience long-lasting periods of budgetary surplus, while in the political economy literature the theory of deficit-bias is dominant?

After the general introduction, Chapter 2 looks at the long-term effects of discretionary fiscal policy measures on potential output growth. Using a novel data set of narratively identified fiscal policy shocks by the European Commission, the impact of these shocks on GDP and potential output forecast errors is estimated. The results robustly show a considerable underestimation of multiplier effects and their persistence for most European countries in the early years after the financial crisis and the subsequent euro area crisis. It is concluded that fiscal consolidation was badly timed and thus it did not only deepen the crisis, but may have caused evitable hysteresis effects.

For the estimation of fiscal policy effects, it is key to identify policy shocks that can be deemed truly exogenous. Chapter 3 uses official historical records of the German Bundestag and Bundesrat, the Federal Ministry of Labor and Social Affairs and

the German statutory pension insurance scheme to construct a narrative dataset of legislated social security changes for Germany between 1970 and 2018. The motivation is to determine important discretionary shocks to the social security system. These shocks are later used in Chapter 4 to estimate the macroeconomic effects of changes to the social security system. The historical account covers major changes in transfers and social security benefits and contributions for pensions, health care, long-term care, unemployment insurance and basic social insurance on the German federal level. Based on the information provided a rich time-series of social security shocks for empirical macroeconomic analysis is coded, addressing issues of identification. To that end, information regarding the underlying motivation, the dates of the legislative process and the prospective financial impact is collected.

In Chapter 4 the macroeconomic effects of social security contributions and benefits in Germany are analyzed. Compared to government consumption and investment as well as taxes, these components of fiscal policy are insufficiently researched. The time series of social security shocks identified in Chapter 3 is fed into a proxy SVAR model and their macroeconomic effects are estimated. The GDP response to a cut in contributions yields a fiscal multiplier of about 0.4 on impact that fades relatively quickly. For benefit increases the impact multiplier is 1.1 and more persistent. The response of other macro variables suggests that benefits work through a demand-side channel, while contributions have stronger supply-side effects. Combining the shocks with household data confirms a strong consumption response of beneficiaries.

Chapter 5 deals with the stabilization function of fiscal policy and the role of fiscal rules. We therefore estimate various fiscal reaction functions to analyze the cyclical behavior of discretionary measures in the euro area and the potential impact of changes in the fiscal framework. Our results show that overall discretionary fiscal policy in the euro area is marginally procyclical, characterized by strong fiscal tightening in contractions, while reactions in upturns are neutral. Procyclicality is mainly driven by discretionary reactions of public expenditures, not revenues. Generally, the effect of rules-based fiscal constraints on the cyclical orientation is rather limited. Fiscal rules somewhat increase countercyclical policy responses in upturns, but also significantly increase procyclical policies in downturns. Interestingly, expenditure rules perform comparably better with regard to the stabilization objective than budget or debt rules.

While the other chapters provide a critical appraisal of the limitation of fiscal policy and public deficits from an economic perspective, Chapter 6 turns to the critique of the deficit bias theory from the comparative political economy literature. It is argued that the deficit bias theory fails to explain long-lasting periods of budgetary surplus and that the latter are better understood through the lenses of fiscal regimes. The core of the political economy explanation is that a consolidation of public finances might induce changing political preferences. A critical reappraisal of the empirical evidence provided by the proponents of the political economy explanation weakens some of their claims. We find important heterogeneity among the group of surplus regime countries, whereas, in some cases, short or no surplus period countries experienced very similar developments. Different indicators suggest that most of the surplus regime countries already implemented significant expenditure cuts in the 1980s. Consolidation success in the 1990s and budgetary surplus in the 2000s no longer reflect substantial fiscal policy changes. With its concentration on national institutional factors, fiscal regimes are generally rooted in the varieties of capitalism (VoC) approach. But, the surplus regime countries are very different regarding their national institutions. At the intersection of public choice, political

economy, and macroeconomics, we pick up the discussion and combine a growth model perspective to the concept of surplus regime. In contrast to the VoC literature, but also considering national institutional factors, a macroeconomic growth model perspective considers the relative importance of different sectors of the economy (private, government, and external sector) for aggregate demand. A sectoral balances perspective reveals that a positive public balance tends to be aligned with the over-indebtedness of the foreign or private sector. Given their respective debt-led or export-led growth models, liberal and coordinated market economies were able to run persistent budgetary surpluses. However, both growth strategies are not sustainable, given that they cause macroeconomic instability. This questions the institutional lock-in hypothesis implied by the fiscal regime concept.

UNIVERSITÄT DUISBURG-ESSEN

Zusammenfassung

Gesellschaftswissenschaftliche Fakultät
Institut für Sozioökonomie

Regeln versus Diskretion:
Makroökonomische Dynamiken und Hysterese von Fiskalpolitik

von Christoph PAETZ

Diese Dissertation befasst sich mit hochrelevanten Themen der Finanzpolitik. Die zentralen Forschungsfragen sind an der Schnittstelle von Makroökonomie und vergleichender politischer Ökonomie angesiedelt und umfassen kurz- wie langfristige Auswirkungen von sowohl diskretionärer als auch regelbasierter Fiskalpolitik.

Die Rolle des Staates in der makroökonomischen Stabilisierungspolitik wird diskutiert und dabei auch auf die Literatur zu politischen Modellen der Fiskalpolitik Bezug genommen. Angesichts der starken fiskalpolitischen Einbindung in den jüngeren Krisen, der vergleichsweise hohen Staatsverschuldung, eines unsicheren Konsolidierungspfads in naher Zukunft, der hohen öffentlichen Investitionsbedarfe für die sozial-ökologische und die digitale Transformation sowie der kontroversen Debatten unter Wissenschaftlern und Politikern darüber, wie all diese Aufgaben unter den derzeitigen nationalen, wie supranationalen Fiskalregeln gelöst werden können, hat diese Dissertation eine hohe Aktualität. Die Arbeit ist von besonderer Relevanz für die polit- und sozioökonomische Literatur über Ungleichheit, politische Polarisierung und Vertrauen in den Staat.

Vor dem Hintergrund neuer empirischer Erkenntnisse, welche die Bedeutung aktiver diskretionärer Fiskalpolitik unterstreichen und entscheidender historischer Erfahrungen mit strikten fiskalischen Restriktionen, werden in dieser Dissertation die wesentlichen Aspekte behandelt, die für die Evaluierung von Fiskalregeln von Bedeutung sind. Welche Rolle hat diskretionäre Fiskalpolitik bei der Stabilisierung der Wirtschaft? Wurden die Fiskalmultiplikatoren und ihre Persistenz in der Vergangenheit stark unterschätzt? Verursachen strikte fiskalische Sparmaßnahmen kurzfristige gesamtwirtschaftliche Kosten, während sie aber langfristig Vorteile generieren oder bewirken sie schwerwiegende Hysterese-Effekte für die ökonomische Wohlfahrt? Welche fiskalpolitischen Instrumente sind besonders wirksam? Was sind die makroökonomischen Auswirkungen von Änderungen der Sozialversicherungsbeiträge und -leistungen? War die Finanzpolitik in den letzten drei Jahrzehnten im Euroraum prozyklisch? Wurde das zyklische Verhalten der Fiskalpolitik durch die Implementierung und Reform von fiskalischen Regeln beeinflusst? Was sind die politökonomischen Folgen von Konsolidierungen? Wie erklärt sich, dass einige Länder lang anhaltende Perioden mit öffentlichen Haushaltsüberschüssen haben, während in der politökonomischen Literatur die Theorie des Defizit-Bias dominiert?

Nach einer allgemeinen Einleitung im Kapitel 1, befasst sich Kapitel 2 mit den langfristigen Auswirkungen diskretionärer fiskalpolitischer Maßnahmen auf das Produktionspotenzial. Unter Verwendung eines neuartigen Datensatzes mit narrativ identifizierten fiskalpolitischen Schocks durch die Europäische Kommission, werden die Auswirkungen dieser Maßnahmen auf Prognosefehler des Bruttoinlandsprodukts (BIP) und des Potenzialwachstums geschätzt. Es ist festzustellen, dass

die kurzfristigen Multiplikatoreffekte sowie ihre Persistenz für die meisten europäischen Länder in den ersten Jahren nach der Finanzkrise von 2008/09 und der anschließenden Krise des Euroraums erheblich unterschätzt wurden. Die Analyse führt zu dem Schluss, dass die Haushaltskonsolidierung zu einem schlechten Zeitpunkt erfolgte und somit die Krise nicht nur vertiefte, sondern auch vermeidbare Hysterese-Effekte verursacht hat.

Für die konsistente Schätzung von Effekten fiskalpolitischer Maßnahmen ist es entscheidend, die Politikänderungen zu identifizieren, die als strikt exogen angesehen werden können. In Kapitel 3 werden offizielle historische Dokumente des Deutschen Bundestages und Bundesrates, des Bundesministeriums für Arbeit und Soziales und der Deutschen gesetzlichen Rentenversicherung verwendet, um einen narrativen Datensatz der legislativen Änderungen in der Sozialversicherung für Deutschland zwischen 1970 und 2018 zu erstellen. Die Motivation besteht darin, wichtige diskretionäre Schocks für das Sozialversicherungssystem zu ermitteln. Diese Schocks werden später in Kapitel 4 verwendet, um die makroökonomischen Auswirkungen von Veränderungen im Sozialversicherungssystem abzuschätzen. Der historische Datensatz umfasst wichtige Veränderungen bei den Transfers sowie Sozialversicherungsleistungen und -beiträgen für Renten, Gesundheitsversorgung, Langzeitpflege, Arbeitslosenversicherung und soziale Grundsicherung auf Bundesebene. Auf der Grundlage der zur Verfügung gestellten Informationen lässt sich eine detaillierte Zeitreihe von Schocks im Sozialversicherungssystem für die empirische makroökonomische Analyse bestimmen und Fragen der Identifikation adressieren. Zu diesem Zweck werden Informationen über die zugrunde liegende Motivation der Gesetzesänderungen, den Zeitpunkt des Gesetzgebungsverfahrens und die voraussichtlichen finanziellen Auswirkungen gesammelt.

In Kapitel 4 werden die makroökonomischen Effekte von Änderungen im sozialen Sicherungssystem in Deutschland untersucht. Die Analyse vergleicht die Multiplikatoreffekte zusätzlicher Sozialausgaben mit einer Senkung der Sozialversicherungsbeiträge. Im Vergleich zu Staatskonsum und -investitionen sowie Steuern sind diese Komponenten der Fiskalpolitik unzureichend erforscht. Dafür werden die in Kapitel 3 identifizierten Zeitreihen von Schocks im sozialen Sicherungssystem in einem Proxy-SVAR-Modell verwendet und deren makroökonomische Effekte geschätzt. Die kontemporäre Reaktion des BIP auf eine Beitragssenkung ergibt einen fiskalischen Multiplikator von etwa 0,4. Der Effekt geht aber relativ schnell zurück. Bei Leistungserhöhungen liegt der Wirkungsmultiplikator bei 1,1 und ist beständiger. Die Reaktionen anderer makroökonomischer Variablen deuten darauf hin, dass Leistungen über einen nachfrageseitigen Kanal wirken, während Beiträge stärkere angebotsseitige Effekte haben. Die Kombination der narrativen Schocks mit Haushaltsdaten bestätigt eine starke Konsumreaktion bei Leistungsempfängern.

In Kapitel 5 geht es um die Stabilisierungsfunktion der Fiskalpolitik und den Einfluss von Fiskalregeln. Um das konjunkturelle Verhalten diskretionärer Maßnahmen im Euroraum und die potenziellen Auswirkungen von Änderungen des fiskalischen Rahmenwerks diesbezüglich zu analysieren, schätzen wir verschiedene fiskalische Reaktionsfunktionen. Im Kern geht es darum zu erforschen, ob fiskalische Regeln über die verschiedenen Phasen des Konjunkturzyklus einen asymmetrischen Einfluss auf diskretionäre Maßnahmen haben. Zunächst bestätigen meine Schätzungen die allgemeine Wahrnehmung, dass die diskretionäre Fiskalpolitik in der Währungsunion insgesamt leicht prozyklisch ist. Dieses Ergebnis ist durch eine starke fiskalische Straffung in kontraktiven Zeiten gekennzeichnet, während die Reaktion im Aufschwung im Durchschnitt neutral ist. Fiskalregeln erhöhen die antizyklischen Reaktionen des Staates in Aufschwungsphasen geringfügig. Gleichzeitig verstärkt

sich jedoch die destabilisierende, prozyklische Politik im Abschwung spürbar. Interessanterweise schneiden die Ausgabenregeln im Hinblick auf das Stabilisierungsziel vergleichsweise besser ab als Defizit- oder Schuldenregeln.

Während die anderen Kapitel eine kritische Würdigung der Beschränkung von Fiskalpolitik und öffentlichen Defiziten aus ökonomischer Sicht bieten, wendet sich Kapitel 6 der Kritik an der Defizit-Bias-Theorie in der vergleichenden politökonomischen Literatur zu. In dieser Literatur wird argumentiert, dass die Deficit-Bias-Theorie lang anhaltende Perioden von Haushaltsüberschüssen nicht ausreichend erklären kann und dass diese besser durch das Konzept der Fiskalregime verstanden werden können. Der Kern der politökonomischen Erklärung besteht darin, dass eine Konsolidierung der öffentlichen Finanzen zu veränderten politischen Präferenzen führen kann. Eine kritische Neubewertung der empirischen Belege, die von den Befürwortern der politökonomischen Erklärung vorgelegt werden, schwächt jedoch einige ihrer Behauptungen. Einerseits ist eine ernstzunehmende Heterogenität in der Gruppe der Länder mit Überschussregimen festzustellen. Andererseits sind in einigen Ländern mit kurzen oder gar keinen Überschussperioden sehr ähnliche Entwicklungen zu beobachten gewesen. Verschiedene fiskalische Indikatoren deuten darauf hin, dass die meisten Länder mit Überschussregimen bereits in den 1980er Jahren erhebliche Ausgabenkürzungen vorgenommen haben. Die Konsolidierungserfolge in den 1990er Jahren und die Haushaltsüberschüsse in den 2000er Jahren spiegeln keine wesentlichen fiskalpolitischen Veränderungen mehr wider. Mit der Konzentration auf nationale institutionelle Faktoren ist das Konzept der Fiskalregime im Allgemeinen im Varieties of Capitalism (VoC)-Ansatz verwurzelt. Die Länder mit Haushaltsüberschussregimen unterscheiden sich jedoch sehr stark in Bezug auf ihre nationalen Institutionen. An der Schnittstelle von Public Choice, politischer Ökonomie und Makroökonomie wird die Diskussion aufgegriffen und das Konzept des Überschussregimes mit einer Wachstumsmodell-Perspektive kombiniert. Im Gegensatz zur VoC-Literatur, aber auch unter Berücksichtigung nationaler institutioneller Faktoren, berücksichtigt die makroökonomische Wachstumsmodell-Analyse die relative Bedeutung der verschiedenen Wirtschaftssektoren (privater, staatlicher und externer Sektor) für die Gesamtnachfrage. Aus der Perspektive der sektoralen Gleichgewichte zeigt sich, dass ein positiver öffentlicher Saldo tendenziell mit einer Überschuldung des ausländischen oder privaten Sektors einhergeht. Aufgrund ihrer jeweiligen schulden- bzw. exportorientierten Wachstumsmodelle waren liberale (LMEs) und koordinierte (CMEs) Marktwirtschaften in der Lage, anhaltende Haushaltsüberschüsse zu erzielen. Beide Wachstumsstrategien sind jedoch nicht nachhaltig, da sie zu makroökonomischer Instabilität führen. Dies stellt die Hypothese der institutionellen Beständigkeit in Frage, die dem Konzept des Überschussregimes zu Grunde liegt.

Acknowledgements

I am very grateful to my supervisors Achim Truger and Till van Treeck. They contributed with valuable inputs, provided immense support, and answered all my questions.

I wish to give a very special thanks to Achim. I am very indebted to Achim, who has guided me with great ideas and a lot of humor through every step of this process and who has supported me early on in my academic career at the Berlin School of Economics and Law (HWR). It is fair to say that without your mentoring I could never have done this dissertation.

Gratitude goes also to Eckhard Hein. Eckhard sharpened my interest in economics from the very beginning. It is because of Achim and Eckhard that I started this dissertation project. They believed that I could finish successfully and paved the way, a way that was unfamiliar to both me and my family.

Further, I want to thank all my co-authors for the productive collaboration. Special thanks goes to my colleague and friend Sebastian Gechert, who has been an immense inspiration and help since I set foot in the Macroeconomic Policy Institute (IMK) for the very first time.

I gratefully acknowledge the cooperativeness, kindness and critical appreciation of all my colleagues, former and present, at the IMK, the HWR, and the Institute for Socio-Economics (ifso) at the University of Duisburg-Essen. Having such a great team and working environment around me made this thesis possible.

I want to thank the Hans-Böckler-Stiftung for financial assistance. I also extend gratitude to the New School of Social Research, New York, in particular to Christian Schoder, who hosted me as a visiting scholar for a few wonderful months. Further, I thank Annalisa Martin for grammatical and linguistic corrections.

Last but not least, this dissertation would have not been possible without the invaluable support of my family and friends. Thank you for believing in me and standing by my side, especially during the times it seemed far from reach.

Berlin, October 19, 2022

Contents

List of Figures

List of Tables

Chapter 1

Introduction

Against the background of a sharp rise in public debt-to-GDP ratios during the 1970s and 1980s, there has been an increasing trend since the early 1990s towards implementing fiscal rules in industrialized countries. The general objective of such rules is to limit the discretionary leeway of governments and promote fiscal discipline. Early proponents of fiscal rules were quite explicit in stating that the central aim was to limit the activity of democratically elected governments and to reduce the size of the state (Buchanan and Wagner, 1977; Brennan and Buchanan, 1988). The theoretical background derived partly from the majority of modern macroeconomic models at the time in which fiscal policy had suffered a significant loss of importance and had been downgraded to the provision of the basic institutional framework of the market economy.

One important intention of fiscal rules is to restrict governments that, for various economic and political reasons, could otherwise implement inadequate fiscal policies with adverse effects on general welfare. For instance, economic actors' informational problems may induce governments to implement tax cuts or spending increases without communicating potential future consequences (Portes and Wren-Lewis, 2015). Policymakers may face political pressures leading to "deficit bias", such as the common-pool problem, electoral competition, or transferring contemporaneous consumption costs to future generations.

According to the theory of deficit bias, in modern democracies, interest and lobby groups try to interfere in the legislative process in favor of the people they represent. They negotiate spending programs, tax exemptions or allowances, and other benefits for their constituencies with fragmented budgetary authorities. As a result, it is argued that decision-makers tend to employ excessive overall spending. The explanation is that public spending and tax exemptions generally target specific groups in a country. Simultaneously, its financing is usually obtained from a fund that the whole society contributes to through taxes (Hallerberg et al., 2007). Hence, the political economy literature identifies a common pool problem. On the one hand, the interest groups "do not internalize the overall budgetary impact of their competing demands" (Schaechter et al., 2012, p. 5). On the other hand, the "decision makers fail to internalize the overall costs of higher spending and debt" (Calmfors and Wren-Lewis, 2011, p. 8). The result is what Hallerberg et al. (2007, p. 10) call "a coordination failure among relevant decision makers". Moreover, representatives try to increase individual spending to different interest groups to acquire votes, which might cause high and continuous deficits.

Channeling resources to interest groups for votes connects to another reason for deficit bias discussed in the literature, namely general electoral competition. The hypothesis is that if policymakers can foresee electoral loss, it might be rational for them to increase public debt in their legislative period. The additional burden is transferred to another party if the current government is not reelected. In turn, it

will be more complicated for the next government to spend and tax in the interests of their voters as the fiscal space is eventually reduced (Calmfors and Wren-Lewis, 2011; Portes and Wren-Lewis, 2015). In a seminal paper, Persson and Svensson (1989) presented a situation in which two governments have time-inconsistent preferences. The authors argue that a conservative government has an incentive to borrow more, e.g., for permanent tax reductions, when they assume that they will be succeeded, as compared to a scenario where they remain in power. Their findings implicate a tendency for higher public debt levels and a smaller size of the state, given that public expenditure cuts need to follow debt-financed tax reductions.

The list of reasons for deficit bias provided in the literature can be prolonged, for instance, by impatience at the level of individuals and policymakers or by time-inconsistency and informational problems.[1]

The primary aim of fiscal rules is to limit these political pressures and automatize policy responses by setting budgetary constraints, and thereby avoiding unsustainable public debt levels and providing long-term fiscal sustainability (e.g. Anderson and Minarik, 2006; Schaechter et al., 2012). Increasing public debt-to-GDP ratios and international pressure to reduce them to "sustainable levels", not just in Europe but internationally, thus caused strong momentum for implementing fiscal rules. Many experts in academia and international organizations like the International Monetary Fund (IMF) suggested the implementation of budgetary rules.

However, fiscal rules must reconcile the conflicting goals of combating the deficit bias while providing cyclical stabilization to be sustainable. In addition to the general provision of public goods in an economy, the role of fiscal policy expands from a traditional Keynesian perspective to the discretionary stabilization of aggregate demand (Musgrave, 1959). Simple national accounting identities imply that the public budget balance reflects the savings and investment decisions of the private sector and the current account position of a country. According to Lerner's functional finance theory (Lerner, 1943), the task of fiscal policy is to absorb private sector savings while maintaining a balanced current account over the long term and reacting in case of deviations from the desired level of production and employment.

There are three major developments, which highlight the importance of active discretionary fiscal policy and pose potential risks to fiscal rules.

First, there are new theoretical and empirical results on the effectiveness of fiscal policy measures. The importance of fiscal policy in calibrated macroeconomic models increased with the implementation of non-Ricardian agents and households (for instance Galí et al., 2007; Kumhof and Laxton, 2007). Since the financial crisis of 2008/09, the development has been reinforced by the fact that monetary policy has reached its effective lower bound, and the scope for expansionary monetary policy interventions is exhausted (Wren-Lewis, 2014). Current estimations on the macroeconomic effects of fiscal policy on output show that discretionary fiscal policy can actively influence the business cycle (Gechert, 2015) and that its effectiveness has been significantly underestimated in the past (Blanchard and Leigh, 2013; House et al., 2019). Multiplier effects seem exceptionally high for changes in public investments (Baxter, 1993; Bom and Ligthart, 2014; Gechert and Rannenberg, 2018; Ramey, 2020), when the economy is in a recession (Batini et al., 2012; Baum et al., 2012; Fazzari et al., 2012; International Monetary Fund, 2020), and when monetary policy is accommodative (Auerbach and Gorodnichenko, 2012). Interestingly, when effects on output are large enough, spending cuts may even lead to an increase in the

[1] See Portes and Wren-Lewis (2015) or Wyplosz (2011) for an extensive discussion. Similar arguments are in the public choice literature (Imbeau, 2005) – keywords are, e.g., electoral and partisan cycle model or war of attrition models.

debt-to-GDP ratio over the medium to long-run (Cottarelli and Jaramillo, 2012). In his famous Presidential Address at the 2019 annual American Economic Association (AEA) conference, Olivier Blanchard emphasized the low fiscal cost of public debt in the current low interest rate environment. Given that the sign of the relationship between the safe interest rate minus the growth rate of the economy became negative, and in his view can be assumed to remain like this for the foreseeable future, Blanchard argues in favor of a more activist use of fiscal policy towards public investment or the stabilization of business cycle fluctuations (Blanchard, 2019). Jason Furman, former chairman of the US Council of Economic Advisors, even proclaims a "new view of fiscal policy", which resembles the old Keynesian view mentioned above (Furman, 2016, p. 1). Notably, the Keynesian theory does not intend to run permanent budget deficits. Instead, the state enables a balanced level of production and employment. Depending on the economic conditions, this level can be accompanied by a deficit, a balanced budget, or a surplus (Skidelsky, 2020). These insights should be reflected in the design of fiscal rules.

Second, there has been substantial experience with fiscal rules since the beginning of their implementation until today; it is possible to draw from a significant number of examples (Wyplosz, 2011) and the period includes major economic recessions. The fact that fiscal rules represent a useful tool to avoid high budget deficits in the upswing speaks for them. However, the fundamental problems and risks of rules-based fiscal policy in times of recession should not be ignored. Guerguil et al. (2017) show that measures for greater flexibility – investment-friendly orientation, cyclically-adjusted target indicators, exception clauses – are essential for designing fiscal rules and are appropriate to the objectives. Nevertheless, the integration of flexibility also risks making the design increasingly complex and opaque. For instance, the increased complexity in the design constitutes a central issue in the debate on the reform of European fiscal rules (Claeys et al., 2016; European Fiscal Board, 2018).

During the global financial crisis of 2008/09, most countries put their fiscal targets on hold and complemented their automatic stabilizers by implementing discretionary stimulus packages to counter-cyclically boost output and employment. We have also observed the suspension of budgetary targets during the Covid-19 pandemic crisis. Nonetheless, the fiscal response in the aftermath of the financial crisis had a sizeable rules-based component, too (Schaechter et al., 2012). On the one hand, budgetary targets were made binding again, and countries were required to implement severe austerity policies to fulfill them, especially in Europe. On the other hand, the second generation of fiscal rules emerged and started to combine flexibility features with strict enforcement mechanisms (Bova et al., 2014; Budina et al., 2012; Schick, 2010). Therefore, this second generation of fiscal rules aims to resolve the trade-off between the two conflicting goals of fiscal policy; first, sustainable public finances, and second, economic stabilization in the event of shocks. Simplistic rules proved to be unable to reconcile these goals. Ideally, budgetary rules mimic optimal fiscal policy while at the same time fighting political economy reasons for deficits (Portes and Wren-Lewis, 2015). The question remains whether fiscal rules, in general, are an appropriate instrument to tackle both issues simultaneously and what design features are most effective.

In 2009, as a prominent example for a fiscal rule, the German debt brake was implemented into the constitution with across-the-board political consensus. It was introduced in a period of economic weakness and after public debt ratios had been increasing since the 1970s. As a seemingly inevitable reform, the 0.35% structural deficit limit for the federal and the balanced budget requirement for the *Länder* level

enjoyed broad support from influential German economists (Sachverständigenrat, 2007; Kastrop et al., 2010). The success of German fiscal policy from 2009 until 2020 in terms of deficit reduction is noteworthy. Together with the Swiss debt brake, the German framework was a blueprint for the tightening of the EU fiscal rules and the fiscal compact (Paetz et al., 2016). Nonetheless, significant doubts have been raised that the debt brake caused the budgetary improvements (Rietzler and Truger, 2019; Truger, 2019). Instead, favorable macroeconomic conditions such as falling interest rates and increasing levels of employment are argued to be the key determinants of successful consolidation. A decade after its implementation, critical voices are rising. For instance, Hüther and Südekum (2020) argue that the debt brake is a public investment barrier, and they question the existence of a deficit bias for Germany, which they see as the ideational foundation.

Third, the comparative political economy literature has recently challenged the deficit bias theory underlying fiscal rules. Over the past decade, plenty of advanced economies experienced long periods of public budgetary surplus. Given that these examples do not align with the theory of deficit bias, the political economy literature recently turned to the phenomena of fiscal surplus regimes (Haffert, 2019). Taking into account historical circumstances and path-dependencies, the central political economy explanation is that fiscal consolidations can have asymmetric partisan effects. It is argued that expenditure-based consolidations can weaken spending coalitions in society and therefore have a higher probability of generating long-lasting fiscal surpluses than tax-based consolidations. The concept of fiscal regimes, with its focus on institutions and national history, is related to the varieties of capitalism approach (Hall and Soskice, 2001).

Furthermore, it derives from another related strand in the political economy literature which takes into account national institutions that the evaluation of budget balances should be embedded into a broader analysis of the overall growth regime (Baccaro and Pontusson, 2016; Treeck, 2009; Behringer and van Treeck, 2019). Following this literature, the developments of sectoral financial balances and different aggregate demand components significantly influence the success or failure of public budget consolidations.

This dissertation tackles each of the three developments. The following three points are vital for the evaluation of rules.

First, the empirical analysis of the effectiveness of fiscal policy is of fundamental importance. Using state-of-the-art econometric models and identification strategies, we estimate the short- and long-term effects of discretionary fiscal policy shocks on macroeconomic indicators (Chapters 2-4). Particular focus is on the differentiation of the effects between expenditure- and revenue-side measures as well as between recessionary and normal times.

Second, the findings on the effectiveness of fiscal policy should be reflected in the design of fiscal constraints. Provided discretionary measures effectively stabilize business cycle fluctuations, rules have to ensure that fiscal policy reacts in general countercyclically. Thus, we evaluate the effect of different types of fiscal rules on the cyclical behavior of fiscal policy (Chapter 5).

Third, fiscal rules are often justified by political economy explanations. While the former two points display a critical *economic* appraisal, the last part of the dissertation turns to the deficit bias theory as the theoretical background of fiscal rules from a comparative *political economy* point of view (Chapter 6). At the intersection of public choice, political economy, and macroeconomics, we critically assess the current debates on growth and fiscal surplus regimes by combining a detailed macroeconomic data analysis with two important approaches in comparative political economy.

The mentioned issues are of high economic relevance and very timely. Public debt and deficit levels will be significantly higher in the aftermath of the Covid-19 crisis. Around the globe, governments have pulled their escape clauses to pause fiscal rules and implement direct stimulus packages of unprecedented volume to protect businesses, the labor market, and household incomes during the Corona pandemic (International Monetary Fund, 2020). This poses the imminent questions if, when, and how governments should return to their rules-based frameworks. Therefore, this dissertation is of importance for the debates on the reform of supranational rules on the European level (European Fiscal Board, 2018; Blanchard et al., 2020; Truger, 2020, e.g.) and reforms of national rules such as the German debt brake (Braun, 2021; Hüther and Südekum, 2020; Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, 2020, e.g.).

According to many academics and policymakers, another task in the near future will be to channel funds to public investment. In its 2020 Fiscal Monitor, the IMF has highlighted a global neglect of public investment and identifies significant public investment needs to achieve the Sustainable Development Goals by 2030 (International Monetary Fund, 2020). In a similar vein, a politically very influential study for the German economic policy debate by Bardt et al. (2020) calculates a public investment need for the German economy of around 450 bn euro over ten years. It remains questionable whether this target can be aligned with the requirements of the constitutional debt brake. Because of the vast public investment needs, the debate in Germany has recently turned towards whether public investment financed by borrowing of legally independent federal institutions is constitutional under the debt brake rules (Hermes et al., 2020).

Finding the right policy mix between discretionary and rules-based measures is essential to fight uncertainty, spawn sustainable economic growth, and maintain social cohesion. As such, the questions discussed in this dissertation have an economic dimension and a social one. Economic crisis, lack of prospects for citizens, and mass unemployment can cause severe distress to democracies. Therefore, this work has further political and socio-economic relevance and might be of broader importance for the literature on the determinants of political polarization and trust in the state. There is an academic debate whether cultural aspects drive the rise in populism (Norris and Inglehart, 2019), or whether economic factors are dominant (Rodrik, 2018; Autor et al., 2020).

New evidence shows that austerity measures might have a statistically significant impact on political polarization. Fetzer (2019) shows that the post-2009 austerity measures in the UK are an essential determinant of broader individual political dissatisfaction and the rise in support for the right-wing populist UK Independence Party. Finally, Fetzer concludes that fiscal austerity was the last straw, among other longer-term factors, which led to the "leave" majority in the 2016 UK referendum on European Union membership. Galofré-Vilà et al. (2020) found a statistically significant link between areas that were particularly affected by fiscal austerity in the period 1930 to 1933 and support for the Nazi party NSDAP. Horn (2020) argues that fiscal rules play a significant role in the rise of populism today. Furthermore, Prante et al. (2020) show a direct link between tight fiscal policies under the current set of rules and the decline in the quality of the health care system in Italy. Austerity is, however, only one part of the economic factors causing the demand for populist parties discussed in the literature. Economic insecurity more broadly, economic shocks, macroeconomic performance, and inequality are found to be important determinants driving populist votes too (Guiso et al., 2017; Proaño et al., 2019).

In the 2017 federal election in Germany, one of the sharpest increases of support for the right-populist party "Alternative für Deutschland" (AfD) was among precarious low-income households (Vehrkamp and Wegschaider, 2017). Precarious working conditions, inequality, and less social security are important factors for the declining trust in state institutions (Stiglitz, 2013; Hillje, 2018). The opinions of the poor are less represented in the political system and its decisions (Elsässer et al., 2017). Marx and Nguyen (2016) show that the negative effect of unemployment on political involvement is more robust in countries with fewer social security benefits. This dissertation links to these questions by analyzing the history of discretionary changes in the social security system of Germany and evaluates the macroeconomic effects of these changes. However, reducing inequality does not only have socio-economic motives but is also important from a macroeconomic perspective. More unequal societies tend to generate financial imbalances in different sectors of an economy (household, corporate, public), thereby contributing to unstable debt-led or export-led growth regimes (Baccaro and Pontusson, 2016; Behringer and van Treeck, 2019; van Treeck, 2014).

In the following subsections, we shortly summarize each chapter of the dissertation, point out the contribution to the literature and what the central findings are. Chapter 2 is on the long-term effects of discretionary fiscal policy. In Chapter 3 we narratively identify exogenous fiscal policy shocks for the social security system in Germany for the causal estimation of their effects in Chapter 4. The impact of different designs of fiscal rules on the cyclical behavior of fiscal policy is subject to Chapter 5. In Chapter 6 we turn to the political economy critique of the deficit bias theory, which displays the theoretical background of fiscal rules. Lastly, in Chapter 7 we draw general conclusions.

Long-term Effects of Fiscal Stimulus and Austerity in Europe

Timing largely influences the effectiveness of discretionary fiscal policy intervention. In Chapter 2, we analyze post-2009 fiscal policy effects. The shift towards consolidation had an unexpected negative and persistent impact on GDP and potential output in the EU and the euro area. Output in many European countries has long remained below pre-crisis potential. The recession took considerably longer and was much deeper than past downturns, and the recovery was comparably weak. Therefore, fiscal consolidation could be a major explanatory factor for the second recessionary dip that followed in due course and the persistent gap to pre-crisis GDP trend and unemployment levels.

Since the crisis, there has been a surge of studies on short-run fiscal multiplier effects. The longer-term effects – although they are much more critical in terms of welfare and sustainability of public finances – have attracted far less attention in the empirical literature and remain more controversial, except perhaps for the particular case of public investment (Bom and Ligthart, 2014; Ramey, 2020). For the few exceptions, the dominant reading seems to be that while austerity brings short-run pain, it provides a long-term gain in terms of reduced tax distortions and debt risk (Rogoff, 2012; Born et al., 2020). DeLong et al. (2012), on the other hand, make the case for hysteresis effects where austerity in a deep slump would be self-defeating even in the long-run.

Therefore, Chapter 2 looks at the long-term effects of discretionary fiscal policy measures on potential output growth in the aftermath of the financial crisis. Using a novel data set of narratively identified fiscal policy shocks by the European

Commission, we estimate the impact of these shocks on potential output. Building on the work by Blanchard and Leigh (2013) and Fatás and Summers (2018), we exploit GDP (gross domestic product) growth and potential output forecast errors for European countries to create a counterfactual of expected policy impact. First, the forecast errors of GDP growth are regressed on planned consolidation for the same sample to test whether the consolidation effect was underestimated. In a second stage, we regress longer-term potential output forecast errors on the GDP forecast errors that were arguably caused by the underestimation of multiplier effects. The coefficient of this second stage can be interpreted as a measure of the persistence of these multiplier effects.

The central contribution of the chapter is twofold. First, we argue that the measure of exogenous fiscal policy shocks employed by previous work on the issue – the change in the structural balance – may face endogeneity issues, as its calculation is based on potential output itself. We opt for a narratively identified measure of the fiscal stance to overcome the identification issue. Second, we rigorously test the robustness of our findings in terms of omitted variable bias, outliers, alternative estimation techniques, data sources, and sample periods.

We find a significant underestimation of fiscal multipliers of about 0.8 units on average. This would translate into a multiplier effect of approximately 1.3 if forecasters assumed a multiplier effect of 0.5 in their forecasts (Blanchard and Leigh, 2013). These effects have a permanent impact as measured by five-year ahead forecasts of the International Monetary Fund (IMF), making a strong case for hysteresis effects of fiscal consolidations and expansions during a deep recession. Our findings are robust to a broad set of perturbations. Yet, as a plausible qualification, we find a weakening of the effects in later crisis years, in line with the slowdown of consolidation, possible learning effects of forecasters, or regime-dependent multiplier effects. Moreover, some Eastern European countries are influential outliers that weaken the relation to some extent. The results seem to be stronger for spending than for revenue side measures. We conclude that fiscal consolidation in Europe was badly timed and thus not only deepened the crisis but may have caused evitable hysteresis effects.

A Narrative Account of Legislated Social Security Changes for Germany

An important issue when trying to estimate the causal effects of fiscal policy measures is the identification problem: headline budgetary time series do not lend themselves directly as regressors because macroeconomic variables themselves heavily influence them. When GDP declines, government revenues follow while unemployment related transfers rise due to a larger number of claimants. While it might seem appealing to investigate the effects of these automatic stabilizers directly, the reverse causality would violate the exogeneity assumption and unduly distort the estimated coefficient.

The seminal paper of Romer and Romer (2010) addresses this by constructing a "narrative" shock series, drawing on information from legislative processes to identify the timing, size, and conditions of exogenous tax changes. By relying on legislation, this bottom-up approach excludes the endogenous workings of the automatic stabilizers. Investigating the circumstances under which the law was crafted allows the exclusion of policy changes that are mere reactions to the business cycle, and should thus be treated as endogenous.

In Chapter 2 we use the narratively identified Discretionary Fiscal Effort (DFE) by the European Commission as our measure of the discretionary fiscal stance to overcome the identification problem. The DFE is available for most European countries on an annual basis since 2010 and includes the expenditure and revenue side. Discretionary changes on the revenue side follow the bottom-up approach of Romer and Romer (2010). On the expenditure side, the DFE is calculated as the gap between public spending components and trend output growth. Nevertheless, the provided information is only available on an aggregate level, and it is impossible to decompose the data into different sub-categories of government activity. Furthermore, given that the shocks are only available since 2010 and on an annual frequency rules out using the DFE for robust estimation of fiscal multiplier effects in an econometric time series model. This dissertation, however, aims to contribute to the existing fiscal multiplier literature by estimating the macroeconomic effects of changes in the social security system, both on the revenue and expenditure side. Given that there is no narrative account of shocks to the social security system for any country available in the literature, we construct an exogenous shock series for social contributions and benefits in Germany.

Therefore, Chapter 3 documents a rich quarterly dataset of discretionary legislative shocks in the German social security system from 1970 to 2018. The account includes major legislations for pensions, health care, long-term care, unemployment insurance, basic welfare, and family benefits at the federal level. It serves as a companion to the empirical analysis in Chapter 4, where we estimate the effects of social security shocks on macroeconomic variables and household panel data for Germany.

Relying on several chronicles for all subdivisions of social security, we conduct a list of key legislations in the social security system. In setting up the narrative dataset, we follow Romer and Romer (2010). In our historical account for the German social security system, we also collect specific details regarding the underlying motivation, the dates of the legislative process, and the prospective financial impact. However, some modifications to the methodology regarding the idiosyncrasies of the social security system and reporting standards in the German legislative system had to be made.

The Macroeconomic Effects of Social Security Contributions and Benefits

Chapter 4 compares the macroeconomic impact of higher social benefits to the effects of lower social security contribution rates. What are the fiscal multiplier effects of an additional euro of social spending or a cut to contribution rates? Questions of equity put aside, will it be more efficient to extend social spending or to cut contributions?

The analysis considers data from Germany, an economy with a social budget that, taken together, accounts for almost 30% of GDP. It includes both expansionary and contractionary measures. The budgetary impact and societal coverage of social security law changes can be substantial and comparable to significant tax legislation.

We use the narrative shock series described in Chapter 3 as instrumental variables in a structural VAR and estimate their effects on various macroeconomic variables including GDP, private consumption expenditures, gross fixed capital formation, industrial production, employment, and wages. When comparing revenue and expenditure shocks, one can see that spending has a much more pronounced positive effect on GDP that is also more persistent and estimated with higher precision. After an expansionary shock of 1% of GDP to social security expenditures, the fiscal

multiplier is about 1.1 on impact, while it is only 0.4 for revenues. The impulse response of GDP for revenue shocks resembles the typical reaction of forward-looking agents that frontload some economic activity in response to the shock. Benefit shocks trigger a more lasting GDP effect.

The differing GDP effects seem to be driven by the heterogeneous reaction of private consumption expenditures. They increase much more strongly and last longer when benefits are extended compared to when contributions are cut. On the other hand, investment and employment are more responsive to a cut to revenues, which could point to supply-side channels: as labor costs fall, businesses might be incentivized to hire more cheap labor. On the side of workers, benefit extensions may reduce the pressure to take up or remain in (precarious) employment, or make early retirement more attractive. This may attenuate the more substantial demand-side effects on the labor market. However, the direct headcount employment effects do not differ with respect to job quality and hours worked. If, for example, cutting transfers reduces regular employment through the multiplier effects but forces workers to take on marginal employment, the two effects may cancel out in plain employment figures.

Since the consumption reaction is so decisive, can we explain the heterogeneity in more detail? To this end, we employ microdata from Germany's frequent household panel survey GSOEP. We attribute our macroeconomic narrative shock series to households according to the household head's employment status: the assumption is that those who have a full-time or regular part-time job are the net contributors to the social security system. Pensioners, unemployed or marginal employed households, and those in training or working in a sheltered workshop are likely net beneficiaries.

The reaction is consistent with the findings on the macro-level: In a two-stage least squares regression, cutting contributions by 1% of GDP will increase household net incomes in the first stage, but will have an insignificant (and even slightly negative) effect on consumption in the second stage. A benefit increase of 1% of GDP will also positively impact incomes, which is more pronounced because the income levels of the affected groups are lower; moreover, it has a positive effect on consumption growth. A similar effect can be observed when using a direct regression of consumption growth on the shocks.

Why do these household types react so differently? A typical argument in the literature is that low-income households and those with less secure jobs are credit or liquidity constrained and will thus have a higher marginal propensity to consume out of income shocks (Jappelli and Pistaferri, 2014; Parker et al., 2013). People with higher incomes and more job security will have the means to smooth consumption from accumulated wealth or credit facilities. Additional information from the GSOEP questionnaires can shed some light on these channels: households have been asked in the past whether they have a high burden to repay a consumer loan and whether they would be able to find EUR 1,000 for unforeseen circumstances at short notice. We find that there is a strong correlation between these answers with the employment status of household heads. Those that work less than full time have a significantly higher probability of reporting a high burden to repay a consumer loan. At the same time, they have a substantially lower likelihood of securing liquidity at short notice. This is particularly so for household heads who are registered unemployed and other low-income beneficiaries. It is less pronounced for pensioners who may be able to draw on accumulated wealth.

Summing up, in Chapter 4 we suggest that stimulating aggregate demand will

be more efficient when funds are channeled towards the beneficiaries of social security that are more vulnerable. Simultaneously, such a strategy would also be more effective at mitigating the increase in inequality resulting from the current Covid-19 crisis. Moreover, the multiplier effects of extended social spending could even be reinforced in countries where the social safety net is more wide-meshed than it is in Germany.

Fiscal Rules in Good Times and Bad

A key question to ask concerning fiscal rules is whether they impact the stabilization function of fiscal policy. Countercyclical fiscal policy may turn out to be favorable to debt sustainability. Against the background of current multiplier estimates, the traditional trade-off between fiscal discipline and macroeconomic stabilization needs to be rethought. How has discretionary fiscal policy behaved with regard to the output cycle in the euro area, and has this relationship been affected by the implementation and augmentation of fiscal rules? In Chapter 5, we estimate fiscal reaction functions for a panel of 11 EMU member countries between 1985 to 2015 to analyze the behavior of fiscal policy over the business cycle in the euro area and the potential impact of changes in the respective fiscal framework. Additionally, the analysis investigates whether the reaction of discretionary policy is symmetric or asymmetric over the cycle by differentiating between good and bad economic times. We do so by combining the approaches of Galí and Perotti (2003), Candelon et al. (2009), and Huart (2012), extending the sample to more recent years, and linking the analysis to fiscal rules using the IMF Fiscal Rules Dataset.

Overall, discretionary fiscal policy in the euro area is marginally procyclical. However, the finding is characterized by fiscal contractions in the downturn, while the reaction is neutral in the upturn. Further disaggregation shows that procyclicality is mainly determined by the discretionary reaction of public expenditures, not revenues. The effect of fiscal rules on cyclical behavior is somewhat limited. It is true that, in some cases, fiscal rules lead to a slight improvement in fiscal policy discipline during economic upturns, thereby making the fiscal policy more countercyclical. They also strengthen the debt stabilization motive and make governments less likely to engage in pork-barrel politics during election years. However, these improvements must be set against substantial macroeconomic costs during economic downturns. At these times, the rules result in a policy that is significantly more procyclical and thus destabilizing. These findings hold for the supranational rules in the euro area and become even more apparent when analyzing national fiscal rules. Interestingly, expenditure rules perform better concerning the stabilization objective compared to budget or debt rules.

Fiscal Surplus Regimes – A Critical Appraisal of the Political Economy Literature

In the previous chapters, we give a critical appraisal of the limitation of fiscal policy and public deficits from an economic perspective. Recently, the seminal paper by Haffert (2019) on fiscal surplus regimes ignited a debate in the political economy literature on the general validity of the deficit bias theory.

The various cases among OECD countries with long periods of budgetary surpluses do not align with the theory of deficit bias. The argument by Haffert (2019)

is that the deficit bias theory fails to explain long-lasting periods of budgetary surplus. These are better understood through the lenses of fiscal regimes. The concept of fiscal regimes takes historical circumstances and path-dependencies into consideration. It is argued that expenditure-side consolidations transform fiscal policies in the long-run. They reorder the political landscape by making the state more residual and shifting voter preferences. Thus, they can induce regime change to a higher degree than revenue-side consolidations.

With its concentration on national institutional factors, the idea of fiscal regimes is generally rooted in the comparative political economy (CPE) literature and thus related to the varieties of capitalism (VoC) approach (Hall and Soskice, 2001). It is striking that the surplus regime countries selected by Haffert (2019) are very different regarding their national institutions. The three Scandinavian countries of Denmark, Finland, and Sweden are typically classified as coordinated market economies (CMEs), and Australia, Canada, and New Zealand are classified as LMEs, liberal market economies (Höpner, 2009). It remains unclear how surplus regimes are related to national strategies.

According to Baccaro and Pontusson (2016), Behringer and van Treeck (2019) or Treeck (2009), who introduce macroeconomic insights to the study of comparative political economy and the VoC approach, the assessment of budget balances has to be embedded into a broader analysis of the overall growth regime. In contrast to the VoC literature, the growth model perspective considers the relative importance of different sectors of the economy (private, government, and external sector) for aggregate demand. Following this strand of the literature, the developments of sectoral financial balances and different aggregate demand components have an important impact on the success or failure of budget consolidation efforts.

At the intersection of public choice, political economy, and macroeconomics, we critically analyze permanent budget surplus regimes in Chapter 6. We pick up the political economy discussion, reflect on it, and contribute by combining the growth model perspective to the concept of surplus regime. Thus, the question is whether Haffert's political economy explanation about long periods of budget surpluses withstands a comprehensive macroeconomic growth regime analysis.

In a first step, we provide a critical analysis of the stylized empirical facts used by Haffert (2019) to support the political economy explanation of surplus regimes. Checking central empirical alibis for structural commonalities among surplus regime countries raises important heterogeneity concerns, while, in some cases, short or no surplus period countries experienced very similar fiscal and macroeconomic developments.

Taking different fiscal and macroeconomic indicators into account in a second step reveals that the political economy story misses significant factors. Most of the surplus regime countries had already implemented significant expenditure cuts in the 1980s. The consolidation success in the 1990s and "black zero" in the 2000s no longer reflect substantial fiscal policy changes. Consolidation processes might reshuffle political preferences and have long-lasting effects on voters' and politicians' priorities towards hawkish fiscal policy. However, the consolidation success depends on the macroeconomic developments, monetary and wage policies, international competitiveness, and whether a fiscal policy has been pro- or countercyclical. Monetary policy and export strategies are, however, also not simply exogenous variables for the configuration of long surplus periods. Instead, the strategic interactions between the policy areas might form the domestic equilibrium and determine economic growth.

Therefore, in the last step, a sectoral balances perspective reveals that a positive public balance tends to be aligned with the over-indebtedness of the external or private sector. Given the respective debt-led or export-led economic growth models of surplus regime countries, both LMEs and CMEs were able to run long periods of budgetary surpluses. Regardless of the positive public balances, both these growth strategies are not sustainable given that they cause macroeconomic instability (Baccaro and Pontusson, 2016). Thus, surplus regimes lead to sectoral balance positions that are difficult to maintain in the long-run. This instability, in turn, questions the persistence assumption of the fiscal surplus regimes. When the economy is weak, fiscal targets will inevitably have to be set lower.

Chapter 2

Long-term effects of fiscal stimulus and austerity in Europe

2.1 Introduction[2]

Output in many European countries has long remained below pre-crisis potential. The recession took considerably longer and was much deeper compared to past downturns and the recovery was comparably weak. Forecasts by the European Commission (EC) or the International Monetary Fund (IMF) in the aftermath of the crisis assumed a quick recovery to previous trends, but had to be revised downwards several times. These revisions most strikingly concerned not only GDP but also potential GDP forecasts. Figures 2.1 and 2.2 show repeated over-optimism of GDP and potential output forecasts for the EU as a whole and Greece as an extreme example.[3]

The persistent and systematic forecast errors call into question the structure and assumptions of the forecasting models employed. Clearly, the financial crisis and the subsequent crisis of the euro area were extreme events, whose dynamics and channels of impact might be quite different from more tranquil times. A number of influential factors that unexpectedly drove the severity of the crisis have been discussed, among them the fragility of the financial system, private sector deleveraging, increased uncertainty of private agents, current account imbalances, monetary policy constraints, sustainability of public finances or the impact of discretionary fiscal policy.

In the present chapter, we focus on fiscal policy, while we take into account the others. We ask whether the post-2009-shift towards fiscal consolidation had an unexpected substantial negative and persistent impact on GDP and potential output, in particular in the EU and the euro area, which could be a major explanatory factor for the second recessionary dip that followed in due course and the persistent gap to pre-crisis GDP trend and unemployment levels. This is equivalent to asking whether there was an underestimation of fiscal multipliers and, more importantly, their persistence.

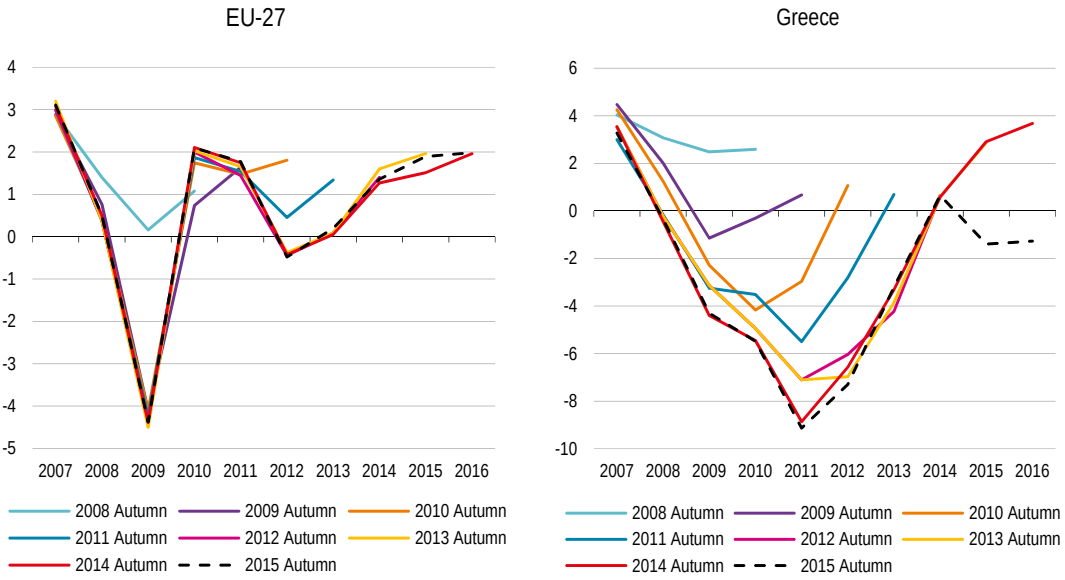
Since the crisis, there has been an intense debate and a growing literature on short-run fiscal multiplier effects (Gechert, 2015; Hebous, 2011; Mineshima et al., 2014). Expansionary confidence effects of austerity have been discussed widely[4]

[2] This chapter is a replication of my co-authored publication Gechert et al. (2019).

[3] Apart from Germany in all other major European countries potential output growth rates decreased considerably and are now below pre-crisis figures. Potential output estimates were revised downwards both for forecasted and past values in most European countries, apart from Spain.

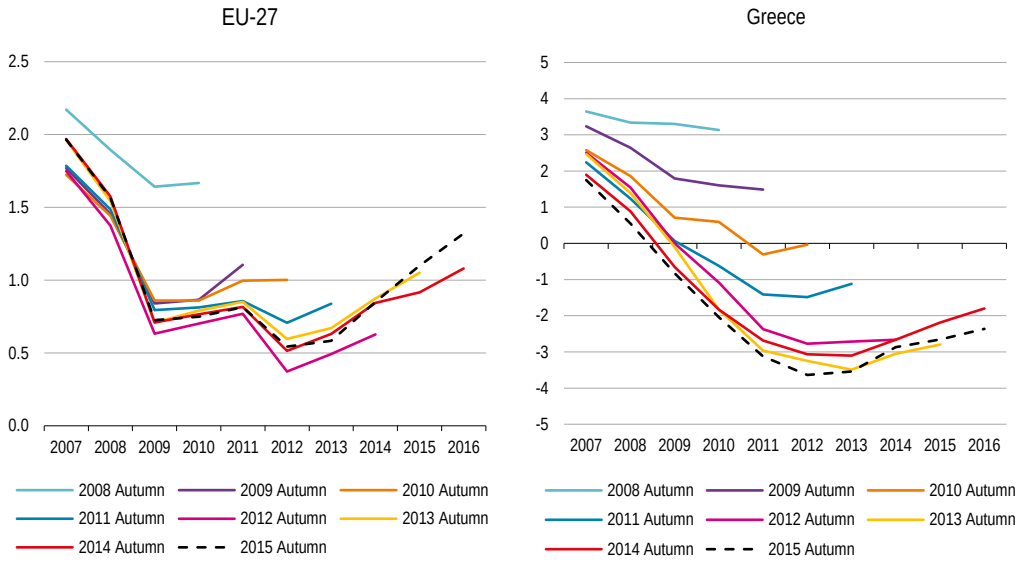
[4] Indeed, official statements by leading policymakers at the time seemed to assume a strong confidence effect of fiscal consolidation that would imply expansionary effects, i.e. negative multipliers. “My understanding is that an overwhelming majority of industrial countries are now in those

FIGURE 2.1: Vintages of GDP growth rate forecasts for the EU-27 and Greece, in %, 2007-2016



Sources: FIRSTRUN; Circa Database of EU-Commission; own calculations.

FIGURE 2.2: Vintages of potential GDP growth rate forecasts for the EU-27 and Greece, in %, 2007-2016



Sources: FIRSTRUN; Circa Database of EU-Commission; own calculations.

(Alesina and Ardagna, 2010), but have been found to be rather special cases (Perotti, 2012). The general consensus among international institutions now seems to read that austerity reduces growth in the short run, can be particularly harmful during downturns and may even increase public debt-to-GDP ratios in the interim (Cottarelli and Jaramillo, 2012).

The long-term effects – although they are much more important in terms of welfare and sustainability of public finances – have attracted far less attention in the empirical literature and remain more controversial, except for the special case of public investment (Bom and Ligthart, 2014). Certainly, robust inference is much harder to achieve for longer horizons, which might explain the lack of evidence. For the few exceptions, the dominant reading seems to be that while austerity brings short-run pain, it provides long-term gain in terms of reduced tax distortions and debt risk (Born et al., 2020). DeLong et al. (2012) on the other hand make the case for hysteresis effects where austerity in a deep slump would be self-defeating even in the long-run.

The present chapter builds on Blanchard and Leigh (2013) (BL hereafter) and Fatás and Summers (2018) (FS hereafter). BL exploit GDP growth forecast errors for European countries during the 2010-11 period to create a counterfactual of expected policy impact. They then regress these forecast errors on planned consolidation for the same sample in order to test whether the impact of consolidation was underestimated. They find a strong negative correlation between consolidation attempts and output revisions meaning that countries with bigger consolidation plans faced more severe growth disappointments – i.e. multipliers had been underestimated by forecasters. FS confirm the findings of BL with more recent data and extend their method by a second stage, where they regress longer-term potential output forecast errors on the GDP forecast errors that were arguably caused by the underestimation of multiplier effects. The coefficient of this second stage can be interpreted as a measure of persistence of these multiplier effects.

This chapter provides two central innovations: (i) We argue that the measure of exogenous fiscal shocks employed by BL and FS, the change in the structural balance, may face endogeneity issues, as its calculation is based on potential output itself. We therefore opt for a narrative measure of the fiscal stance, the Discretionary Fiscal Effort (DFE), as provided by the AMECO database (Euopean Commission, 2013). (ii) We rigorously test the robustness of our findings and those of FS in terms of omitted variable biases, outliers, alternative estimation techniques, data sources and sample periods.

We find a significant underestimation of fiscal multipliers of about 0.8 units on average, which is strong, but still somewhat less pronounced than in BL and FS. This would translate into a multiplier effect of about 1.3, given that forecasters likely assumed a multiplier effect of 0.5 in their forecasts. These effects have a permanent impact as measured by five-year-ahead forecasts, making a strong case for hysteresis effects of fiscal consolidations and expansions during a deep recession. Our findings are robust to a large set of perturbations. Yet, as a plausible qualification, we find a weakening of the effects in later crisis years, in line with the slowdown of consolidation, possible learning effects of forecasters (Górnicka et al., 2020) or regime-dependent multiplier effects (Auerbach and Gorodnichenko, 2012; Baum et

uncharted waters, where confidence is potentially at stake. Consolidation is a must in such circumstances." (Trichet, 2010)

"All the eurozone governments need to demonstrate convincingly their own commitment to fiscal consolidation so as to restore the confidence of markets, not to speak of their own citizens." (Schäuble, 2010)

al., 2012). Moreover, some Eastern European countries are influential outliers that weaken the relation to some extent. The effects seem to be stronger for spending than for revenue shocks. We conclude that the European austerity measures were more harmful than expected even in the longer-term, while countries with a more expansionary fiscal stance fared better as this may have prevented hysteresis effects. Accordingly, fiscal consolidation was badly timed which may have even had long-term negative consequences.[5]

The remainder of the chapter is organized as follows. Section 2.2 explains our approach and dataset. Section 2.3 presents the baseline results. Section 2.4 checks the robustness of these findings. The final section concludes.

2.2 Method and data

First Stage: Underestimation of Fiscal Multipliers

In line with BL, we regress the forecast error (fe) of cumulated GDP growth for the years of 2010 (= t) and 2011 for country i on planned (f) fiscal consolidation for the very same period:

$$\Delta Y^{fe}_{i,t:t+1} = \alpha + \beta \Delta F^{f}_{i,t:t+1|t} (+X_i\theta) + \varepsilon_{i,t:t+1|t} \tag{2.1}$$

where

$$\Delta Y^{fe}_{i,t:t+1} \equiv \Delta Y_{i,t:t+1} - \Delta Y^{f}_{i,t:t+1|t} \tag{2.2}$$

is the forecast error of GDP as given by the difference between current-vintage figures of the cumulated growth rate of GDP over 2010 and 2011 and its forecast in the vintage of spring 2010. This figure is negative for most countries during this period. $\Delta F^{f}_{i,t:t+1|t}$ is a measure of planned fiscal consolidation as a percentage of GDP over the same two-year period. X_i marks a set of control variables that are likely alternative explanations for the forecast errors, besides consolidation. $\varepsilon_{i,t:t+1|t}$ is an *iid* error term. Two-year episodes are used to allow for lagged effects.

The rationale is the following: Using the forecast error of GDP exploits the deviation of the actual data from a counterfactual scenario given by the expectations of forecasters, based on their information set, assumptions and model of the economy at the time, where channels work as expected by these experts. Regressing this forecast error on planned fiscal consolidation reveals, as to whether the impact of these consolidation plans was over- or underestimated. If the multiplier effect assumed in the forecasting model is correct, β should not deviate significantly from zero. The multiplier effect would be as expected.[6] A negative and significant β, however, would imply that countries with a more ambitious consolidation plan had

[5] Corsetti et al. (2013), in a New Keynesian model, point to an expectations channel according to which bringing down severe sovereign debt risk may outweigh the negative growth effects of spending cuts. Cottarelli and Jaramillo (2012) on the other hand make the point that in situations when multipliers are high, consolidation efforts do not succeed and might even be detrimental to lowering debt risk. In our analysis we try to control for sovereign debt risk through various proxies.

[6] International Monetary Fund (2010, p.94) has estimates of fiscal multipliers of 0.5 on average, based on the GIMF model of the IMF that is likely to inform forecasters. BL point to some further evidence in this direction. According to the European Commission (2012, p.41) European Economic Forecast, multipliers from the EC's QUEST model, which likely informs forecasters, range between 0.2 and 0.8 depending on the specific measure and are about 0.4 on average. Also the meta-analysis of Gechert and Rannenberg (2018) finds average multipliers of about 0.5 in their sample of pre-crisis studies. Of course, such averages mask likely heterogeneity of the various fiscal measures, but they may suffice for the broadly defined change in the fiscal stance that we employ here.

bigger growth disappointments during that period, and vice versa. The multiplier effect would have been underestimated.

Second Stage: Persistence of Multiplier Effects

With respect to welfare and sustainability of public finances the long-term impact of the fiscal measures is key. In line with FS, we measure these long-term effects by five-year-horizon forecast errors of cumulated potential output growth. For inference, we build a Two-Stage Least Squares (2SLS) framework, where the exercise of BL is considered as the first stage, measuring the growth disappointments as caused by the stronger than expected impact of fiscal consolidation:

$$\Delta \hat{Y}^{fe}_{i,t:t+1} = \alpha + \beta \Delta F^{f}_{i,t:t+1|t} \tag{2.3}$$

The fitted values of the first stage – interpreted as the unexpected GDP change due to a stronger than expected impact of fiscal consolidation – then enter the second stage, where the forecast error of potential output is regressed on these fitted values:

$$\Delta Pot Y^{fe}_{i,t:t+5} = \gamma + \delta \Delta \hat{Y}^{fe}_{i,t:t+1} (+X_i \pi) + \omega_{i,t:t+1|t} \tag{2.4}$$

In a nutshell, persistent effects of cyclical changes in output are estimated by using fiscal policy shocks as instruments for these cyclical changes (Fatás and Summers, 2018). The relevant coefficient δ can therefore be interpreted as a measure of persistence of changes in output that are caused by changes in the fiscal stance. If $\delta = 1$, the multiplier effect would be fully persistent and growth disappointments would carry on one-to-one to the long-run. For a fiscal consolidation shock in a standard New Keynesian model, δ should be smaller than one and approach zero in the medium run, except for a cut in public investment that might drag down aggregate supply conditions. Of course, potential output figures usually follow persistent changes in GDP quite closely and might thus not be a perfect metric to investigate structural changes in output (Gechert et al., 2016). However, a permanent effect on GDP after 5 years still runs counter to conventional assessments of the persistence of demand shocks and is much more in line with theories and evidence of hysteresis (DeLong et al., 2012; Fatas, 2000; Logeay and Tober, 2006; Sturn, 2014).

Identification of Consolidation Shocks

When estimating the impact of fiscal policy, identification of exogenous fiscal shocks is crucial. Three main concerns are usually discussed in the literature: (a) Since the budget is highly sensitive to business cycle fluctuations via automatic stabilizers, estimation based on headline budgetary figures would be prone to an endogeneity bias. (b) Even discretionary measures may be immediate reactions to macroeconomic circumstances (e.g. countercyclical policies) and thus reverse causality may apply. (c) Agents may anticipate fiscal policy measures due to early announcement and hence react prior to implementation (e.g. in the case of a tax hike), outside the information set of the econometrician.

(a) BL and FS rely on changes in the structural balance (SB) which is an established measure of the fiscal stance. It is derived from the actual budget balance by subtracting a cyclical component, based on assumptions of automatic stabilizers and the output gap, as well as one-off events. We argue that the structural balance still faces a likely endogeneity bias when it comes to measuring its impact on potential

GDP forecast errors. This is because the structural balance depends on the assessment of potential output itself. To see this, consider the situation in 2010 where potential GDP was forecasted too optimistic in a phase of severe slack. At first, there would be a large measured output gap and forecasting models would estimate the output gap to close with high speed under such circumstances as they include a closing rule effective within the forecasting horizon (Havik et al., 2014). Any consolidation effort that improves the headline budget balance is then largely counted as cyclical, with only a smaller share left to be counted as structural consolidation. That is, if we consider two identical countries with the same true structural consolidation effort, and one country is hit by a stronger negative GDP shock than the other, the former would have a larger forecast error of potential GDP and a lower measured improvement in the SB. This will lead to inflated coefficients β and δ, measured with lower precision at that.[7]

In light of these issues, we opt for an alternative measure of the fiscal stance, namely the Discretionary Fiscal Effort (DFE) as published by the AMECO database. It is available for EU27 countries on an annual basis since 2010.[8] The DFE is essentially a mixed method for determining the discretionary fiscal stance. Changes on the revenue side are entirely based on a narrative account of fiscal shocks where the expected budgetary impact of factual law changes and other measures is recorded. On the expenditure side, where substantial discretionary changes happen at all levels of government and a full narrative record would be too costly, the DFE is calculated as the gap between public spending growth and a smooth trend output growth, while excluding changes in cyclical spending components (in particular unemployment spending). The DFE thus avoids the dependence on estimated potential output figures and uncertain budget elasticities. The DFE shock series has been argued to be more robust in estimating fiscal multipliers (Carnot and Castro, 2015). In Section 2.3 it will be shown that this is indeed the case for our exercise. In line with the arguments above, we find that the cumulated 2010-11 DFE is more positive on average than the respective change in SB ($\mu_{DFE} = 2.46$ pp, $\mu_{SB} = 0.53$ pp) and is moreover much more dispersed ($\sigma_{DFE} = 3.42$, $\sigma_{SB} = 1.68$), while the two are still highly correlated ($\rho_{DFE,SB} = 0.74$). This could speak of an attenuation of the SB measure towards zero.

(b) Separating truly exogenous from endogenous legislations is an issue that is addressed by extensive country studies collecting data similar to the DFE, but also looking at the motivation of single law changes (Romer and Romer, 2010; Cloyne, 2013). We do not have enough information to make such a separation for the DFE. The narrative studies usually find that not controlling for endogenously motivated law changes tends to downward-bias the multiplier estimates (Mertens and Ravn, 2014). Thus, we regard our estimates as conservative in this regard. In any case, note that the SB approach does not address this issue either. Even detailed country-studies find it hard to give a clear judgment regarding the motivation of single law changes and the identified shocks may be susceptible to measurement error, which for example Mertens and Ravn (2014) try to address in a proxy SVAR framework. Generally, existing measures of fiscal shocks, as ours, are only second best proxies,

[7] When potential growth turns out lower than expected and is revised downward, so would the structural share of the consolidation effort need to be revised upward. However, SB enters the regression without such revision. Note that such revisions would be required due to pure technical dependence of the calculation of the structural balance on potential output figures, and must not be confused with revisions due to truly more ambitious consolidation efforts.

[8] AMECO publishes the DFE in nominal terms of national currency. For our econometric analysis below we express the discretionary changes in percentage of potential GDP just as the structural balance.

but a first best solution is yet to be discovered in the literature (Caldara and Kamps, 2017).

(c) Anticipation bias may arise when econometricians draw inference from ex-post realized data while agents may have had additional information from preannounced policies and reacted in advance. This should be less of a concern for our framework, since we create a counterfactual of realized data against expert forecasts that should be informed about policy announcements at least as well as the general public. In that sense anticipation may only be of concern if agents on average were better informed about policy actions than forecasters, which is rather unlikely.

Further Data

In our baseline, we stick to IMF World Economic Outlook (WEO) forecasts for GDP and potential output and use the vintage of spring 2016 vis-à-vis the spring 2010 forecast for the calculation of forecast errors.[9] Importantly, comparing data of different vintage years requires correction for changes of the base year, accounting rules and re-assessments of past potential output figures.[10] The second stage of our model uses $t+5$ forecasts for potential output, as given by unpublished vintages of the IMF WEO.[11] In the baseline sample we focus on European countries, but due to missing data end up with 22 / 21 observations.[12] Due to this small sample, Section 2.4 includes a battery of robustness checks for the baseline estimates. First, we include various alternative explanatory factors to control for omitted variable biases. Data for sovereign CDS spreads, pre-crisis household debt-to-GDP ratios and pre-crisis current-account-to-GDP ratios are obtained from the BL dataset.[13] Second, we also run our model using European Commission forecasts. The forecast vintages are obtained from a dataset by the FIRSTRUN[14] project, which collects vintages of the AMECO dataset; moreover, we use unpublished $t+4$ EC forecasts of potential output.[15] The EC data allows to extend the sample to the whole EU27 and thus some additional Eastern European countries that are absent from the IMF dataset. The third class of robustness checks extends the time horizon by applying a moving window and panel data analysis to increase the number of observations, where we use different spring vintage sets from the IMF and the EC data respectively and compare them to the vintage of spring 2016 to obtain our forecast errors.

2.3 Estimation Results

First Stage: Underestimation of Fiscal Multipliers

First, in Table 2.1(a), we replicate the BL results by using IMF WEO data and the change in the SB as our fiscal measure. In Table 2.1(b), we use the DFE instead.

[9] BL compare the IMF autumn 2012 forecast to the spring 2010 forecast.

[10] See Appendix 2.A for a more detailed description of the computation of forecast errors for GDP and potential GDP.

[11] We are grateful to Antonio Fatás for providing us with the WEO data and files for replication of the FS results.

[12] For SB, the sample comprises Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Malta, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. For DFE, we have Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, United Kingdom.

[13] Further control variables are taken from the respective spring 2010 forecast, in line with BL.

[14] http://www.firstrun.eu/research/data/

[15] Courtesy of European Commission forecasting staff.

Column (1) of Table 2.1(a) shows the result of the replication. The original finding of BL, a significant underestimation of fiscal multipliers by about 1.1, is even reinforced with $\beta \approx -1.3$. Is the latter effect driven by the assessment of spending or taxation? Such data are not directly available for structural balance components. In line with BL, in column (2) we split the structural balance into spending (G) and revenues (T), where $SB = T - G$. In terms of cyclical adjustment, we assume that government spending is insensitive and use its actual value G, while calculating cyclically adjusted revenues as the residual $T = SB + G$.[16] It turns out that the negative impact of government spending cuts was more strongly underestimated than the one from tax hikes. This is consistent with evidence from the meta regression of Gechert and Rannenberg (2018), which shows that in particular spending multipliers increase during downturns.

A natural objection to the validity of the effects in columns (1) and (2) is the small sample size and the likely dependence on influential outliers. Using a quantile regression instead, does only minimally alter the coefficient (column (5)). Likewise, in column (3) we exclude those countries in our sample that were under a bailout program (Greece, Ireland and Portugal). The effect is somewhat muted but still economically and statistically highly significant. Narrowing the sample to euro area countries in column (4) even slightly increases the effects.

In Table 2.1(b), using the DFE, the qualitative results are confirmed. However, the effect is somewhat smaller. This is in line with our reasoning above: the effects as measured by SB might be somewhat upward biased due to its possible endogeneity with growth forecast errors. Separating expenditures and revenues, which are directly available for the DFE, in column (2) gives consistent, though insignificant results; but the wide standard errors may not be trusted due to multicollinearity: The correlation of the series is extremely high ($\rho_{DFET,DFEG} = 0.92$). Moreover, as shown in columns (6) and (7), including G and T, one at a time, strongly inflates the coefficients. Of course, the coefficients of (6) and (7) must not be trusted as they pick up the influence of the omitted counterpart of the budget, but they still show that the coefficients of column (2) could be significant if multicollinearity was absent.

In general, we can reconfirm the substantial underestimation of fiscal multipliers during the early stages of the euro area crisis as found by BL. Using a superior measure of the fiscal stance, the effect however, is more in a range of 0.8-0.9. Together with the well documented assumption that IMF forecasters implicitly used a multiplier effect of around 0.5, actual multipliers for the crisis period under investigation should fall in a range of 1.3 to 1.4. This is in line with, but on the lower end of findings of ZLB effects in standard macroeconomic models (Christiano et al., 2011; Eggertsson, 2011; Woodford, 2011).

[16] This assumption is questionable since, for example, government spending on unemployment benefits and old age benefits is sensitive to the business cycle (Price et al., 2014). DFE measures are published separately for spending and revenues, so we do not need such an assumption there.

TABLE 2.1: First stage: Underestimation of multipliers

(a) Structural Balance (SB), Endog: forecast error of GDP 2010-11							
OLS	(1)SB	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT		
β	-1.34**		-0.94***	-1.53**	-1.27***		
	(0.53)		(0.24)	(0.58)	(0.31)		
β^G		-1.7***					
		(0.48)					
β^T		-0.97**					
		(0.37)					
const	1.15***	1.22***	1.1***	1.34***	0.86		
	(0.4)	(0.36)	(0.37)	(0.39)	(0.62)		
n	22	22	19	14	22		
Adj. R^2	0.47545	0.60235	0.33067	0.57633			
(b) Discretionary Fiscal Effort (DFE), Endog: forecast error of GDP 2010-11							
OLS	(1)DFE	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT	(6)G	(7)T
β	-0.86***		-0.93*	-0.87***	-0.87***		
	(0.06)		(0.5)	(0.05)	(0.05)		
β^G		-0.93				-1.91***	
		(0.76)				(0.21)	
β^T		-0.81					-1.46***
		(0.57)					(0.12)
const	2.75***	2.76***	2.7***	2.84***	2.57***	2.84***	2.55***
	(0.49)	(0.52)	(0.71)	(0.57)	(0.67)	(0.55)	(0.52)
n	21	21	18	16	21	21	21
Adj. R^2	0.698	0.682	0.131	0.751		0.664	0.672

Second Stage: Persistence of Multipliers

Investigating the persistence of multipliers, in Table 2.2(a) column (1), we first replicate the result of FS. The factor of persistence is close to one, which could be interpreted such that the GDP losses caused by fiscal consolidation became permanent, at least given the currently available information set on a five-year horizon.

Again, the results of the 2SLS estimation are robust to the changes already discussed for the first stage in Table 2.1. Splitting the structural balance in spending and revenue components only minimally changes the estimated persistence (column (2)). So does a sample based on euro area countries (columns (4)). Down-weighting outliers by excluding program countries or using quantile regressions even reinforces the persistence (columns (3) and (5)). Interestingly, the results are not robust to using a direct regression like

$$\Delta PotY^{fe}_{i,t:t+5} = \zeta + \eta \Delta F^{f}_{i,t:t+1|t} + \vartheta_{i,t:t+1|t} \tag{2.5}$$

of the $t+5$ potential output forecast error on the fiscal stance in column (6). The coefficient, which should be $\eta = \beta + \delta$ has the expected sign and is large, yet is not statistically significant.

The results become more robust and persistence is even a little bit stronger when using the DFE measure of fiscal stance in Table 2.2(b). Moreover, the instrument seems quite strong judging from the first stage F statistics. In general, while the estimated multiplier effect is somewhat lower on impact when using the DFE, it is super-persistent and increases over the 5-year horizon by a factor of 1.25, or 1.05 per year. This time, the direct regression in column (6) is highly significant.

2.4 Further Robustness Tests

Controlling for Alternative Explanations

As discussed in the introduction, there might be other factors at play that explain growth disappointments and that would lead to an omitted variable bias in our simple regressions. As a general note, it is vital to look at control variables that were already in the information set of forecasters to see if their impact was underestimated. Any later realizations of these variables that could have an influence on realized output growth would most likely be prone to reverse causality issues. For example, an increase in sovereign CDS spreads could cause lower growth but could as well be caused by growth disappointments (Cottarelli and Jaramillo, 2012).

Most basically, since we exploit cross-sectional variation, our findings could be challenged by varying optimism and pessimism of forecasts for specific country-year observations that could explain the variation in forecast errors after 2010. Some earlier literature points to politically motivated over-optimism in growth forecasts by national authorities (Frankel, 2011; Jonung and Larch, 2006). If this is the case for our sample, there should be a positive correlation of pre-crisis and within-crisis forecast errors. However, the correlation coefficient for the average IMF WEO April forecast errors of vintages of 1997-2006, with the 2010 vintage forecast error is close to zero ($\rho = 0.03$). So there is no indication that forecasts for countries with a large negative forecast error in the relevant period 2010-11 where generally too optimistic in pre-crisis years. The same holds for AMECO spring forecast vintages where we have data from 2000 onwards ($\rho = 0.04$).

TABLE 2.2: Second stage: Persistence of multiplier effects

(a) (SB), Endog: forecast error of potential GDP 2010-15						
2SLS	(1)SB	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT	(6)DIR
δ	1.005**	1.046***	1.296**	1.065***	1.401**	
	(0.402)	(0.289)	(0.544)	(0.387)	(0.647)	
η						-1.348
						(1.013)
const	-3.521**	-3.537***	-4.016**	-3.548***	-3.834**	-2.365**
	(0.869)	(0.819)	(0.861)	(1.114)	(1.356)	(1)
n	22	22	19	14	22	22
Adj. R^2	0.581	0.581	0.335	0.687		0.122
1st F	6.40	6.36	15.04	7.04		
(b) (DFE), Endog: forecast error of potential GDP 2010-15						
2SLS	(1)DFE	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT	(6)DIR
δ	1.236***	1.234***	1.319*	1.28***	1.216***	
	(0.072)	(0.073)	(0.689)	(0.086)	(0.233)	
η						-1.065***
						(0.1)
const	-3.914***	-3.912***	-4.459*	-3.303***	-4.304***	-0.515
	(0.75)	(0.75)	(1.52)	(0.87)	(0.70)	(1.26)
n	21	21	18	16	21	21
Adj. R^2	0.681	0.681	0.611	0.730		0.320
1st F	244.4	115.4	3.53	279.4		

Table 2.3(a) and (b), and Table 2.4(a) and (b) present regression results including various control variables using SB and DFE for the first stage and second stage regressions, respectively. Due to low degrees of freedom, we include these controls one at a time. Column β in Table 2.3 and δ in Table 2.4 show our parameters of interest, the effects of multiplier underestimation and persistence; column θ and π give the coefficients of the control variables.

In row (1) we ask whether the *under-prediction of the 2008-09 recession* might in fact predict the 2010-11 forecast error. The rationale would be that the persistence of the crisis was underestimated and that the double dip was inevitable though not forecasted. The effect of fiscal consolidation, however, remains intact and the financial crisis forecast error is not significant. This holds true for both SB and DFE for first and second stage. In a similar fashion, in row (2) we control for the *size of the forecasted GDP growth* during the 2010-11 period itself. Maybe countries with strongly negative forecast errors simply had a comparably large GDP growth forecast from the outset that was unrealistic. However, including this variable does not affect the results qualitatively, even though the persistence parameter increases somewhat. The GDP forecast itself is negative and significant in the second stage. This is plausible, as higher expected GDP growth might have increased the potential output forecast and thus even made the potential output forecast error more negative. Dovern and Jannsen (2017) show that findings of low forecast errors mask substantial differences for periods of recessions and expansions with strongly too optimistic forecasts for periods that turn out to be recessions ex post. Since our dataset includes observations with recessions and recoveries in 2010-11, the differential forecast errors might be driven by the generally *poor performance of forecasters in predicting recessions*. We control for this possibility in row (3) by including a recession dummy that equals 1 if

TABLE 2.3: First stage with controls

(a) (SB), Endog: forecast error of GDP 2010-11						
	control X	β	θ	const	n	Adj R^2
(1)	fe gdp0709	-1.32(0.52)**	0.04(0.14)	1.45(0.91)	22	0.45
(2)	forec gdp1011	-1.17(0.44)**	0.24(0.24)	0.41(0.84)	22	0.47
(3)	reces dummy	-1.02(0.51)*	-2.57(1.56)	1.44(0.46)***	22	0.52
(4)	fe dummy	-0.97(0.63)	-2.32(1.09)**	1.89(0.6)***	22	0.55
(5)	fe sb1011	-1.16(0.43)**	-0.51(0.36)	1.55(0.58)**	22	0.50
(6)	trade consol	-1.4(0.49)***	2.32(1.69)	0.96(0.42)**	22	0.51
(7)	sov'n debt09	-1.29(0.51)**	-0.01(0.02)	1.63(1.28)	22	0.45
(8)	sb09	-1.09(0.62)*	0.14(0.25)	1.69(1.13)	22	0.45
(9)	sov'n cds10q1	-1.2(0.59)*	0(0.01)	1.41(0.64)**	22	0.46
(10)	bankcrisis	-1.32(0.52)**	-0.27(0.88)	1.26(0.48)**	22	0.45
(11)	privatedebt07	-1.31(0.56)**	0(0.01)	1.11(0.95)	21	0.43
(12)	ca07	-1.3(0.68)*	0.01(0.09)	1.14(0.39)***	22	0.45
(b) (DFE), Endog: forecast error of GDP 2010-11						
	control X	β	θ	const	n	Adj R^2
(1)	fe gdp0709	-0.86(0.06)***	-0.06(0.1)	2.19(1.04)**	21	0.69
(2)	forec gdp1011	-0.86(0.14)***	-0.01(0.31)	2.77(1.2)**	21	0.68
(3)	reces dummy	-0.79(0.11)***	-0.9(1.47)	2.73(0.49)***	21	0.69
(4)	fe dummy	-0.7(0.08)***	-2.35(0.64)***	3.19(0.52)***	21	0.77
(5)	fe sb1011	-0.91(0.11)***	0.26(0.33)	2.35(0.47)***	19	0.73
(6)	trade consol	-0.86(0.05)***	2.12(0.69)***	2.56(0.47)***	21	0.72
(7)	sov'n debt09	-0.81(0.08)***	-0.01(0.02)	3.51(1.18)***	21	0.69
(8)	sb09	-0.8(0.14)***	0.04(0.2)	2.56(0.81)***	19	0.73
(9)	sov'n cds10q1	-0.97(0.34)**	0.01(0.02)	2.34(0.95)**	20	0.68
(10)	bankcrisis	-0.85(0.05)***	-0.72(0.85)	3.07(0.69)***	21	0.69
(11)	privatedebt07	-0.88(0.06)***	0(0.01)	3.17(1)***	20	0.70
(12)	ca07	-0.92(0.13)***	-0.05(0.09)	2.79(0.53)***	21	0.69

TABLE 2.4: Second stage with controls

(a) (SB), Endog: forecast error of potential GDP 2010-15							
	control X	δ	π	const	n	Adj R^2	1st F
(1)	fe gdp0709	0.84(0.41)**	0.37(0.26)	-0.72(1.79)	22	0.58	3.33
(2)	forec gdp1011	1.38(0.4)***	-0.73(0.27)***	-1.72(1.1)	22	0.68	3.61
(3)	reces dummy	0.93(0.75)	-0.81(4.14)	-3.34(1.62)**	22	0.54	5.00
(4)	fe dummy	0.58(0.95)	-3.6(4.36)	-1.88(2.58)	22	0.47	9.20
(5)	fe sb1011	1.04(0.51)**	0.14(0.64)	-3.68(1.21)***	22	0.57	4.03
(6)	trade consol	1.13(0.28)***	6.63(1.59)***	-4.2(0.6)***	22	0.71	5.00
(7)	sov'n debt09	1.12(0.47)**	0.02(0.04)	-5.16(2.78)*	22	0.59	3.25
(8)	sb09	1.57(0.7)**	-0.43(0.54)	-5.82(3)*	22	0.63	3.00
(9)	sov'n cds10q1	0.96(0.61)	0(0.01)	-3.36(1.71)**	22	0.55	3.33
(10)	bankcrisis	1.08(0.37)***	1.63(1.41)	-4.29(1.2)***	22	0.59	3.62
(11)	privatedebt07	0.76(0.46)*	0.03(0.01)*	-7.34(1.68)***	21	0.66	2.78
(12)	ca07	0.74(0.76)	0.11(0.17)	-3.29(0.99)***	22	0.50	3.54
(b) (DFE), Endog: forecast error of potential GDP 2010-15							
	control X	δ	π	const	n	Adj R^2	1st F
(1)	fe gdp0709	1.24(0.07)***	-0.02(0.12)	-4.13(1.44)***	21	0.66	103.7
(2)	forec gdp1011	1.65(0.2)***	-0.86(0.37)**	-1.73(1.25)	21	0.77	115.7
(3)	reces dummy	1.29(0.17)***	0.61(1.95)	-4.05(1.1)***	21	0.67	92.7
(4)	fe dummy	0.97(0.2)***	-3.32(2.12)	-2.57(1.31)**	21	0.66	49.3
(5)	fe sb1011	1.31(0.19)***	0.38(0.54)	-4.58(0.81)***	19	0.64	88.9
(6)	trade consol	1.22(0.09)***	6.58(1.6)***	-4.47(0.55)***	21	0.78	143.8
(7)	sov'n debt09	1.3(0.14)***	0.01(0.03)	-4.8(2.02)**	21	0.68	128.3
(8)	sb09	1.81(0.26)***	-0.73(0.3)**	-8.09(1.74)***	19	0.76	91.1
(9)	sov'n cds10q1	1.26(0.74)*	0(0.04)	-4.4(3.96)	20	0.66	97.6
(10)	bankcrisis	1.29(0.1)***	2.71(1.48)*	-5.25(1.1)***	21	0.73	149.0
(11)	privatedebt07	1.12(0.08)***	0.02(0.02)	-6.54(1.55)***	20	0.74	122.7
(12)	ca07	1.33(0.13)***	-0.07(0.1)	-4.13(0.71)***	21	0.68	130.6

a country had a negative realized growth rate in 2010 or 2011. The coefficient θ has the expected negative sign and is large, but remains insignificant. The coefficients of the DFE variable remain largely unaltered but in the second stage regression the SB turns insignificant. We also test a somewhat similar specification in row (4). There we use a dummy that equals 1 for an observation with a negative forecast error in 2010-11 as a control variable. Since such a variable should explain the big variation in forecast errors between countries, the fiscal policy variable can only take care of the more gradual differences between countries that are not due to underestimated recessions or recoveries. As expected, the coefficient of the dummy is negative, large, and highly significant. β is somewhat reduced and becomes insignificant for the SB case, but remains highly significant in the DFE case. Second stage results correspond to that.

Could it have been an underestimation of the sheer *size of consolidation* instead of the multiplier effect of consolidation that explains growth disappointments? In row (5) we add the forecast error of the change in the structural balance as an additional control. Again, the effects remain intact. Moreover, there seems to be no relevant underestimation of the consolidation effort during the 2010-11 years. The multiplier effect largely dominates the size effect in terms of forecast errors. What about the *consolidation effort of trading partners*, which could spill over to domestic growth? Adding in row (6) the trade-weighted consolidation effort of trading partners as measured by the change in their structural balance and scaled by the share of exports in GDP does not affect our coefficients of interest, even if the parameter itself becomes highly significant and large.

Another perturbing candidate could be ignoring the impact of the *soundness of domestic public finances*. Maybe forecasts were too optimistic because public finances were in bad shape and their influence on growth might have been underestimated. We test this possibility in rows (7) to (9) where we use as a proxy either the initial sovereign debt-to-GDP level of 2009, the initial structural balance of 2009 or the spread of sovereign credit default swaps as an average during the first quarter of 2010, respectively. The parameters belonging to the DFE measure are qualitatively unaffected. When controlling for the initial structural balance in 2009, the persistence of multipliers is even reinforced. The coefficient of the initial structural balance itself becomes significantly negative in the second stage of the DFE estimation, meaning that for countries with higher structural deficits on the outset, potential growth forecasts were comparably too pessimistic. The stabilizing role of expansionary fiscal policy seems to have been underestimated. In the case of sovereign CDS spreads, first stage results do not change much, but the significance levels of the persistence parameter become lower in the DFE case and even insignificant when using the SB. Thus, there may be some counterbalancing effect of high sovereign risk as argued by Corsetti et al. (2013), but it does not seem to be very strong, at least when using our preferred measure of fiscal shocks.

What about the private sector and its likely underestimated impact on growth through bank stress or private debt overhang? Controlling for the indicator of Laeven and Valencia (2012), which signals whether a country is in a *banking crisis* in a certain year, does not affect our parameters of interest. Using *pre-crisis household debt-to-GDP ratios* of 2007 as a proxy for the pressure to deleverage does not affect the first stage regressions, but lowers the significance level of the persistence parameter in the SB case. The DFE case again is much more robust. Finally, in row (12), when controlling for the *pre-crisis current-account-to-GDP ratio* as a measure of external imbalances that might have stalled output growth more than expected, we again find our DFE estimation largely unaffected. For the SB case, the persistence coefficient turns smaller

and insignificant.

Summing up, controlling for various alternative explanations does not affect our central findings at least when we rely on the narrative DFE measure, where also the F statistics still signal strong instruments. For the coefficients of the SB measure results remain robust in most instances but the instruments become even weaker.

Using European Commission Data

Is the IMF forecast a special case? We test the European Commission's forecast as well, using the spring 2010 European Economic Forecast as well as $t+4$ forecasts of potential output. The EC data include the whole EU27 and thus some additional Eastern European countries, that are absent from the IMF dataset. Repeating the previous regressions with EC data, most of the results are confirmed. Results are presented in Appendix 2.B. Estimates using the structural balance are even more robust to the perturbations we tested for the IMF data. Concerning the DFE there are two interesting and plausible outliers: for the whole EU27, the coefficients of interest are somewhat weaker ($\beta = [.5; .7], \delta = [.9; 1.1]$).

Most notably, the relation completely diminishes when excluding the program countries (Table 2.12(b), column(3)), and the separate effects of spending and revenue shocks is turned upside down (column(2)). These findings are fully driven by the data of Latvia and Lithuania, countries that are absent in the IMF dataset and that witnessed a tremendous crash in 2009 with a cumulated GDP growth forecast error for the years 2008-09 as of the 2008 spring forecast of more than -20 pp each. It is not implausible that (potential) growth forecasts where more on the pessimistic side in the following years. Moreover, both countries are very small, very open economies that joined the EU only in 2004, which gave them a strong push to export growth. In such circumstances fiscal devaluation is considered less harmful (Perotti, 2012). When we exclude these special cases, the previous results of the IMF sample are re-established in full (Series (c) of Tables 2.12 through 2.15, Appendix 2.B).

Extending the Time Dimension – Moving Window

In our baseline we derive forecast errors from the vintage of spring 2016 vis-à-vis 2010 and are therefore restricted to only 21 / 22 observations in the IMF case and 27 with EC data. Fiscal consolidation in many European countries has, however, continued after 2011. Also, it might be interesting to check the short- and long-run impact for late crisis years. Therefore, we test for forecasts in subsequent years and extend the time dimension of the estimation in two ways.

First, we assess different forecast vintages individually in form of a moving window and second, jointly in a panel structure. As we only have limited access to IMF vintages with $t+5$ forecasts we concentrate in the main body of this chapter on results with EC data for the moving window and panel model exercise. Appendix 2.B presents limited samples with IMF data. Generally, the results for the first and second stage are robust to the exercise of extending the time dimension when using the DFE as fiscal shocks, while using SB produces rather inconsistent results. The model for the moving window is equivalent with the baseline specification. The two-year fiscal shocks and growth forecast errors move along with the respective vintage year. Table 2.5 (a) and (b), and Table 2.6 (a) and (b) show moving window regression results for vintages between 2010 and 2014 using SB and DFE for the first and second stage, respectively.

TABLE 2.5: First stage: Moving Window

(a) (SB), Endog: forecast error of GDP $t:t+1$					
OLS	2010	2011	2012	2013	2014
β	-1.166**	0.065	-0.473	0.564	0.204
	(0.461)	(0.268)	(0.312)	(0.389)	(0.578)
const	0.633	-2.916***	-0.876	0.584	0.649
	(0.500)	(0.847)	(0.554)	(0.571)	(0.526)
n	27	27	27	27	27
Adj. R^2	0.431	0.001	0.094	0.065	0.009
(b) (DFE), Endog: forecast error of GDP $t:t+1$					
OLS	2010	2011	2012	2013	2014
β	-0.586**	-0.609**	-0.530***	0.248	0.343
	(0.245)	(0.252)	(0.116)	(0.172)	(0.286)
const	2.216***	-1.057	-0.029	0.474	0.417
	(0.552)	(0.851)	(0.460)	(0.570)	(0.516)
n	27	27	27	27	27
Adj. R^2	0.376	0.308	0.440	0.056	0.030

TABLE 2.6: Second stage: Moving Window

(a) (SB), Endog: forecast error of potential GDP $t:t+4$					
2SLS	2010	2011	2012	2013	2014
δ	1.271***	-0.087	2.877***	1.379	1.445
	(0.222)	(5.688)	(1.095)	(1.279)	(2.223)
const	-3.909***	-3.359	3.921**	0.601	0.401
	(0.690)	(15.840)	(1.836)	(0.978)	(1.518)
n	27	27	27	27	27
Adj. R^2	0.543	-0.126	0.186	0.658	0.729
1^{st} F	6.408	0.0594	2.290	2.101	0.124
(b) (DFE), Endog: forecast error of potential GDP $t:t+4$					
2SLS	2010	2011	2012	2013	2014
δ	0.965***	0.983***	1.394***	0.893	-0.242
	(0.257)	(0.190)	(0.298)	(1.245)	(1.152)
const	-3.675***	-0.312	1.731*	1.031	1.449
	(0.690)	(0.913)	(0.965)	(1.159)	(1.342)
n	27	27	27	27	27
Adj. R^2	0.514	0.522	0.486	0.504	-0.305
1^{st} F	5.708	5.826	20.75	2.077	1.439

In the first stage SB case, baseline results are not confirmed by other vintage years, β becomes economically and statistically insignificant. However, using DFE provides robust results for the main period of European consolidation, vintage years 2010-12 with a multiplier underestimation between -0.5 and -0.6. Afterwards the effect vanishes, which may be due to the slowdown of consolidation in general, the fact that forecasters learned from their mistakes or be interpreted in line with findings of regime-dependent multiplier effects (Auerbach and Gorodnichenko, 2012; Baum et al., 2012). Turning to the second stage provides a similar picture. The baseline persistence is qualitatively confirmed for DFE while SB only yields mixed results. For the years 2010-12, persistence estimated using DFE is on a somewhat higher level compared to baseline, δ increases from 0.965 for 2010 to 1.394 for 2012, afterwards fiscal shocks show no significant persistence effect. Hence, we observe a weakening of the effects in late crisis years. Contrary to baseline estimates, the results for later vintages do not elementarily differ when excluding Latvia and Lithuania.

Extending the Time Dimension – Panel Structure

In a next step we increase the number of observations by applying a panel structure with different sets of vintages, following BL in the case of short-term multipliers. The estimation procedure is analogous to the baseline 2SLS estimation, but features a time-fixed effect. We use the STATA command "ivreg2" with robust standard errors (Baum et al., 2002). The panel model has the following properties for the first and the second stage:

$$\Delta \hat{Y}^{fe}_{i,t:t+1} = \alpha + \tau_t + \beta \Delta F^{f}_{i,t:t+1|t} \tag{2.6}$$

$$\Delta Pot Y^{fe}_{i,t:t+5} = \gamma + \tau_t + \delta \Delta \hat{Y}^{fe}_{i,t:t+1} (+X_i \pi) + \omega_{i,t:t+1|t} \tag{2.7}$$

with τ_t being a vector of time-fixed effects and $t = 2010, ..., 2013$.

The panel results (Tables 2.7-2.11) generally confirm the baseline estimates. Again, DFE proofs to be quite robust for alternative time dimensions, while SB shows sometimes ambiguous effects. The coefficient β stays within the range of 0.4 to 0.6, see Table 2.7(b). Column 10/11 presents results for a panel estimation including vintage years 2010 and 2011, column 10/12 the years 2010, 2011 and 2012, and so on. Including late crisis years lowers β to some extent, but the structural underestimation does not vanish.

Coefficient δ (Table 2.8(b)), on the contrary, increases with time, from 1.0 (10/11) to 1.2 (10/14). Even though δ shows a similar development for SB, results may not be trusted given the insignificant first stage results. Nonetheless, panel samples using SB shocks starting already in 2009 deliver more robust estimates but on a somewhat lower level regarding the underestimation of short-run effects, see Table 2.9. Also note that further specifications with different panel dimensions for both the SB and DFE case do not alter the general picture drawn so far – quite robust estimates with general weakening of the baseline effects in later crisis years, in line with the slowdown of consolidation, potential learning effects or the end of the downturn regime.

Lastly, we test how our panel results change when the control variables from above are included. Table 2.10 presents the underestimation of multiplier effects including all controls simultaneously. Estimates with DFE are very robust to this exercise. Findings for the second stage including control variables (Table 2.11) show similar characteristics – δ remains robust to the controls for DFE, while it does not for SB.

TABLE 2.7: First stage: Panel Data

(a) (SB), Endog: forecast error of GDP $t:t+1$				
Panel	p10/11	p10/12	p10/13	p10/14
β	-0.574	-0.547**	-0.419*	-0.341
	(0.349)	(0.269)	(0.249)	(0.233)
const	0.702	0.705	0.719	0.728
	(0.544)	(0.541)	(0.560)	(0.573)
n	54	81	108	135
Adj. R^2	0.283	0.249	0.248	0.223
(b) (DFE), Endog: forecast error of GDP $t:t+1$				
Panel	p10/11	p10/12	p10/13	p10/14
β	-0.596***	-0.577***	-0.456***	-0.419***
	(0.174)	(0.132)	(0.143)	(0.145)
const	2.240***	2.192***	1.894***	1.803***
	(0.516)	(0.481)	(0.494)	(0.495)
n	54	81	108	135
Adj. R^2	0.476	0.468	0.380	0.326

TABLE 2.8: Second stage: Panel Data

(a) (SB), Endog: forecast error of potential GDP $t:t+4$				
2SLS	p10/11	p10/12	p10/13	p10/14
δ	1.345***	1.695***	1.744***	1.766***
	(0.363)	(0.444)	(0.565)	(0.637)
const	-3.966***	-4.235***	-4.273***	-4.290***
	(0.735)	(0.864)	(0.934)	(0.977)
n	54	81	108	135
Adj. R^2	0.540	0.503	0.582	0.608
1^{st} F	2.705	4.125	2.841	2.142
(b) (DFE), Endog: forecast error of potential GDP $t:t+4$				
Panel 2SLS	p10/11	p10/12	p10/13	p10/14
δ	0.973***	1.086***	1.101***	1.152***
	(0.162)	(0.139)	(0.175)	(0.189)
const	-3.681***	-3.768***	-3.779***	-3.818***
	(0.689)	(0.674)	(0.676)	(0.674)
n	54	81	108	135
Adj. R^2	0.519	0.531	0.586	0.618
1^{st} F	11.72	19.19	10.13	8.396

TABLE 2.9: Further Panel Datasets (SB)

First Stage, Endog: forecast error of GDP $t:t+1$					
OLS	p09/10	p09/11	p09/12	p09/13	p09/14
β	-0.631**	-0.470**	-0.471**	-0.401**	-0.354**
	(0.253)	(0.214)	(0.188)	(0.179)	(0.173)
const	-0.228	0.007	0.007	0.109	0.178
	(0.741)	(0.719)	(0.700)	(0.697)	(0.696)
n	54	81	108	135	162
Adj. R^2	0.155	0.252	0.242	0.228	0.205
Second Stage, Endog: forecast error of potential GDP $t:t+4$					
2SLS	p09/10	p09/11	p09/12	p09/13	p09/14
δ	1.158***	1.198***	1.445***	1.452***	1.452***
	(0.359)	(0.397)	(0.383)	(0.437)	(0.467)
const	-4.721***	-4.749***	-4.922***	-4.926***	-4.926***
	(0.845)	(0.848)	(0.805)	(0.824)	(0.835)
n	54	81	108	135	162
Adj. R^2	0.573	0.567	0.568	0.624	0.649
1^{st} F	6.190	4.819	6.269	5.013	4.211

Exploring different time dimensions has shown that the severe underestimation of consolidation effects on output in the short-run and the subsequent persistence is restricted to the period of the European debt crisis where we observed significant contractions. Accordingly, the results could speak to the empirical literature on regime-dependent multipliers showing significant increases of effect sizes in recessionary periods and on the lower end of findings under the ZLB in standard macroeconomic models (Christiano et al., 2011; Eggertsson, 2011; Woodford, 2011).

2.5 Conclusion

By exploiting forecast errors of output and long-term potential output growth in the spirit of Blanchard and Leigh (2013) and Fatás and Summers (2018), but using a superior, narratively-identified measure of the fiscal stance, we have investigated as to whether the size and persistence of fiscal multipliers was underestimated for the austerity measures that were implemented in Europe after 2009.

In line with these earlier papers, we find that multipliers were strongly underestimated by about 0.7 to 1.0 units. This would translate into a multiplier range of 1.2-1.5, given that forecasters of the IMF and the European Commission on average assumed a multiplier of 0.5, a claim, for which we presented some evidence. Most interestingly, fiscal policy seems to have had a permanent effect in the 2010-11 period and beyond. These results hold up to a battery of perturbations and particularly so when relying on our improved identification strategy. Interestingly, it turns out that the effects weaken for measures in late crisis years after 2013 and when including very small very open economies.

For our European sample, we find evidence for strong hysteresis effects as opposed to the short-run pain, long-term gain consensus that emerged after the early crisis years. That is, the turn to belt tightening was badly timed and therefore much more costly in terms of long-term output loss than a more gradual, backloaded consolidation.

TABLE 2.10: Panel First Stage including all controls simultaneously

Endogenous: forecast error of GDP $t:t+1$				
	SB		DFE	
Panel OLS	p10/11	p10/12	p10/11	p10/12
β	-0.795	-0.800*	-0.877***	-0.734***
	(0.557)	(0.404)	(0.263)	(0.232)
initsov'ndebt	-0.025	-0.018*	-0.015	-0.004
	(0.016)	(0.009)	(0.014)	(0.009)
fe gdp0809	-0.117	-0.111	-0.214*	-0.185**
	(0.125)	(0.080)	(0.106)	(0.074)
fe sb	-1.177***	-1.083***	-0.487*	-0.417**
	(0.294)	(0.232)	(0.250)	(0.176)
initsb	-0.257	-0.313**	-0.223*	-0.259**
	(0.199)	(0.140)	(0.131)	(0.105)
sov'n cdsq1	0.004	0.001**	0.007*	0.001***
	(0.004)	(0.000)	(0.004)	(0.000)
bankcrisis	0.488	0.957	-0.316	0.339
	(1.052)	(0.699)	(0.929)	(0.644)
gdpfor	0.253	0.161	0.010	-0.062
	(0.311)	(0.191)	(0.304)	(0.205)
potgdpfor	-0.039	0.037	-0.201*	-0.057
	(0.123)	(0.101)	(0.115)	(0.101)
trade part cons	-0.264		-0.313	
	(0.853)		(0.848)	
ca07	0.085	0.060	0.102*	0.044
	(0.067)	(0.039)	(0.060)	(0.035)
private debt 07	-0.004	-0.005	-0.003	-0.002
	(0.007)	(0.005)	(0.006)	(0.004)
const	1.544	0.434	3.076	0.917
	(2.515)	(1.583)	(2.333)	(1.636)
n	48	73	48	73
Adj. R^2	0.568	0.556	0.631	0.607

TABLE 2.11: Panel Second Stage including all controls simultaneously

Endogenous: forecast error of potential GDP $t:t+4$				
	SB		DFE	
2SLS	p10/11	p10/12	p10/11	p10/12
δ	0.152	0.908*	0.739**	1.134***
	(0.728)	(0.488)	(0.345)	(0.367)
initsov'ndebt	0.009	0.031*	0.019	0.034**
	(0.022)	(0.018)	(0.019)	(0.017)
fe gdp0809	-0.354*	-0.270***	-0.262***	-0.237**
	(0.194)	(0.102)	(0.092)	(0.092)
fe sb	-1.066	0.196	-0.538	0.364
	(0.733)	(0.459)	(0.393)	(0.377)
initsb	0.016	-0.211	0.001	-0.203
	(0.131)	(0.145)	(0.106)	(0.144)
sov'n cdsq1	0.015***	-0.000	0.013***	-0.001*
	(0.005)	(0.000)	(0.004)	(0.000)
bankcrisis	1.767	0.436	1.421	0.164
	(1.324)	(1.139)	(0.917)	(1.067)
gdpfor	0.687**	0.148	0.464*	0.081
	(0.348)	(0.213)	(0.241)	(0.183)
potgdpfor	0.253	0.302**	0.269**	0.286**
	(0.172)	(0.142)	(0.123)	(0.141)
trade part cons	1.512		1.157	
	(1.136)		(1.158)	
ca07	0.198*	0.098	0.137	0.082
	(0.119)	(0.067)	(0.089)	(0.068)
private debt 07	0.007	0.008	0.006	0.008
	(0.008)	(0.006)	(0.007)	(0.006)
const	-13.049***	-14.128***	-13.306***	-13.992***
	(2.623)	(2.957)	(2.111)	(2.956)
n	48	73	48	73
Adj. R^2	0.457	0.591	0.685	0.615
1st F	2.035	3.927	11.16	10.05

2.A Appendix: Computing forecast errors

For the calculation of real GDP and potential GDP growth forecast errors we follow the approach of FS. The main issue is to make the data for GDP or potential GDP comparable between the different vintages. The problem is caused by "data revisions, changes in base year and also changes in national accounting rules" (FS; p. 31). Real GDP growth forecast errors are defined as follows:

$$\Delta Y^{fe}_{i,t:t+1} \equiv \Delta Y_{i,t:t+1} - \Delta Y^{f}_{i,t:t+1|t} \tag{2.8}$$

with $\Delta Y^{fe}_{i,t:t+1}$ being the growth forecast error of real GDP for the years t to $t+1$ for country i, Y being actual GDP at the latest vintage and Y^f its respective forecasted value at vintage year t. Hence, the forecast error of GDP growth is given by the difference between current-vintage figures of the cumulated change in GDP over two years and its forecast in the spring vintage of year t. In all cases, current-vintage figures are taken from the spring 2016 publication of either the IMF WEO or the European Commission Economic Forecast. In order to account for base-year revisions or changes in national accounting rules that would bias our estimate of the forecast error, we re-base both real GDP level series at $t-1$, where t is the year of the earlier vintage. That is, we create two indices for real GDP Y, first for the 2010 vintage and second for the 2016 vintage, and use 2009 as base year (=100) for both series such that any technical level revisions are ruled out and we can simply compare the subsequent growth. Note that if we would analyze the 2011 vintage, our base year would be 2010, and so on. Afterwards, we simply derive the forecast error in our example with

$$\Delta Y^{fe,2010}_{i,2010:2011} = \frac{Y^{2016}_{i,2009:2011} - Y^{2010}_{i,2009:2011}}{Y^{2010}_{i,2009:2011}} \cdot 100 \tag{2.9}$$

Turning to potential output ($PotY$), given our interest in 5-year growth rate forecast errors for potential output we define them as follows:

$$\Delta PotY^{fe}_{i,t:t+5} \equiv \Delta PotY_{i,t:t+5} - \Delta PotY^{f}_{i,t:t+5|t} \tag{2.10}$$

When computing forecast errors for potential output the values of the different vintages have to be adjusted in a slightly different way because as new (disappointing) GDP data come in, the assessment of past potential output values is revised (downwards) as well. Simply comparing cumulated potential growth rates of different vintages would therefore unduly downplay the forecast error. However, we still want to get rid of technical revisions due to changes in definitions or base years. We compute the $t+5$ potential output growth forecast error of the 2010 vintage as

$$\Delta PotY^{fe,2010}_{i,2010:2015} = \frac{PotY^{2016}_{i,2015} - PotY^{2010}_{i,2015} \cdot k}{PotY^{2010}_{i,2015} \cdot k} \cdot 100 \tag{2.11}$$

with k being an adjustment factor, given by

$$k = \frac{Y^{2016}_{i,2009}}{Y^{2010}_{i,2009}} \tag{2.12}$$

That is, we adjust the potential output forecasts at vintage t by multiplying them with the ratio of the actual level GDP of $t-1$ divided by the level of GDP of $t-1$ at

vintage t, thus correcting for any technical level revisions while acknowledging revisions of past potential output due to growth disappointments. Note that in the case of potential output we have $t+5$ forecasts only for IMF data. The EC forecasts only incorporate figures up to $t+4$. This caveat has to be considered when comparing the results for the IMF and the EC case in Section 2.4.

2.B Appendix: Effects with European Commission Data and Moving Window Estimates

This appendix includes further robustness tests for our regressions. First, we repeat the exercises of Tables 2.1 through 2.4, this time for European Commission Economic Forecast data of spring 2010 against spring 2016. Again, we use both the SB (this time from the European Commission) and the DFE measure. Tables 2.12 through 2.15 display the findings.

In general, the results are confirmed. The effects based on SB (panels (a)) are even more robust when using the EC forecasts. However, when including all 27 EU countries the effects weaken somewhat for the DFE measure (panels (b)): they do not hold when excluding Greece, Portugal and Spain (Table 2.12(b), column (3)); moreover, the earlier finding that underestimation of multipliers was stronger for spending side-measures is turned upside down. These changes very much depend on the inclusion of Latvia and Lithuania. Panels (c) of Tables 2.12 through 2.15 gives the findings based on DFE for a sample excluding these two observations: all previous results are reconfirmed.

Table 2.16 presents moving window estimations with IMF data, showing a very similar picture for the two years of available vintages compared to the EC data case in Table 2.5 and 2.6. DFE shocks indicate to have a weakening effect on the coefficients in the first and second stage, while first stage SB estimations are only significant in the 2010 baseline. The second stage for SB looks comparatively good, but cannot be relied upon given the opaque first stage results.

Tables 2.17 and 2.18 include panel specifications with available IMF data, confirming previous results.

TABLE 2.12: First stage: EC Forecast

(a) (SB), Endog: forecast error of GDP 2010-11					
OLS	(1)SB	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT
β	-1.166**		-0.618*	-1.676***	-0.966***
	(0.461)		(0.327)	(0.441)	(0.266)
β^G		-1.719***			
		(0.397)			
β^T		-0.959***			
		(0.282)			
const	0.633	0.895**	1.134**	0.584	0.614
	(0.5)	(0.392)	(0.434)	(0.513)	(0.637)
n	27	23	24	17	27
Adj. R^2	0.4087	0.6636	0.1557	0.6771	
(b)(DFE), Endog: forecast error of GDP 2010-11					
OLS	(1)DFE	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT
β	-0.586**		0.012	-0.863***	-0.861**
	(0.245)		(0.243)	(0.048)	(0.404)
β^G		0.405			
		(0.298)			
β^T		-1.567***			
		(0.267)			
const	2.216***	2.062***	1.325**	2.681***	2.501***
	(0.552)	(0.504)	(0.588)	(0.484)	(0.859)
n	27	27	24	17	27
Adj. R^2	0.3512	0.5185	-0.0453	0.7937	
(c)(DFE) excl. Latvia, Lithuania					
OLS	(1)DFE	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT
β	-0.844***		-1.077**	-0.863***	-0.852***
	(0.056)		(0.47)	(0.048)	(0.039)
β^G		-1.14**			
		(0.431)			
β^T		-0.616*			
		(0.315)			
const	2.273***	2.309***	2.497***	2.681***	2.35***
	(0.429)	(0.445)	(0.678)	(0.484)	(0.631)
n	25	25	22	17	25
Adj. R^2	0.6703	0.6590	0.2201	0.7937	

TABLE 2.13: Second stage: EC Forecast

(a) (SB), Endog: forecast error of potential GDP 2010-14						
2SLS	(1)SB	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT	(6)DIR
δ	1.27***	0.76**	1.43**	0.95***	1.17***	
	(0.23)	(0.35)	(0.6)	(0.17)	(0.31)	
η						-1.48***
						(0.5)
const	-3.91***	-4**	-4.08**	-4.27***	-4.41***	-3.1***
	(0.72)	(0.83)	(1.18)	(1.02)	(0.89)	(0.92)
n	27	23	24	17	27	27
Adj. R^2	0.543	0.464	0.371	0.554		0.223
1st F	6.41	9.38	3.57	14.47		
(b)(DFE), Endog: forecast error of potential GDP 2010-14						
2SLS	(1)DFE	(2)GT	(3)EURO	(4)QUANT	(5)DIR	
δ	0.97***	1.14***	1.04***	1.02		
	(0.27)	(0.12)	(0.1)	(0.77)		
η					-0.57	
					(0.37)	
const	-3.67***	-3.81***	-4.33***	-4.98***	-1.54	
	(0.72)	(0.7)	(0.95)	(1.47)	(1.18)	
n	27	27	17	27	27	
Adj. R^2	0.543	0.543	0.554		0.092	
1st F	5.71	18.83	329.05			
(c)(DFE) excl. Latvia, Lithuania						
2SLS	(1)DFE	(2)GT	(3)NOPROG	(4)EURO	(5)QUANT	(6)DIR
δ	1.13***	1.12***	0.82	1.04***	1.03***	
	(0.11)	(0.11)	(0.62)	(0.1)	(0.17)	
η						-0.95***
						(0.11)
const	-3.98***	-3.97***	-3.51	-4.33***	-4.86***	-1.42
	(0.73)	(0.72)	(1.17)	(0.95)	(0.46)	(1.08)
n	25	25	22	17	25	25
Adj. R^2	0.517	0.517	0.327	0.554		0.289
1st F	225.56	106.89	5.25	329.05		

TABLE 2.14: First stage with controls: EC forecast

	control X	β	θ	const	n	Adj R^2
(a) (SB), Endog: forecast error of GDP 2010-11						
(1)	fe gdp0809	-1.12(0.5)**	-0.08(0.11)	-0.13(1.07)	27	0.401
(2)	forec gdp1011	-1.1(0.35)***	0.46(0.21)**	-0.64(0.82)	27	0.499
(3)	reces dummy	-0.95(0.4)**	-2.51(1)**	1.22(0.48)**	27	0.483
(4)	fe dummy	-0.85(0.37)**	-3.4(0.75)***	1.93(0.47)***	27	0.634
(5)	fe sb1011	-1.2(0.37)***	-0.6(0.38)	1.51(0.58)**	27	0.461
(6)	trade part cons	-1.19(0.46)**	0.16(0.59)	0.42(0.55)	26	0.436
(7)	sov'n debt09	-0.92(0.38)**	-0.03(0.01)**	3.1(1.03)***	27	0.501
(8)	sb09	-0.94(0.45)**	0.15(0.1)	1.36(0.62)**	27	0.397
(9)	sov'n cds10q1	-1.11(0.46)**	0(0)	1.21(0.6)*	26	0.382
(10)	bankcrisis	-1.26(0.4)***	-1.79(1.02)*	1.35(0.56)**	27	0.463
(11)	private debt 07	-1.48(0.41)***	-0.02(0.01)**	2.44(1.01)**	26	0.504
(12)	ca07	-1.19(0.51)**	-0.01(0.05)	0.58(0.53)	27	0.385
(b) (DFE), Endog: forecast error of GDP 2010-11						
	control X	β	θ	const	n	Adj R^2
(1)	fe gdp0809	-0.7(0.16)***	-0.28(0.09)***	-0.26(1.03)	27	0.530
(2)	forec gdp1011	-0.57(0.26)**	0.05(0.25)	2.02(1)*	27	0.325
(3)	reces dummy	-0.45(0.32)	-1.71(1.62)	2.26(0.58)***	27	0.355
(4)	fe dummy	-0.47(0.19)**	-3.83(0.7)***	3.35(0.51)***	27	0.669
(5)	fe sb1011	-0.68(0.25)**	0.38(0.54)	1.88(0.62)***	27	0.346
(6)	trade part cons	-0.66(0.22)***	-0.06(0.64)	2.17(0.52)***	26	0.452
(7)	sov'n debt09	-0.45(0.22)*	-0.04(0.01)**	4.45(1.21)***	27	0.455
(8)	sb09	-0.4(0.31)	0.25(0.14)*	2.95(0.7)***	27	0.374
(9)	sov'n cds10q1	-0.77(0.29)**	0.01(0.01)	1.54(0.72)**	26	0.351
(10)	bankcrisis	-0.58(0.25)**	-0.3(1)	2.32(0.74)***	27	0.326
(11)	private debt 07	-0.61(0.25)**	-0.01(0.01)	2.9(1.09)**	26	0.337
(12)	ca07	-0.6(0.27)**	-0.01(0.08)	2.2(0.53)***	27	0.325
(c)(DFE) excl. Latvia, Lithuania						
	control X	β	θ	const	n	Adj R^2
(1)	fe gdp0809	-0.84(0.06)***	-0.1(0.11)	1.41(1.1)	25	0.673
(2)	forec gdp1011	-0.78(0.12)***	0.17(0.22)	1.64(0.87)*	25	0.666
(3)	reces dummy	-0.75(0.08)***	-1.18(1.06)	2.31(0.44)***	25	0.670
(4)	fe dummy	-0.69(0.05)***	-2.82(0.49)***	3.09(0.38)***	25	0.837
(5)	fe sb1011	-0.83(0.09)***	-0.08(0.4)	2.35(0.53)***	25	0.656
(6)	trade part cons	-0.85(0.06)***	-0.25(0.58)	2.33(0.44)***	25	0.657
(7)	sov'n debt09	-0.76(0.08)***	-0.02(0.01)	3.25(1.06)***	25	0.679
(8)	sb09	-0.72(0.08)***	0.15(0.12)	2.71(0.65)***	25	0.674
(9)	sov'n cds10q1	-0.63(0.09)***	-0.01(0.01)**	3.02(0.55)***	24	0.702
(10)	bankcrisis	-0.84(0.06)***	-0.26(0.76)	2.37(0.55)***	25	0.657
(11)	private debt 07	-0.86(0.06)***	0(0.01)	2.66(0.9)***	24	0.670
(12)	ca07	-0.79(0.09)***	0.05(0.06)	2.36(0.4)***	25	0.672

TABLE 2.15: Second stage with controls: EC forecast

(a) (SB), Endog: forecast error of potential GDP 2010-15							
	control X	δ	π	const	n	Adj R^2	1st F
(1)	fe gdp0809	1.23(0.23)***	-0.07(0.14)	-4.62(1.88)**	27	0.530	4.52
(2)	forec gdp1011	1.3(0.24)***	-0.23(0.28)	-3.28(1.07)***	27	0.534	6.17
(3)	reces dummy	1.38(0.32)***	1.51(1.94)	-4.33(1.09)***	27	0.533	5.64
(4)	fe dummy	1.31(0.37)***	0.47(2.33)	-4.11(1.54)***	27	0.525	13.49
(5)	fe sb1011	1.26(0.21)***	0.19(0.51)	-4.18(1.3)***	27	0.527	5.49
(6)	trade part cons	1.28(0.22)***	-1.55(1.43)	-3.63(0.84)***	26	0.524	3.41
(7)	sov'n debt09	1.43(0.33)***	0.03(0.02)	-5.86(1.79)***	27	0.540	5.46
(8)	sb09	1.19(0.57)**	0.06(0.36)	-3.56(2.38)	27	0.525	3.51
(9)	sov'n cds10q1	1.41(0.3)***	0.01(0.01)	-4.8(1.63)***	26	0.532	2.88
(10)	bankcrisis	1.26(0.22)***	0.31(1.27)	-4.02(1.13)***	27	0.525	5.14
(11)	private debt 07	1.31(0.22)***	0(0.01)	-4.53(1.02)***	26	0.642	6.71
(12)	ca07	1.42(0.3)***	-0.07(0.06)	-4.4(0.81)***	27	0.536	3.24
(b) (DFE), Endog: forecast error of potential GDP 2010-15							
	control X	δ	π	const	n	Adj R^2	1st F
(1)	fe gdp0809	1.04(0.16)***	-0.1(0.14)	-4.77(1.9)**	27	0.529	13.34
(2)	forec gdp1011	1.02(0.39)***	-0.08(0.35)	-3.5(1.26)***	27	0.531	2.74
(3)	reces dummy	0.91(0.39)**	-0.37(1.75)	-3.55(1.14)***	27	0.517	3.43
(4)	fe dummy	0.89(0.32)***	-1.39(1.89)	-3.1(1.29)**	27	0.506	22.56
(5)	fe sb1011	0.99(0.24)***	0.05(0.57)	-3.77(1.48)**	27	0.526	3.76
(6)	trade part cons	1.02(0.22)***	-1.47(1.44)	-3.49(0.81)***	26	0.523	4.76
(7)	sov'n debt09	0.97(0.43)**	0(0.03)	-3.77(2.38)	27	0.526	7.93
(8)	sb09	0.39(0.93)	0.46(0.44)	-1.07(3.07)	27	0.376	6.15
(9)	sov'n cds10q1	1.13(0.34)***	0(0.01)	-4.29(1.91)**	26	0.532	4.78
(10)	bankcrisis	0.97(0.26)***	0.03(1.24)	-3.69(1.17)***	27	0.525	2.78
(11)	private debt 07	0.9(0.29)***	0(0.01)	-4.33(0.95)***	26	0.642	3.27
(12)	ca07	1.06(0.26)***	-0.04(0.07)	-3.94(0.69)***	27	0.535	2.88
(c)(DFE) excl. Latvia, Lithuania							
	control X	δ	π	const	n	Adj R^2	1st F
(1)	fe gdp0809	1.13(0.11)***	-0.02(0.19)	-4.13(2.26)*	25	0.495	103.3
(2)	forec gdp1011	1.14(0.24)***	-0.03(0.38)	-3.91(1.52)***	25	0.495	141.6
(3)	reces dummy	1.11(0.15)***	-0.25(1.68)	-3.92(1.04)***	25	0.493	94.4
(4)	fe dummy	1.12(0.14)***	-0.08(1.69)	-3.95(1.28)***	25	0.494	115.8
(5)	fe sb1011	1.07(0.16)***	-0.28(0.7)	-3.59(1.51)**	25	0.495	110.1
(6)	trade part cons	1.16(0.1)***	-1.56(1.4)	-3.71(0.8)***	25	0.519	114.0
(7)	sov'n debt09	1.24(0.22)***	0.02(0.02)	-5.26(1.76)***	25	0.509	116.3
(8)	sb09	0.87(0.23)***	0.27(0.25)	-2.62(1.52)*	25	0.493	121.9
(9)	sov'n cds10q1	1.04(0.49)**	0(0.02)	-3.4(3.2)	24	0.481	120.5
(10)	bankcrisis	1.13(0.1)***	-0.12(1.31)	-3.93(1.24)***	25	0.495	127.8
(11)	private debt 07	1.09(0.1)***	0(0.01)	-4.89(0.94)***	24	0.625	107.4
(12)	ca07	1.15(0.15)***	-0.02(0.07)	-4.07(0.69)***	25	0.497	114.6

TABLE 2.16: Moving Window: IMF Data

First Stage, Endog: forecast error of GDP $t:t+1$					
		SB		DFE	
OLS	2009	2010	2011	2010	2011
β	-0.792	-1.342**	-0.711	-0.861***	-0.737***
	(0.549)	(0.530)	(0.630)	(0.055)	(0.219)
const	0.918	1.153***	-1.892**	2.750***	-0.696
	(0.974)	(0.402)	(0.734)	(0.489)	(0.914)
n	22	22	22	21	21
Adj. R^2	0.0605	0.476	0.0777	0.698	0.445
Second Stage, Endog: forecast error of potential GDP $t:t+5$					
2SLS					
δ	1.641*	1.008***	1.465***	1.236***	1.169***
	(0.958)	(0.382)	(0.504)	(0.068)	(0.216)
const	-6.304***	-3.522***	-0.129	-3.914***	-1.187
	(1.658)	(0.827)	(1.606)	(0.709)	(1.194)
n	22	22	22	21	21
Adj. R^2	0.734	0.538	0.680	0.663	0.567
1st F	2.081	6.403	1.272	244.4	11.32

TABLE 2.17: Panel Data, First Stage: IMF Data

Endogenous: forecast error of GDP $t:t+1$					
	SB			DFE	
Panel-OLS	p09/11	p10/11	p09/11 +controls	p10/11	p10/11 +controls
β	-0.988***	-1.063**	-1.351***	-0.800***	-0.813***
	(0.356)	(0.427)	(0.459)	(0.109)	(0.255)
initsov'ndebt			-0.023		0.013
			(0.014)		(0.017)
fe gdp0809			0.485***		0.529***
			(0.094)		(0.157)
fe sb			-0.507**		0.032
			(0.241)		(0.259)
initsb			-0.674***		-0.418*
			(0.194)		(0.209)
sov'n cdsq1			0.000		0.001
			(0.003)		(0.004)
bankcrisis			0.234		-0.611
			(0.590)		(0.948)
gdpfor			-0.395**		-0.360*
			(0.177)		(0.183)
potgdpfor			0.519***		0.456
			(0.141)		(0.316)
trade part cons			0.635		1.127
			(0.971)		(0.685)
ca07			0.130**		0.154
			(0.057)		(0.115)
private debt 07			0.000		0.004
			(0.005)		(0.006)
const	0.761	0.997**	0.902	2.617***	0.920
	(0.806)	(0.431)	(1.776)	(0.496)	(3.323)
n	66	44	63	42	36
Adj. R^2	0.402	0.431	0.643	0.660	0.806

TABLE 2.18: Panel Data, Second Stage: IMF Data

Endogenous: forecast error of potential GDP $t:t+5$					
	SB			DFE	
2SLS	p09/11	p10/11	p09/11 controls	p10/11	p10/11 controls
δ	1.253***	1.143***	1.447***	1.205***	1.875***
	(0.309)	(0.280)	(0.224)	(0.106)	(0.234)
initsov'ndebt			-0.000		0.002
			(0.016)		(0.016)
fe gdp0809			0.090		-0.372**
			(0.132)		(0.156)
fe sb			0.672***		0.209
			(0.205)		(0.364)
initsb			-0.436***		-0.426**
			(0.133)		(0.175)
sov'n cdsq1			0.002		0.003
			(0.003)		(0.003)
bankcrisis			-0.124		0.697
			(0.576)		(0.810)
gdpfor			0.108		-0.072
			(0.224)		(0.186)
potgdpfor			-0.115		-0.286
			(0.141)		(0.197)
trade part cons			1.511*		0.875
			(0.876)		(1.112)
ca07			0.147**		0.046
			(0.074)		(0.133)
private debt 07			0.022***		0.008
			(0.005)		(0.005)
const	-5.702***	-3.576***	-7.731***	-3.886***	-9.549***
	(0.981)	(0.783)	(1.538)	(0.736)	(1.886)
n	66	44	63	42	36
Adj. R^2	0.644	0.611	0.839	0.626	0.800
1st F	7.705	6.198	8.656	53.94	10.20

Chapter 3

A Narrative Account of Legislated Social Security Changes for Germany

3.1 Introduction[17]

This chapter documents a rich quarterly dataset of discretionary legislative shocks in the German social security system from 1970 to 2018. We include major legislations for pensions, health care, long-term care, unemployment insurance and transfers at the German federal level. The chapter serves as a companion to Chapter 4, where we estimate effects of social security shocks on macroeconomic variables and household panel data for Germany.

Relying on several chronicles for all subdivisions of social security, we conduct a list of key legislations in the social security system. In setting up the narrative dataset we follow Romer and Romer (2010), who originally proposed this identification strategy for fiscal policy shocks with the intention to reduce the endogeneity bias resulting from uncertain budget elasticities and endogenous discretionary policy responses in the traditional cyclical adjustment approach as pioneered by Blanchard and Perotti (2002). Based on legislative texts, presidential speeches and congressional reports, Romer and Romer (2010) identify the size, timing, and motivation of major legislated tax changes for the United States and construct a tax shock series from these narrative information. Thus, in our historical account for the German social security system, we also collect specific details regarding the underlying motivation, the dates of the legislative process and the prospective financial impact. However, some modifications to the methodology with regard to idiosyncrasies of the social security system and reporting standards in the German legislative system had to be made.

The chapter is organized as follows. In Section 3.2 we describe our principles of the data construction. Section 3.3 provides an overview of the coded shock series for social security. Finally, Section 3.4 has the detailed information for each law listed in the chronicles.

[17] This chapter is a replication of the co-authored publication Gechert et al. (2020a). It is a companion paper to Gechert et al. (2020b) and, thus, to Chapter 4. It has been published as supplementary online material by the Journal of Monetary Economics.

3.2 Coding the social security narrative shock series

In contrast to the construction of the German tax shock series by Uhl (2013), expected impacts of discretionary policy changes in benefits and social security contributions are not listed in the annual budgetary report of the Federal Ministry of Finance (*Bundesfinanzberichte*). In order to identify major changes to social security and transfer legislation, we therefore rely on chronicles from the Federal Ministry of Labour and Social Affairs (Bundesministerium für Arbeit und Soziales, 2011), various *Sozialberichte*, the chronicle of the German Statutory Pension Insurance (2011) as well as Steffen (2019), who provides a chronicle of major legislations for all subdivisions of social security. From these chronicles, we set up a list of major legislations for pensions, health care, long-term care and unemployment insurance at the German federal level for the period 1970 to 2018. For each law listed in the chronicles, we then work through draft legislations, bills, parliamentary protocols, speeches and newspapers in order to collect information regarding the underlying motivation (i), the dates of the legislative process (ii) and the prospective financial impact (iii). These are described in more detail below:[18]

(i) A central advantage of the narrative approach is that one can readily select discretionary measures and separate them from all automatic fluctuations of the budget. However, discretionary measures can still be endogenous reactions to changing circumstances, which would harm the causal interpretation of estimation results. Following Romer and Romer (2010) we assign each law an exogenous or endogenous underlying motivation. In line with Hayo and Uhl (2014) we classify those measures as endogenous, which are either driven by policies that contemporaneously affect other budgetary positions with interfering effects but which are outside the information set of the narrative (spending-driven (SD) or revenue-driven (RD)[19] motivation), countercyclical or procyclical[20] policies (CC) as well as reactions to other macroeconomic shocks (MS), like the financial crises, oil price shocks, etc. Refraining to consider these measures in the shock series should rule out likely biases from omitted variables. The relevant exogenous changes that lend themselves to a causal interpretation with respect to short-run multiplier effects are those that are motivated by attempts to budgetary consolidation (C), structural and ideological reasons or rulings of the court (S).

(ii) From the information of the law, we are able to detect the timing of implementation of a measure in order to determine the quarter of the shock in our data set. Similarly to Hayo and Uhl (2014), we take record of different implementation dates of individual measures within a law code if applicable and check whether they are temporary or permanent. In some rare cases we lacked sufficient information on prospective implementation dates from the legislative texts or found them inconsistent with budgetary data from the financial statistics of the Bundesbank (*Finanzstatistik*). In such cases we used the latter to date the shocks. In the event that measures are of a temporary nature, the date of its expected expiration is recorded as well and

[18] For an extensive description of the methodological characteristics of the narrative framework see Romer and Romer (2010).

[19] The Romer and Romer (2010) or Uhl (2013) narrative does not include the RD motivation, as they only cover the revenue side. Our full set of social security shocks includes benefits and transfer changes which are in some instances endogenously driven by changes to revenue components.

[20] A procyclical motivation has not been identified in the original Romer and Romer (2010) paper. However, we noted several such instances for German legislations where budget deficits as a result of recessions have been answered by increases in contribution rates and vice versa. Procyclically motivated interventions mainly occur in situations when there is an immediate concern about a deficit or overshoot in the social security budget.

provides the timing where we set the respective counter-shock of the same size. As far as temporary measures are prolonged, a new shock with the new expiration date is included. Announcement effects are coded uniformly for all measures of a law. The publication date of the draft lends itself to determining the announcement date, as it provides detailed information and usually comes with newspaper coverage. If there are additional information that point to an earlier or later announcement date, we take them into account.

(iii) The size of the shock and the economic relevance of each law is determined by its total prospective full-year impact (*Volle Jahreswirkung*) divided by annual nominal GDP in the year of the shock. The total prospective full-year impact is defined, assuming no change in the tax base. Note that, on the contrary, the Mertens and Ravn (2014) shocks are sized to 1% of GDP of tax revenues, *including the initial feedback on the tax base*. Since the feedback is likely to be negative, the Mertens and Ravn (2014) shock size is effectively larger.

The best available information on the full-year impact is given in the draft(s) of each law. As a general caveat, it should be noted that these figures are ex-ante evaluations that are prone to uncertainty and probably to political bias. There is a more specific caveat regarding the difference of tax legislations and social security legislations. As opposed to tax laws, for social security and transfer legislations there is no consistent reporting of the full-year effect; drafts often merely display the expected impact in forthcoming years (mostly t+3). Moreover, to our knowledge there is no comparable source as the *Bundesfinanzberichte* that provide an ex-post listing of budgetary effects of all tax laws within a year. However, a comparison of tax law drafts and *Bundesfinanzberichte* shows that, first, in the vast majority of cases they provide similar figures, such that the ex-ante numbers are seldom prone to revision; second, the published full-year impact mostly equals the estimated impact at the end of the horizon for forthcoming years. Thus, whenever the full-year impact is not explicitly included in the drafts, we generally rely on the estimated impact at the end of the displayed horizon as the full-year effect of a measure for our shock series. There are however some exceptions:

If a draft of a bill only includes one value for the financial impact for one year and displays no time horizon it is straightforward that the value represents our total impact on an annual basis after full implementation. If the stated financial impact is given for several years and remains persistent, we follow the same procedure as above and take this value for granted as total effect. But in many cases the stated impact changes over the time horizon. If these changes are only minor, we take the initial value as our expected total impact on an annual basis after full implementation. If there are major changes to the financial impact over years, which is often due to distinct implementation dates of some measures of the law bundle, we account for them as additional shocks at their implementation date. In some cases, however, only the consolidated financial impact of the law is given, and a direct assignment of the change in the financial impact to single measures is impossible. In these cases we consider the difference between the financial impacts of the years in question as a separate shock, subtracting a steady state growth component of the nominal value. Another special case applies to shocks implemented during the year, i.e. in the second to fourth quarter. If the financial effect for the first year given in the draft evidently states that it displays only the impact until the end of the year, the value of first year cannot be interpreted as the total impact on an annual basis after full implementation. In this case we therefore consider either the second year as our shock size or, if necessary, we use the first year value as starting point and add separate shocks in later periods as described above.

Following Hayo and Uhl (2014), we restrict our attention to all laws in the shock series with an expected total impact after full implementation above or just slightly below 0.1% of annual nominal GDP at the quarter the law was implemented. We also include laws where substantial budgetary impacts of single measures are cancelled out by each other or by temporary measures.

Some laws included in the tax shock series by Hayo and Uhl (2014) entail changes to social security contributions and transfers, which we take on board for our series. In these cases, we follow Hayo and Uhl (2014) in their assessment of the general motivation behind these laws and their collection of the relevant dates.

Some changes to revenues and expenditures are implemented by law or orders, but actually only enforce a given rule like the formula to determine pensions. In these cases we refer to a hypothetical "steady state" growth path defined by the rule, and following the rule does not establish a shock. Only deviations from or changes of the rule are interpreted as shocks. Often a rule, like the balanced-budget rule of the pension system provides some leeway as to the means to obey to the rule. Measures could for example change contribution rates or benefits, or even change the limits of the buffer stock. Effectively, the timing and choice of measures is very much driven by circumstances and ideology. This indeterminacy requires a case-by-case evaluation, as to whether a measure is part of the steady state or a shock.

In this spirit, one could argue that a Ricardian agent forms expectations about the financing needs of the social security system and will thus expect a certain contribution rate or pension level. For example, the agent may expect that the current path of revenues does not cover expenditures and thus anticipate a change in the contribution rate. So, such changes in the contribution rate that are motivated by long-term financing needs may not be regarded as shocks, while subsidies from the public budget to the pension system to cover the funding gap could qualify as shocks. However, assuming a fully Ricardian agent would also imply that all tax shocks may be anticipated as they cover the financing needs of the public budget. Thus, even the tax shocks identified by the narrative approach would be anticipated and could not be counted as shocks. Moreover, for a fully Ricardian agent a subsidy from the public budget to the budget of the pension system would bring a financing gap in the public budget and thus involve an inherent future tax liability, too. In a fully rational setting with a representative agent, the latter could not be regarded as a shock either. However, in realistic circumstances there is uncertainty about the concrete measure and its distributional impact on heterogeneous agents. Therefore our procedure does not imply full anticipation of shocks. This allows for a coherent treatment of tax and social security shocks in the narrative approach.

3.3 Dataset at a glance

Table 3.1 lists all relevant legislations, their announcement date, motivation and overall impact, without detailing single measures of the law and their respective implementation dates. Transitory changes have a long-run impact of '0' by definition.

TABLE 3.1: Overview of relevant legislations

Anno. Date	Legislation Title	Motive		Anno. impact bn €
06/30/1970	Gesetz zur Änderung des zweiten Gesetzes zur Förderung der Vermögensbildung der Arbeitnehmer	S	Exo	-0.11
07/14/1970	Zweites Gesetz über die Anpassung der Leistungen des Bundesversorgungsgesetzes (Zweites Anpassungsgesetz - 2. AnpG KOV)	RD	Endo	-0.14
12/21/1970	Zweites Krankenversicherungsänderungsgesetz vom 21.12.1970 (2. KVÄG)	S	Exo	0.39
08/10/1972	Gesetz zur Weiterentwicklung des Rechts der gesetzlichen Krankenversicherung (Gesetz über die Krankenversicherung der Landwirte - KVLG)	S	Exo	-0.25
10/16/1972	Gesetz zur weiteren Reform der gesetzlichen Rentenversicherungen	S	Exo	0.15
08/07/1974	Gesetz über die Angleichung der Leistungen zur Rehabilitation	S	Exo	-0.5
12/20/1975	Gesetz zur Verbesserung der Haushaltsstruktur	C	Exo	3.63
06/27/1977	Zwanzigstes Rentenanpassungsgesetz – 20^{th} RAG	C	Exo	1.68
06/27/1977	Gesetz zur Dämpfung der Ausgabenentwicklung und zur Strukturverbesserung in der gesetzlichen Krankenversicherung	S	Exo	1.29
07/25/1978	Gesetz über die Anpassung der Renten aus der gesetzlichen Rentenversicherung	MS	Endo	-0.11
08/11/1978	Zehntes Gesetz über die Anpassung der Leistungen des Bundesversorgungsgesetzes	RD	Endo	0.68
06/25/1979	Gesetz zur Einführung eines Mutterschaftsurlaubs	S	Exo	-0.74
08/01/1980	Gesetz über die Anpassung der Renten der gesetzlichen Rentenversicherung im Jahr 1982 (24^{th} RAG)	RD	Endo	-3.73
12/22/1981	Gesetz zur Konsolidierung der Arbeitsförderung (Arbeitsförderungs-Konsolidierungsgesetz - AFKG)	MS	Endo	3.71
12/22/1981	Kostendämpfungs-Ergänzungsgesetz - KVEG	MS	Endo	0.75
06/03/1982	Gesetz über steuerliche und sonstige Maßnahmen für Arbeitsplätze, Wachstum und Stabilität (Beschäftigungsförderungsgesetz - BeschäftFG)	S	Exo	0.72
12/12/1982	Gesetz zur Wiederbelebung der Wirtschaft und Beschäftigung und zur Entlastung des Bundeshaushalts (Haushaltsbegleitgesetz 1983)	MS	Endo	0.02
12/22/1983	Haushaltsbegleitgesetz 1984	S	Exo	5.32
12/06/1985	Gesetz über die Gewährung von Erziehungsgeld und Erziehungsurlaub	S	Exo	-1.43
12/20/1985	Siebtes Gesetz zur Änderung des Arbeitsförderungsgesetzes	S	Exo	-1.22
06/27/1987	Gesetz zur Verlängerung des Versicherungsschutzes bei Arbeitslosigkeit und Kurzarbeit	CC	Endo	-0.45
07/16/1987	Gesetz über Leistungen der gesetzlichen Rentenversicherung ... (Kindererziehungsleistungs-Gesetz – KLG)	S	Exo	-1.66

Continued on next page

Table 3.1 – continued from previous page

12/20/1988	Gesetz zur Strukturreform im Gesundheitswesen	S	Exo	0
12/20/1988	Gesetz zur Änderung des Arbeitsförderungsgesetzes und zur Förderung eines gleitenden Übergangs älterer Arbeitnehmer in den Ruhestand	S	Exo	0.64
12/18/1989	Gesetz zur Reform der gesetzlichen Rentenversicherung (Rentenreformgesetz 1992 - RRG 1992)	S	Exo	3.16
03/22/1991	Gesetz zur Änderung der Beitragssätze in der gesetzlichen Rentenversicherung und bei der Bundesanstalt für Arbeit (BeitrS. RV/BA ÄndG)	SD	Endo	5.47
07/25/1991	Gesetz zur Herstellung der Rechtseinheit in der gesetzlichen Renten- und Unfallversicherung (Renten-Überleitungsgesetz - RÜG)	S	Exo	-3.91
07/27/1992	Gesetz zum Schutz des vorgeburtlichen/werdenden Lebens, zur Förderung einer kinderfreundlicheren Gesellschaft, für Hilfen im Schwangerschaftskonflikt und zur Regelung des Schwangerschaftsabbruchs (Schwangeren- und Familienhilfegesetz)	MS	Endo	-7.92
12/18/1992	Gesetz zur Änderung von Fördervoraussetzungen in Arbeitsförderungsgesetz und in anderen Gesetzen	C	Exo	2.83
06/23/1993	Gesetz zur Umsetzung des Föderalen Konsolidierungsprogramms	C	Exo	1.3
10/27/1993	Verordnung zur Bestimmung der Beitragssätze in der GRV 1994	SD	Endo	8.76
12/21/1993	Erstes Gesetz zur Umsetzung des Spar-, Konsolidierungs- und Wachstumsprogramms	MS	Endo	6.43
05/26/1994	Gesetz zur sozialen Absicherung des Risikos der Pflegebedürftigkeit	S	Exo	16.05
07/20/1994	Verordnung zur Bestimmung des Beitragssatzes 1995	SD	Endo	-4.5
11/02/1995	Verordnung zur Bestimmung des Beitragssatzes 1996	SD	Endo	4.76
07/23/1996	Gesetz zur Förderung eines gleitenden Übergangs in den Ruhestand	S	Exo	1.99
11/01/1996	Gesetz zur Entlastung der Beiträge in der gesetzlichen Krankenversicherung	RD	Endo	4.44
11/22/1996	Verordnung zur Bestimmung der Beitragssätze 1997	SD	Endo	3.78
12/20/1996	Jahressteuergesetz 1997	S	Exo	0.19
01/01/1997	Gesetz zur Umsetzung des Programms für mehr Wachstum und Beschäftigung in den Bereichen der Rentenversicherung und Arbeitsförderung (Wachstums- und Beschäftigungsförderungsgesetz - WFG)	S	Exo	5.16
03/24/1997	Gesetz zur Reform des Arbeitsförderungsgesetz	S	Exo	8.12
03/26/1997	Zweites Gesetz zur Neuordnung von Selbstverwaltung und Eigenverantwortung in der gesetzlichen Krankenversicherung (2.GKV-Neuordnungsgesetz - 2.GKV-NOG)	C	Exo	1.02
12/16/1997	Gesetz zur Reform der gesetzlichen Rentenversicherung (Rentenreformgesetz 1999 - RRG 1999)	S	Exo	-3.35
12/19/1998	Gesetz zur Korrekturen in der Sozialversicherung und zur Sicherung der Arbeitnehmerrechte	S	Exo	-5.16
03/24/1999	Gesetz zur Neuregelung der geringfügigen Beschäftigungsverhältnisse	S	Exo	2.61
12/01/2000	Gesetz zur Neuregelung der sozialversicherungsrechtlichen Behandlung von einmalig gezahltem Arbeitsentgelt (Einmalzahlungs-Neuregelungsgesetz)	S	Exo	-1.69

Continued on next page

Table 3.1 – continued from previous page

01/01/2001	Beitragssatzverordnung	S	Exo	-1.71
06/29/2001	Gesetz zur Reform der gesetzlichen Rentenversicherung und zur Förderung eines kapitalgedeckten Altersvorsorgevermögens (Altersvermögensgesetz - AVmG)	S	Exo	10.27
12/23/2002	Erstes und Zweites Gesetz für moderne Dienstleistungen am Arbeitsmarkt	S	Exo	6.46
12/23/2002	Gesetz zur Sicherung der Beitragssätze in der gesetzlichen Krankenversicherung und in der gesetzlichen Rentenversicherung (Beitragssatzsicherungsgesetz)	C	Exo	7.27
06/17/2003	Zwölftes Gesetz zur Änderung des Fünften Buches Sozialgesetzbuch	C	Exo	0
11/14/2003	Gesetz zur Modernisierung der gesetzlichen Krankenversicherung (GKV-Modernisierungsgesetz - GMG)	C	Exo	7.19
12/23/2003	Drittes Gesetz für moderne Dienstleistungen am Arbeitsmarkt	S	Exo	0.18
12/24/2003	Viertes Gesetz für moderne Dienstleistungen am Arbeitsmarkt	S	Exo	4.2
12/27/2003	Gesetz zur Einordnung des Sozialhilferechts in das Sozialgesetzbuch	S	Exo	0.06
10/27/2003	Zweites Gesetz zur Änderung des Sechsten Buches Sozialgesetzbuch und anderer Gesetze	C	Exo	3
12/27/2003	Drittes Gesetz zur Änderung des Sechsten Buches Sozialgesetzbuch und anderer Gesetze	C	Exo	0.75
12/30/2003	Gesetz zu Reformen am Arbeitsmarkt	S	Exo	1.1
07/21/2004	Gesetz zur Sicherung der nachhaltigen Finanzierungsgrundlagen der gesetzlichen Rentenversicherung (RV-Nachhaltigkeitsgesetz)	S	Exo	5.27
12/15/2004	Gesetz zur Berücksichtigung der Kindererziehung im Beitragsrecht der sozialen Pflegeversicherung (Kinder-Berücksichtigungsgesetz – KiBG)	S	Exo	0.7
12/15/2004	Gesetz zur Anpassung der Finanzierung von Zahnersatz	C	Exo	1.14
03/24/2006	Gesetz zur Änderung des Zweiten Buches Sozialgesetzbuch und anderer Gesetze	S	Exo	0.37
04/26/2006	Gesetz zur Verbesserung der Wirtschaftlichkeit in der Arzneimittelversorgung	C	Exo	1.79
06/15/2006	Gesetz über die Weitergeltung der aktuellen Rentenwerte ab 1. Juli 2006	CC	Endo	-2
06/29/2006	Haushaltsbegleitgesetz 2006	S	Exo	-13.95
07/20/2006	Gesetz zur Fortentwicklung der Grundsicherung für Arbeitsuchende	S	Exo	0.85
12/05/2006	Gesetz zur Einführung des Elterngeldes	S	Exo	-1.6
12/21/2006	Gesetz über die Senkung des Beitrags zur Arbeitsförderung, die Festsetzung der Beitragssätze in der gesetzlichen Rentenversicherung und der Beiträge und Beitragszuschüsse in der Alterssicherung der Landwirte für das Jahr 2007	S	Exo	1.24
03/26/2007	Gesetz zur Stärkung des Wettbewerbs in der gesetzlichen Krankenversicherung (GKV-Wettbewerbsstärkungsgesetz – GKV-WSG)	S	Exo	7.5
12/22/2007	Sechstes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch und anderer Gesetze	S	Exo	-7
04/08/2008	Siebtes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch und anderer Gesetze	S	Exo	1.37

Continued on next page

Table 3.1 – continued from previous page

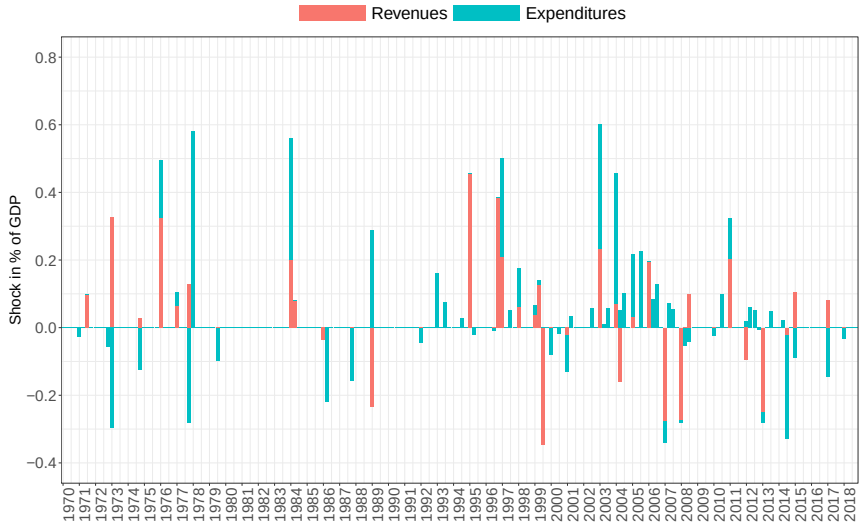
05/28/2008	Gesetz zur strukturellen Weiterentwicklung der Pflegeversicherung (Pflege-Weiterentwicklungsgesetz)	S	Exo	0.26
06/26/2008	Gesetz zur Rentenanpassung 2008	S	Exo	0
10/29/2008	Verordnung zur Festlegung der Beitragssätze in der gesetzlichen Krankenversicherung (GKV-Beitragsatzverordnung 2009)	MS	Endo	4
12/20/2008	Gesetz zur Senkung des Beitragssatzes zur Arbeitsförderung	CC	Endo	-2.4
12/21/2008	Maßnahmenpaket „Beschäftigungssicherung durch Wachstumsstärkung“	CC	Endo	0
12/21/2008	Verordnung über die Erhebung von Beiträgen zur Arbeitsförderung nach einem niedrigeren Beitragssatz (Beitragsatzverordnung 2009)	CC	Endo	0
03/05/2009	Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland	CC	Endo	-17.27
06/25/2009	Gesetz zur Änderung des Gesetzes zur Errichtung eines Sondervermögens “Investitions- und Tilgungsfonds”	CC	Endo	-3.5
07/15/2009	Gesetz zur Änderung des Vierten Buches Sozialgesetzbuch, zur Errichtung einer Versorgungsausgleichskasse und zur Änderung anderer Gesetze	CC	Endo	0.6
12/18/2009	Verordnung zur Festsetzung des Umlagesatzes für das Insolvenzgeld für das Kalenderjahr 2010	MS	Endo	2
07/24/2010	Gesetz zur Änderung krankenversicherungsrechtlicher und anderer Vorschriften	C	Exo	0
11/19/2010	Bundesbesoldungs- und -versorgungsanpassungsgesetz 2010/2011 (BBVAnpG 2010/2011)	S	Exo	0
12/09/2010	Haushaltsbegleitgesetz 2011	C	Exo	1.13
12/22/2010	Gesetz zur Neuordnung des Arzneimittelmarktes in der gesetzlichen Krankenversicherung (Arzneimittelmarktneuordnungsgesetz - AMNOG)	C	Exo	2
12/22/2010	Gesetz zur nachhaltigen und sozial ausgewogenen Finanzierung der Gesetzlichen Krankenversicherung (GKV-Finanzierungsgesetz - GKV-FinG)	C	Exo	7.32
03/24/2011	Gesetz zur Ermittlung von Regelbedarfen und zur Änderung des Zweiten und Zwölften Buches Sozialgesetzbuch	CC	Endo	1.22
12/17/2011	Verordnung zur Festsetzung des Umlagesatzes für das Insolvenzgeld für das Kalenderjahr 2011	MS	Endo	-2.8
12/07/2011	Verordnung zur Bestimmung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2012 (Beitragssatzverordnung 2012 - BSV 2012)	S	Exo	-2.6
12/20/2011	Gesetz zur Verbesserung der Eingliederungschancen am Arbeitsmarkt	S	Exo	1.64
12/20/2011	Gesetz zur Wiedergewährung der Sonderzahlung	S	Exo	0
10/23/2012	Gesetz zur Neuausrichtung der Pflegeversicherung (Pflege-Neuausrichtungs-Gesetz - PNG)	S	Exo	0.15
12/05/2012	Gesetz zur Festsetzung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2013 (Beitragssatzgesetz 2013)	S	Exo	-6.3
12/20/2012	Gesetz zur Regelung des Assistenzpflegebedarfs in stationären Vorsorge- oder Rehabilitationseinrichtungen	S	Exo	-1.75
12/22/2013	13. SGB-V-Änderungsgesetz	C	Exo	0
03/27/2014	14. SGB-V-Änderungsgesetz	C	Exo	0
06/23/2014	RV-Leistungsverbesserungsgesetz	S	Exo	-9.6

Continued on next page

Table 3.1 – continued from previous page

12/17/2014	Erstes Pflegestärkungsgesetz (PSG I)	S	Exo	0.5
12/22/2014	Verordnung zur Bestimmung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2015 (Beitragssatzverordnung 2015 - BSV 2015)	CC	Endo	-2
12/21/2015	Zweites Pflegestärkungsgesetz (PSG II)	S	Exo	0.5
12/18/2017	Verordnung zur Bestimmung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2018 (Beitragssatzverordnung 2018 - BSV 2018)	CC	Endo	-1.1

FIGURE 3.1: Exogenous Shocks to Social Security at Implementation Date (% GDP)

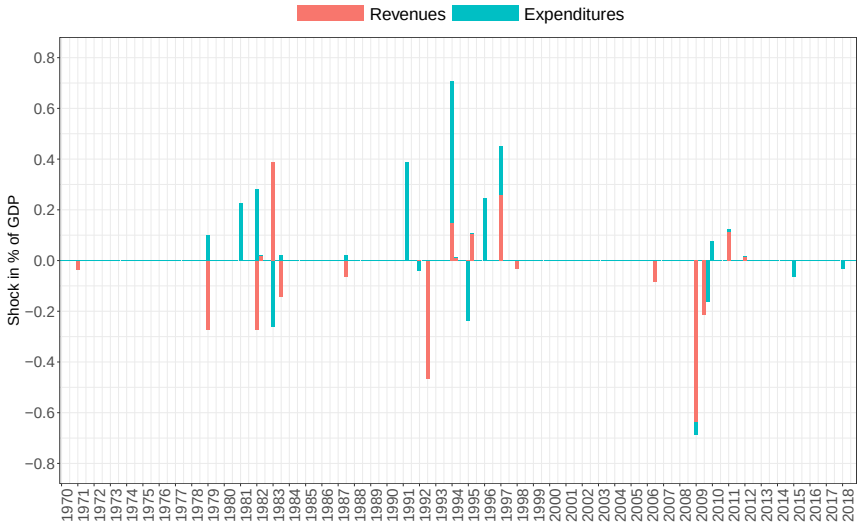


The figure shows the annualized financial impact of exogenous legislative changes after full implementation for revenues and expenditures of the social security system at the German federal level for the period 1970 to 2018 in percent of annual GDP. A positive sign indicates a contractionary shock (cut to benefits or increase in contributions).

Figure 3.1 summarizes our exogenous shock series at implementation dates from 1970 to 2018. For changes to social security contributions the mean is positive but very low with 0.007 (standard deviation: 0.08) and for benefits 0.011 (sd: 0.09), positive and close to zero as well. Volatility is low for both social security shock series.

Figure 3.2 includes those shocks for contributions and benefits which are endogenously motivated. The endogenous series of contributions has a mean close to zero with 0.006 (sd: 0.07), benefits -0.006 (sd: 0.08). Endogenous policy actions to the social security system were concentrated at the beginning of the 1980s, the mid 1990s and after the financial crises.

FIGURE 3.2: Endogenous Shocks to Social Security at Implementation Date (% GDP)



The figure shows the annualized financial impact of endogenous legislative changes after full implementation for revenues and expenditures of the social security system at the German federal level for the period 1970 to 2018 in percent of annual GDP. A positive sign indicates a contractionary shock (cut to benefits or increase in contributions).

3.4 Narrative Account of Legislated Social Security Changes

Zweites Gesetz über die Anpassung der Leistungen des Bundesversorgungsgesetzes (Zweites Anpassungsgesetz – 2. AnpG KOV)

Draft	Publication	Implementation	Motivation	Impact
05/22/1970	07/14/1970	01/01/1971	RD	-0.14 bn €

The law included an adjustment of the workers pension income to the development of wages and salaries between 1965 and 1967. They increased by 5.5%. The financial impact of the measure was -0.14 bn € according to the draft.

The motivation of the law is endogenous, because the adjustment is related to a steady path and did not include unexpected shocks.

http://dipbt.bundestag.de/doc/btd/06/007/0600798.pdf

Zweites Krankenversicherungsaänderungsgesetz (2. KVÄG)

Draft	Publication	Implementation	Motivation	Impact
09/04/1970	12/21/1970	07/01/1971	S	0.39 bn €

The law included changes to the health insurance system. According to the draft, the main reason of the law was to reassess and automatize the threshold for employees at which point health insurance is mandatory. Also it reorganized the employer fees in this regard. The total financial impact of the law cumulates to 0.39 bn €.

The motivation of the law is structural.

http://dipbt.bundestag.de/doc/btd/06/011/0601130.pdf

Gesetz zur Änderung des zweiten Gesetzes zur Förderung der Vermögensbildung der Arbeitnehmer

Draft	Publication	Implementation	Motivation	Impact
04/03/1970	06/30/1970	01/01/1970	S	-0.11 bn €

Given that this law is included in Uhl (2013), the other measures have to be considered in our narrative, even though the financial impact is very low. The additional shock yields -0.11 bn €, caused by "Prämienmehrausgaben" (premium excess expenditures).

With regard to the assessment of Uhl (2013), the motivation is structural.

http://dipbt.bundestag.de/doc/btd/06/006/0600601.pdf

Wiedergutmachung nationalsozialistischen Unrechts in der Sozialversicherung

Draft	Publication	Implementation	Motivation	Impact
04/30/1970	12/22/1970	02/01/1971		-

No substantial financial impact.

Gesetz über Unfallversicherung für Schüler und Studenten sowie Kinder in Kindergärten

Draft	Publication	Implementation	Motivation	Impact
	03/23/1971	04/01/1971		-

No financial impact identifiable.

Gesetz zur weiteren Reform der gesetzlichen Rentenversicherungen

Draft	Publication	Implementation	Motivation	Impact
12/08/1971	10/16/1972	01/01/1973	S	0.15 bn €

Although this law, which did changes to the pension system, had in total no substantial financial impact, it is still included in the narrative because it implemented many significant measures. For instance, it introduced a flexible retirement age, an additional year for women and some changes to the calculation of the retirement payment, all disburdening employees.

These measures were in sum -1.44 bn €. However, according to the draft, the changes have to be seen in the context of the decision to increase fees to 18% by the 01.01.1973 agreed on in the "Drittes Rentenversicherungsänderungsgesetz" in 1969. The total financial impact after full implementation for this measure is according to the draft 1.59 bn €.

Given that the law includes long-term changes to the structure of the pension system, it is classified as structural. However, in the context of the fee raise, one could also discuss to categorise this measure as revenue-driven. Nonetheless, the total financial impact is in sum minor and the issue therefore less substantial.

http://dipbt.bundestag.de/doc/btd/06/029/0602916.pdf

Gesetz zur Weiterentwicklung des Rechts der gesetzlichen Krankenversicherung (Gesetz über die Krankenversicherung der Landwirte – KVLG)

Draft	Publication	Implementation	Motivation	Impact
12/30/1971	08/10/1972	10/01/1972	S	-0.25 bn €

According to the draft of the law, the self-employed farmers and their working family members were not adequately enough protected from their economic risk connected with illness. The government's subsidy to finance the changes given to the health insurance of farmers yielded a total annual financial impact after full implementation of -0.25 bn €, which is just over the threshold of the narrative at that time.

Given the problem described above, the law is clearly exogenous and therefore classified as structural.

http://dipbt.bundestag.de/doc/btd/06/030/0603012.pdf

Zweites Gesetz zur Änderung und Ergänzung des Arbeitsförderungsgesetzes (2. AFG-Novelle)

Draft	Publication	Implementation	Motivation	Impact
10/12/1071	05/19/1972	05/01/1972		-

No substantial financial impact.

Betriebsverfassungsgesetz

Draft	Publication	Implementation	Motivation	Impact
01/29/1971	01/15/1972	01/16/1972		-

No substantial financial impact.

Gesetz zur Regelung der gewerbsmäßigen Arbeitnehmerüberlassung (Arbeitnehmerüberlassungsgesetz – AÜG)

Draft	Publication	Implementation	Motivation	Impact
06/15/1971	08/07/1972	10/07/1972		-

No substantial financial impact.

Gesetz über Betriebsärzte, Sicherheitsingenieure und andere Fachkräfte für Arbeitssicherheit

Draft	Publication	Implementation	Motivation	Impact
02/26/1973	12/12/1973	01/01/1975		-

No substantial financial impact.

Gesetz zur Verbesserung von Leistungen in der gesetzlichen Krankenversicherung (Leistungsverbesserungsgesetz – KLVG)

Draft	Publication	Implementation	Motivation	Impact
03/21/1973	12/19/1973	01/01/1974		-

No substantial financial impact.

Gesetz über die Angleichung der Leistungen zur Rehabilitation

Draft	Publication	Implementation	Motivation	Impact
11/09/1973	08/07/1974	10/01/1974	S	-0.5 bn €

The law included harmonisation and improvement of the rehabilitation benefits for disabled people. The different measures implied expenditure increases by the amount of -0.67 bn €. However, these changes are partially offset by changes on the revenue side from increasing insurance premiums.

The motivation is straightforward. The government stated that the measures were necessary and responsible steps towards modern social policies, which has to protect disabled persons and integrate them more easily into the job market and the society as a whole. Hence, the motivation is long-term and structural.

http://dipbt.bundestag.de/doc/btd/07/012/0701237.pdf

Neufassung des Schwerbehindertengesetzes

Draft	Publication	Implementation	Motivation	Impact
05/10/1973	04/29/1974	05/01/1974		-

No substantial financial impact.

Gesetz über Konkursausfallgeld (3. AFG-Novelle)

Draft	Publication	Implementation	Motivation	Impact
03/01/1974	07/17/1974	07/18/1974		-

No substantial financial impact.

Gesetz zur Verbesserung der betrieblichen Altersversorgung

Draft	Publication	Implementation	Motivation	Impact
11/26/1973	12/19/1974	01/01/1975		-

No substantial financial impact.

Gesetz über die Sozialversicherung Behinderter

Draft	Publication	Implementation	Motivation	Impact
04/16/1974	05/07/1975	07/01/1975		-

No substantial financial impact.

Gesetz über die Krankenversicherung der Studenten (KVSG)

Draft	Publication	Implementation	Motivation	Impact
12/16/1974	06/24/1975	10/01/1975		-

No substantial financial impact.

Gesetz zur Änderung des Arbeitsförderungsgesetzes und des Arbeitnehmerüberlassungsgesetzes

Draft	Publication	Implementation	Motivation	Impact
01/21/1975	06/25/1975	07/01/1975		-

No substantial financial impact.

Sozialgesetzbuch (SGB) – Allgemeiner Teil

Draft	Publication	Implementation	Motivation	Impact
06/27/1973	12/11/1975	01/01/1976		-

No substantial financial impact.

Gesetz zur Verbesserung der Haushaltsstruktur (Haushaltsstrukturgesetz – HStruktG)

Draft	Publication	Implementation	Motivation	Impact
10/08/1975	12/20/1975	01/01/1976	S	2.95 bn €
		01/01/1977	C	0.67 bn €

The law implemented measures concerning the tax system, which are included in the database of Uhl (2013), as well as changes in the social security system.

The highest financial impact was caused by an increase in the unemployment insurance fees, which was forecasted to save 2.35 bn € on an annual basis. The measure was implemented in two steps, the first amounts to 1.04 bn € in 1976 and the remaining phase-in shock of 0.47 bn € in 1977. Another important measure was a change of the Employment Promotion Act, it saved 0.65 bn € on an annual basis after full implementation. The additional measures caused only minor financial impacts.

The measures were implemented to consolidate the budget of the federal and municipality level, as well as the Bundesanstalt für Arbeit (BA). Therefore, Uhl (2013) categorised the law as exogenous consolidation shocks. Nonetheless, the government put emphasise on the worldwide recession in the years before. They explained that the law is a reaction to an increase in budget deficits caused by the recession. Under consideration of these aspects, it is possible to argue that the law is typical countercyclical saving in the upturn and hence, endogenous. However, with respect to the evaluation of Uhl (2013) and for comparability reasons we stick to the exogenous motivation.

http://dip21.bundestag.de/dip21/btd/07/041/0704127.pdf

Gesetz zu dem Übereinkommen Nr. 138 der Internationalen Arbeitsorganisation vom 26. Juni 1973 über das Mindestalter für die Zulassung zur Beschäftigung

Draft	Publication	Implementation	Motivation	Impact
10/21/1974	01/28/1976	01/29/1976		-

No substantial financial impact.

Gesetz zum Schutze der arbeitenden Jugend (Jugendarbeitsschutzgesetz – JArbSchG)

Draft	Publication	Implementation	Motivation	Impact
06/21/1974	04/12/1976	05/01/1976		-

No substantial financial impact.

Gesetz über die Mitbestimmung der Arbeitnehmer (Mitbestimmungsgesetz – MitbestG)

Draft	Publication	Implementation	Motivation	Impact
04/29/1974	05/04/1976	07/01/1976		-

No substantial financial impact.

Gesetz über die Entschädigung für Opfer von Gewalttaten (OEG)

Draft	Publication	Implementation	Motivation	Impact
08/27/1974	05/11/1976	05/12/1976		-

No substantial financial impact.

Erstes Gesetz zur Reform des Ehe- und Familienrechts (1. EheRG)

Draft	Publication	Implementation	Motivation	Impact
06/01/1973	06/14/1976	07/01/1977		-

No substantial financial impact.

Sozialgesetzbuch (SGB) – Gemeinsame Vorschriften für die Sozialversicherung

Draft	Publication	Implementation	Motivation	Impact
10/08/1975	12/23/1976	07/01/1977		-

No substantial financial impact.

Gesetz zur Dämpfung der Ausgabenentwicklung und zur Strukturverbesserung in der gesetzlichen Krankenversicherung

Draft	Publication	Implementation	Motivation	Impact
03/11/1977	06/27/1977	10/01/1977	S	1.18 bn €
		01/01/1978	S	0.11 bn €

The law has to be evaluated in the context of the "Zwanzigstes Rentenanpassungsgesetz - 20. RAG". Together they implemented structural and consolidation motivated measures. The increase in the health insurance contribution ceiling and measures to reduce expenditures summed up to a shock of

1.18 bn €. The legislative texts point to an implementation of these measures directly after publication, thus in the third quarter of 1977. However, checking against the budgetary data we expect a delay in the process and appoint the implementation date to the fourth quarter. In the beginning of 1978, this law further integrated changes to the regulation of subsidies for investment costs in hospitals, with a financial impact of 0.11 bn €.

In the draft of the law, it stated that the costs of the health system should be reduced in order to decrease the burden on contributors and the economy. Therefore, the motivation is structural.

http://pdok.bundestag.de/extrakt/ba/WP8/1537/153752.html

Zwanzigstes Rentenanpassungsgesetz – 20th RAG

Draft	Publication	Implementation	Motivation	Impact
03/11/1977	06/27/1977	10/01/1977	C	-2.14 bn €
		01/01/1978	C	3.82 bn €

The 20th RAG re-evaluated the pension payments and consequently reduced the burden of the pension insurance by 5.39 bn €, effective in the 4th quarter of 1977 according to budgetary data. That is counted against the pension adjustment in that year, -8.22 bn €. Furthermore, the law included the postponement of the 21st adjustment of the pension payments which reduced expenditures by 3.99 bn €, effective at the beginning of 1978. Further minor measures included new terms for the child subsidies within the old age insurance (financial relief of 0.28 bn €), changes to the foreign pension regulations (savings of 0.09 bn €) and other regulations for cures within the pension insurance (financial impact on annual basis of 0.3 bn €)

Normally, the payment adjustments within the pension insurance are not considered as exogenous shocks in our narrative series as they can be seen as a steady state path. Nonetheless, the 20th RAG included significant consolidation measures to finance current and future pension payment adjustments. As the adjustment and the consolidation measures have to be seen in context, we decided the law to be exogenous. Even though some measures within the code can be seen as structural, the general tendency behind the reasoning of the government is the consolidation of the budget. Hence the law is categorised as consolidation. However, given the recessionary pressure and the slow development of wages at that time and similar expectations for the future, one could also discuss to categorise this measure in the context of a macroeconomic shock.

http://pdok.bundestag.de/extrakt/ba/WP8/1537/153751.html

Viertes Gesetz zur Änderung des Arbeitsförderungsgesetzes

Draft	Publication	Implementation	Motivation	Impact
08/29/1977	12/22/1977	01/01/1978		-

No substantial financial impact.

Gesetz über die Anpassung der Renten aus der gesetzlichen Rentenversicherung (21st RAG)

Draft	Publication	Implementation	Motivation	Impact
04/24/1978	07/25/1978	01/01/1979	MS	-1.98 bn €
		01/01/1981	MS	1.87 bn €

Like other RAGs, the 21st RAG passed an endogenous pension adjustment. In sum, this caused a total financial impact of -5.81 bn € on an annual basis dated at the beginning of 1979. However, the government was under severe saving pressure. Therefore, similar to the consolidation line of the 20th RAG, they implemented a saving programme. Thus, the adjustment deviated from the steady state path. Also, the law implemented a change to the tax base. Both measure together caused lower expenditures compared to baseline of 4.18 bn €. Moreover, the law implemented an increase of the contribution rate from 18% to 18.5% in 1981 with a total impact of 1.87 bn €. The remainder is mainly determined by the increasing burden of the changes for the federal budget, cumulating to -0.4 bn €. Thus, in sum the measures of the law almost cancel each other out. The law carried on with the consolidation requirements implemented by the 20th RAG. Nonetheless, the consolidation pressure was due to the financial stress caused by the current and expected slower growth environment related to the oil crisis. Hence, we categorise this law endogenous in the context of a macroeconomic shock.

http://pdok.bundestag.de/extrakt/ba/WP8/1543/154373.html

Gesetz zur Herabsetzung der flexiblen Altersgrenze in der gesetzlichen Rentenversicherung für Schwerbehinderte

Draft	Publication	Implementation	Motivation	Impact
09/22/1978	11/06/1978	01/01/1979		-

No substantial financial impact.

Zehntes Gesetz über die Anpassung der Leistungen des Bundesversorgungsgesetzes

Draft	Publication	Implementation	Motivation	Impact
04/24/1978	08/11/1978	01/01/1979	RD	0.68 bn €

The law implemented an adjustment of the pension benefits ("Versorgungsbezüge"), causing a shock to revenues of 0.68 bn €.

The law was dominated by the measure concerning the steady-state adjustment of the "Versorgungsbezüge". Partly, there were also structural measures taken to increase other benefits, especially for curative treatments and war victim aid. However, one can not directly assign a financial impact to these measures. Moreover, the financial impact of the endogenous measures were more significant and the year 1979 was concerned with the oil price shock. Therefore, we categorise the law as endogenous.

http://pdok.bundestag.de/extrakt/ba/WP8/1543/154377.html

Gesetz zur Einführung eines Mutterschaftsurlaubs

Draft	Publication	Implementation	Motivation	Impact
03/05/1979	06/25/1979	07/01/1979	S	-0.74 bn €

The law introduced a six month maternity leave for women in work after the birth of the child. It also improved the job protection for mothers.

The government clearly stated that it wants to reduce the dual burden for women after pregnancy. Hence, the motivation is straightforward, structural.

http://pdok.bundestag.de/extrakt/ba/WP8/1544/154478.html

Neufassung des Arbeitsgerichtsgesetzes

Draft	Publication	Implementation	Motivation	Impact
05/24/1977	11/06/1978	12/31/1978		-

No substantial financial impact.

Fünftes Gesetz zur Änderung des Arbeitsförderungsgesetzes (5. AFG-ÄndG)

Draft	Publication	Implementation	Motivation	Impact
03/07/1979	07/28/1979	08/01/1979		-

No substantial financial impact.

Gesetz über die Gleichbehandlung von Männern und Frauen am Arbeitsplatz undüber die Erhaltung von Ansprüchen bei Betriebsübergang

Draft	Publication	Implementation	Motivation	Impact
11/06/1979	08/13/1980	08/14/1980		-

No substantial financial impact.

Sozialgesetzbuch-Verwaltungsverfahren

Draft	Publication	Implementation	Motivation	Impact
08/04/1978	08/26/1980	01/01/1981		-

No substantial financial impact.

Gesetz über die Sozialversicherung der selbstständigen Künstler und Publizisten (Künstlersozialversicherungsgesetz – KSVG)

Draft	Publication	Implementation	Motivation	Impact
11/27/1980	08/01/1981	01/01/1983		-

No substantial financial impact.

Gesetz über die Anpassung der Renten der gesetzlichen Rentenversicherung im Jahre 1982 (24th RAG)

Draft	Publication	Implementation	Motivation	Impact
11/27/1980	08/01/1981	01/01/1982	RD	-3.9 bn €

The 24th RAG generally enacted the adjustment of pension payments to the development of wages and salaries within the steady state path, an increase of old age benefits with a financial impact on an annual basis of -4.05 bn € at the beginning of 1982. Other adjustments within the law had only minor financial impacts, mainly concerning the foreign pension law and some rulings of the federal

constitutional court.

Even though some measures were enacted by the constitutional court and are therefore exogenous, these changes only had a very minor financial impact. Against the background that the chronicles we rely on list RAGs only if they have additional regulations included, this law was categorized as a cyclical adjustment and therefore endogenous in our narrative. Moreover, the year 1982 was a recession for Germany and consequently even structural adjustments would have to be turned into a macroeconomic shock.

http://pdok.bundestag.de/extrakt/ba/WP9/1469/146958.html

Sechstes Gesetz zur Änderung des Arbeitsförderungsgesetzes (Wartezeitgesetz)

Draft	Publication	Implementation	Motivation	Impact
05/08/1981	08/03/1981	01/01/1983		-

No substantial financial impact.

Gesetz zur Bekämpfung der illegalen Beschäftigung

Draft	Publication	Implementation	Motivation	Impact
09/09/1981	12/15/1981	01/01/1982		-

No substantial financial impact.

Gesetz zur Konsolidierung der Arbeitsförderung (Arbeitsförderungs-Konsolidierungsgesetz – AFKG)

Draft	Publication	Implementation	Motivation	Impact
09/28/1981	12/22/1981	01/01/1982	MS	3.71 bn €

Implemented at the beginning of 1982, the AFKG mainly incorporated measures targeting the employment promotion to improve the financial sustainability of the unemployment insurance.

The main measure of the law was an increase of contribution fees, yielding a financial impact of 1.64 bn € on an annual basis. The second highest impact were expenditure cuts related to the individual sponsorship of professional education, 0.64 bn €. Other important measures, concerning the BA, were for instance cuts to individual sponsorship of professional rehabilitation and to employment benefits. Furthermore, the law implemented the omission of the insurance exemption level for low-income jobs, leading to higher revenues of 0.28 bn € for the pension insurance. The remainder of the total financial impact derives from other small measures within the law, causing either higher revenues or lower expenditures for the BA, the pension insurance, the health insurance or the compensation insurance.

According to the arguments in the draft, one could classify the law as structural measures. There was an increasing abuse of the unemployment insurance combined with a poor labour market situation. However, as pointed out above, we categorize 1982 as macroeconomic shock, hence the law is an endogenous shock in our narrative.

http://pdok.bundestag.de/extrakt/ba/WP9/1470/147015.html

Gesetz zur Änderung des Gesetzes zur wirtschaftlichen Sicherung der Krankenhäuserpflegesätze (Krankenhaus-Kostendämpfungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
06/12/1981	12/22/1981	07/01/1982		-

No substantial financial impact.

Kostendämpfungs-Ergänzungsgesetz – KVEG

Draft	Publication	Implementation	Motivation	Impact
09/28/1981	12/22/1981	01/01/1982	MS	0.75 bn €

With a total financial impact on an annual basis of 0.75 bn €, the financial impact of the KVEG was low. Nonetheless, we decided to include the impact in the narrative as the measures are the continuation of the cuts implemented by the "Gesetz zur Dämpfung der Ausgabenentwicklung und zur Strukturverbesserung in der gesetzlichen Krankenversicherung" from 1977. Moreover, the financial impact is only very slightly below the 0.1% of GDP threshold and some measures within the law included a range of financial impact estimations, where we decided for the amount in the middle.

The most important measures of the law were the increase of the co-payments to pharmaceutical products and the expenditure limit on cures with 0.18 bn € and 0.15 bn €.

Again, according to the explanations in the draft of the KVEG the measures are implemented to improve the financial stability of the health insurance and consolidate the budget in order to avoid fee increases in the future. Hence, the law should be exogenous within our narrative shock series. Nonetheless, 1982 can be considered as macroeconomic shock, in line with the other bills in that year, also the KVEG is set endogenous.

http://pdok.bundestag.de/extrakt/ba/WP9/1470/147012.html

Gesetz über steuerliche und sonstige Maßnahmen für Arbeitsplätze, Wachstum und Stabilität (Beschäftigungsförderungsgesetz – BeschäftFG)

Draft	Publication	Implementation	Motivation	Impact
03/01/1982	06/03/1982	01/01/1984	S	0.72 bn €

The BeschäftFG mainly included tax law changes. Therefore, it is obviously included in the tax shock series of Uhl (2013). Nonetheless, the structural changes also had an impact on social security. Financially, this mainly concerned the contribution of pensioners to the cost of their health insurance.

In accordance with the judgement of Uhl (2013), the law is structurally motivated in our narrative. Nonetheless, the draft of the law addresses the weak growth perspectives of the German economy which could also justify an endogenous motivation. However, the goal of the law was long-term change and can not merely be seen in the short-term stabilization context.

http://pdok.bundestag.de/extrakt/ba/WP9/1470/147063.html

Sozialgesetzbuch (SGB) – Zusammenarbeit der Leistungsträger und ihre Beziehungen zu Dritten

Draft	Publication	Implementation	Motivation	Impact
01/13/1981	11/04/1982	07/01/1983		-

No substantial financial impact.

Gesetz zur Wiederbelebung der Wirtschaft und Beschäftigung und zur Entlastung des Bundeshaushalts (Haushaltsbegleitgesetz 1983)

Draft	Publication	Implementation	Motivation	Impact
11/30/1982	12/12/1982	01/01/1983	MS	5.21 bn €
		07/01/1983	MS	-0.97 bn €

The Haushaltsbegleitgesetz 1983 included a vast amount of measures related to the whole social security system. For instance, it included a contribution rate increase prior to planned before, a postponement of the pension payment adjustment for half a year, a new regulation for the contribution of pensioners to the health insurance, a cut to the tax base regarding the contributions to the old age insurance by the BA for people receiving unemployment benefits and many more.

As pointed out in Uhl (2013), the Haushaltsbegleitgesetz 1983 was a reaction of the new government to its assessment of the fiscal position in the context of a worsening of the exogenous economic conditions. Hence, we categorize the law also as macroeconomic shock, following our methodology for this period from before and Uhl (2013).

http://pdok.bundestag.de/extrakt/ba/WP9/1471/147160.html

Gesetz über Maßnahmen zur Entlastung der öffentlichen Haushalte und zur Stabilisierung der Finanzentwicklung in der Rentenversicherung sowie über die Verlängerung der Investitionshilfeabgabe (Haushaltsbegleitgesetz 1984)

Draft	Publication	Implementation	Motivation	Impact
09/02/1983	12/22/1983	01/01/1984	S	4.56 bn €
		04/01/1984	S	0.76 bn €

The measures passed in the Haushaltsbegleitgesetz 1984 with the most financial impact concerned increases to contributions related to special payments such as holiday or Christmas bonuses (1.77 bn €), cuts to pension payments due to a change to the tax base calculation (0.98 bn €), decreases of the benefit rate for recipients in unemployment, short time work or bad weather compensation for people without children (0.55 bn €) and tighter conditions for the entitlement to BU/EU pensions (0.6 bn €). The remainder of the total financial impact consists of various other small measures and consecutive effects on other bodies of the social security system.

Following the information provided by the draft of the law, the measures are straightforward exogenous. The majority of measures within the bill are structurally motivated, others seem more for consolidation purposes.

http://pdok.bundestag.de/extrakt/ba/WP10/1297/129774.html

Gesetz zur Förderung der Vermögensbildung der Arbeitnehmer durch Kapitalbeteiligungen (Vermögensbeteiligungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
09/02/1983	12/28/1983	01/01/1984		-

No substantial financial impact.

Das Vierte Vermögensbildungsgesetz

Draft	Publication	Implementation	Motivation	Impact
09/02/1983	02/06/1984	02/07/1984		-

No substantial financial impact.

Gesetz zur Erleichterung des Übergangs in den Ruhestand

Draft	Publication	Implementation	Motivation	Impact
12/14/1983	04/13/1984	05/01/1984		-

No substantial financial impact.

Gesetz zur Neuordnung der Krankenhausfinanzierung (Krankenhaus-Neuordnungsgesetz – KHNG)

Draft	Publication	Implementation	Motivation	Impact
10/10/1984	12/20/1984	01/01/1985		-

No substantial financial impact.

Gesetz zur Änderung von Vorschriften des Arbeitsförderungsgesetzes und der gesetzlichen Rentenversicherung (Arbeitsförderungs- und Rentenversicherungs-Änderungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
02/07/1984	12/20/1984	01/01/1985		-

No substantial financial impact.

Beschäftigungsförderungsgesetz

Draft	Publication	Implementation	Motivation	Impact
10/11/1984	04/26/1985	05/01/1985		-

No substantial financial impact.

Gesetz zur Neuordnung der Hinterbliebenenrenten sowie zur Anerkennung von Kindererziehungszeiten in der gesetzlichen Rentenversicherung (Hinterbliebenenrenten- und Erziehungszeiten-Gesetz – HEZG)

Draft	Publication	Implementation	Motivation	Impact
12/28/1984	07/11/1985	01/01/1986		-

No substantial financial impact.

Gesetz über die Gewährung von Erziehungsgeld und Erziehungsurlaub (Bundeserziehungsgeldgesetz - BErzGG)

Draft	Publication	Implementation	Motivation	Impact
09/07/1985	12/06/1985	04/01/1986	S	-1.43 bn €

Published in the end of 1985, the BErzGG introduced child-raising benefits in order to give one parent the opportunity to dedicate more time for child care and education at the important time at the beginning of the child's life. Implementation became effective in the second quarter according to budgetary data from the Bundesbank. The financial impact aggregated to -1.43 bn € as a shock on an annual basis.

The government clearly decided on that measure to support the early years of the child's life and support the family in raising their children. Hence, the motivation is structural.

http://pdok.bundestag.de/extrakt/ba/WP10/1324/132435.html

Siebtes Gesetz zur Änderung des Arbeitsförderungsgesetzes

Draft	Publication	Implementation	Motivation	Impact
11/12/1985	12/20/1985	01/01/1986	S	-0.38 bn €
		04/01/1986	S	-0.84 bn €

Essentially, the law improved the social security conditions for elderly and long-run unemployed people and included contribution rate decreases to the BA. Furthermore, it included measures to promote career training and job-related education. Due to lacking information regarding implementation dates, we cross-checked with the budgetary data series. Accordingly, we opted for the second quarter of 1986 for all expenditure-side and the first quarter for revenue-side measures.

The measure which caused the highest financial impact within the bill was the prolongation of unemployment benefits for people older than 45, with a total effect of -0.56 bn € on an annual basis. Measures targeting professional education cumulated to -0.38 bn € financial impact. The decrease of contribution rates had also an expansionary financial impact of -0.38 bn €. The remainder consists of different small effects to the BA and the federal budget.

The motivation of the law is structural. The goals of the measures were the improvement of the conditions for elderly and long-run unemployed persons in the social security system and a lower burden with regard to the contribution payments for the unemployment insurance.

http://pdok.bundestag.de/extrakt/ba/WP10/1330/133097.html

Gesetz zur Sicherung der Neutralität der Bundesanstalt für Arbeit bei Arbeitskämpfen

Draft	Publication	Implementation	Motivation	Impact
01/31/1986	05/15/1986	05/16/1986		-

No substantial financial impact.

Verordnung über gefährliche Stoffe (Gefahrstoff-Verordnung)

Draft	Publication	Implementation	Motivation	Impact
12/19/1985	08/26/1986	10/01/1986		-

No substantial financial impact.

Das Zweite Gesetz zur Förderung der Vermögensbildung der Arbeitnehmer durch Kapitalbeteiligungen (Zweites Vermögensbildungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
09/08/1986	12/19/1986	12/20/1986		-

No substantial financial impact.

Gesetz zur Verlängerung des Versicherungsschutzes bei Arbeitslosigkeit und Kurzarbeit

Draft	Publication	Implementation	Motivation	Impact
04/29/1987	06/27/1987	07/01/1987	CC	-0.45 bn €

The "Gesetz zur Verlängerung des Versicherungsschutzes bei Arbeitslosigkeit und Kurzarbeit" included an increase in the period where unemployed persons are entitled to benefits and it prolonged the length of entitlement for short-time work payments to workers in the steal industry. The latter was set temporary from 1987 to the end of 1989. However, the financial impact stated in the legislative process of both measures can not be clearly separated. Therefore it is not possible to determine a counter shock for the measure. For further analysis that does not cause a problem as the law is, as further below argued, endogenous. Moreover the total financial impact is comparatively low as the two above mentioned measures (-1.4 bn €) were partly cancelled out by a change to the development worker law, causing lower expenditures for the federal level of 0.72 bn €. Generally the changes of the law caused minor positive effects on the revenues of the health and old age insurance.

Nonetheless, both expansionary measures can be seen as a signal that the government wanted to counteract the recessionary pressure and secure employment in the affected industries. Therefore, the law as such is categorized as countercyclical. Also, the draft of the law clearly addresses the recession. The fact that the prolongation for short-time work payments was set temporary is another indication of a stabilization measure. However, the other measure can be alternatively interpreted as structural. But, the fact that the financial impact of both measures can not clearly be separated, suggests to interpret the whole law as endogenous.

http://pdok.bundestag.de/extrakt/ba/WP11/1071/107154.html

Gesetz über Leistungen der gesetzlichen Rentenversicherung für Kindererziehung an Mütter der Geburtsjahrgänge vor 1921 (Kindererziehungsleistungsgesetz – KLG)

Draft	Publication	Implementation	Motivation	Impact
04/29/1987	07/16/1987	10/01/1987	S	-1.66 bn €

The KLG had a total financial impact of -1.66 bn € on an annual basis. The central measure of the law was the appreciation of parenting for mothers born before 1921 within the old age insurance.

The draft of the law states that the changes were made in order to appreciate the effort from mothers for the education of their children. Hence, the motivation is structural.

http://pdok.bundestag.de/extrakt/ba/WP11/1044/104496.html

Gesetz zur Verlängerung von Auslaufzeiten in der Montan-Mitbestimmung

Draft	Publication	Implementation	Motivation	Impact
05/15/1987	07/23/1987	09/20/1987		-

No substantial financial impact.

Gesetz zur Ergänzung der arbeitsmarktpolitischen Instrumente und zum Schutz der Solidargemeinschaft vor Leistungsmissbrauch (8. Gesetz zur Änderung des Arbeitsförderungsgesetzes)

Draft	Publication	Implementation	Motivation	Impact
10/06/1987	12/14/1987	01/01/1988		-

No substantial financial impact.

Gesetz zur finanziellen Sicherung der Künstlersozialversicherung

Draft	Publication	Implementation	Motivation	Impact
09/28/1987	12/18/1987	01/01/1988		-

No substantial financial impact.

Gesetz zur Bildung von Jugend- und Auszubildendenvertretungen in den Betrieben

Draft	Publication	Implementation	Motivation	Impact
11//11/1987	07/13/1988	07/14/1988		-

No substantial financial impact.

Gesetz zur Strukturreform im Gesundheitswesen

Draft	Publication	Implementation	Motivation	Impact
05/03/1988	12/20/1988	01/01/1989	S	0.00 €

The structural reform of the health insurance system is in sum cost neutral. However, the law contains substantial measures both on the expenditure and revenue-side. Therefore, we include the measures in the narrative. The total saved amount of benefits aggregated to 6.34 bn €, of which some were compensated by the introduction of new services (-3.64 bn €). Further offsets were implemented by reductions in contribution rates and omission of additional charges (-3.55 bn €). For pensioners, the contribution rates were increased by 0.84 bn €. The rest of the changes were minor and cost neutral in sum. The law changed the structure of benefits and compensated the remaining savings by reductions in contribution rates and fees. Hence, the law is structurally motivated.

http://pdok.bundestag.de/extrakt/ba/WP11/1182/118212.html

Gesetz zur Änderung des Künstersozialversicherungsgesetzes

Draft	Publication	Implementation	Motivation	Impact
09/26/1988	12/20/1988	01/01/1989		-

No substantial financial impact.

Gesetz zur Einführung eines Dienstleistungsabends

Draft	Publication	Implementation	Motivation	Impact
09/26/1988	09/10/1989	10/01/1989		-

No substantial financial impact.

Gesetz zur Änderung des Arbeitsförderungsgesetzes und zur Förderung eines gleitenden Übergangs älterer Arbeitnehmer in den Ruhestand

Draft	Publication	Implementation	Motivation	Impact
09/27/1988	12/20/1988	01/01/1989	S	0.64

The law does not pass our usual threshold to be included in the narrative. However, since it is implemented simultaneously with the "Gesetz zur Strukturreform im Gesundheitswesen", we include the shock. The law consists of reductions in expenditures of the employment agency of 0.64 bn €.

The motivation according to the draft of the law is structural.

http://pdok.bundestag.de/extrakt/ba/WP11/1182/118263.html

Gesetz zur Änderung des Betriebsverfassungsgesetzes über Sprecherausschüsse der leitenden Angestellten und zur Sicherung der Montan-Mitbestimmung

Draft	Publication	Implementation	Motivation	Impact
09/27/1988	12/20/1988	01/01/1989		-

No substantial financial impact.

Gesetz zur Einführung eines Sozialversicherungsausweises und zur Änderung anderer Sozialgesetze

Draft	Publication	Implementation	Motivation	Impact
06/21/1989	10/06/1989	01/01/1990		

No substantial financial impact.

Gesetz zur Reform der gesetzlichen Rentenversicherung (Rentenreformgesetz – RRG 1992)

Draft	Publication	Implementation	Motivation	Impact
04/28/1989	12/18/1989	01/01/1992	S	3.16 bn €

The RRG 1992 re-organized the old age insurance. The law consisted of various measures, e.g. the rearrangement of non-contributing periods, the abolishment of supplementary insurance for new cases, the introduction of partial retirement pensions with additional income thresholds, pension adjustments related to net wage developments, prolongation of the recognition of child-raising periods and many others.

The shock size of the law as net financial impact on an annual basis is mainly determined by the net adjustment of the structural reform, which is -3.99 bn €. The value is derived from the cumulative effect of the financial impact listed in the draft of the law in relation to the cumulative GDP development. The remainder consists of various other measures with only small expansionary impacts in sum.

The law was implemented to react to the demographic changes within the society and the following budgetary problems for the old age insurance in the future. The bill also targeted the simplification of the laws regarding the old age insurance. Hence, the motivation is set as structural.

http://pdok.bundestag.de/extrakt/ba/WP11/1184/118469.html

Gesetz zur Anpassung von Eingliederungsleistungen für Aussiedler und Übersiedler (Eingliederungsanpassungsgesetz – EinglAnpG)

Draft	Publication	Implementation	Motivation	Impact
08/31/1989	12/22/1989	01/01/1990		-

No substantial financial impact.

Gesetz zur Änderung der Beitragssätze in der gesetzlichen Rentenversicherung und bei der Bundesanstalt für Arbeit (BeitrS. RV/BA ÄndG)

Draft	Publication	Implementation	Motivation	Impact
03/07/1991	03/22/1991	04/01/1991	SD	6.19 bn €
		01/01/1992	SD	-0.72 bn €

The law was passed in order to finance the increase in social spending to support workers in unemployment and short-time work in the Neue Länder of Germany in the aftermath of the German reunification. The solution to finance such an increase was the change in the rate of contribution of the statutory pension system, namely a decrease from the 1st of April 1991 of 1 pp to 17.7% and simultaneously a temporary increase in the rate of contribution of the unemployment insurance scheme from 2.5% to 6.8% on the 1st of April 1991 followed by a posterior reduction to 6.3% from the 1st of January 1992. The law is hence spending-driven.

http://pdok.bundestag.de/extrakt/ba/WP12/950/95037.html

Gesetz zur änderung arbeitsförderungsrechtlicher und anderer sozialrechtlicher Vorschriften

Draft	Publication	Implementation	Motivation	Impact
03/11/1991	06/21/1991	07/01/1991		-

No substantial financial impact.

Gesetz zur Herstellung der Rechtseinheit in der gesetzlichen Renten- und Unfallversicherung (Renten-Überleitungsgesetz - RÜG)

Draft	Publication	Implementation	Motivation	Impact
05/29/1991	07/25/1991	01/01/1992	S	-3.91 bn €

The goal of this law was to reconcile both the pension system and the accident insurance. To that end and in order to prepare the system to the upcoming modifications in the Rentenreformgesetz 1992, several spending increases were approved. First, the retirement age in the new Länder was established at 65, which entailed an increase of 1.17 bn €; second, an increase in the pensions of the disabled by 50% which meant another increase of 0.65 bn € and lastly an increase of dependents' pensions, amounting to 2.09 bn €.

Since the law has a long-term character in that it harmonizes the pension and the accident insurance systems, it is categorized as structural.

http://pdok.bundestag.de/extrakt/ba/WP12/951/95136.html

Gesetz zur Einführung des passiven Wahlrechts für Ausländer bei den Sozialversicherungswahlen und zur Änderung weiterer Vorschriften

Draft	Publication	Implementation	Motivation	Impact
06/03/1992	08/10/1992	08/15/1992		-

No substantial financial impact.

Gesetz über die Rehabilitierung und Entschädigung von Opfern rechtsstaatswidriger Strafverfolgungsmaßnahmen im Beitrittsgebiet

Draft	Publication	Implementation	Motivation	Impact
11/15/1991	10/29/1992	11/04/1992		-

No substantial financial impact.

Gesetz zum Schutz des vorgeburtlichen Lebens

Draft	Publication	Implementation	Motivation	Impact
05/14/1992	07/27/1992	08/05/1992	MS	-7.92 bn €

This law was passed with the objective of providing more information, advice, social insurance and help to women who find themselves in a conflicting situation when they need to decide whether they go on with a pregnancy or aboard the child. This law entailed an increase in the spending of the Länder, federal government, municipalities and the unemployment insurance of 7.92 bn €. Due to the economic context of the deep recession in 1992, the law is categorized as endogenous because of the macroeconomic shock.

http://pdok.bundestag.de/extrakt/ba/WP12/954/95464.html

Gesetz zur Aufhebung des Gesetzes über die Errichtung und das Verfahren der Schiedsstellen für Arbeitsrecht und zur Änderung des AFG

Draft	Publication	Implementation	Motivation	Impact
11/06/1991	12/20/1991	12/29/1991		-

No financial impact identifiable.

Gesetz zur Änderung von Förderaussetzungen im Arbeitsförderungsgesetz und in anderen Gesetzen

Draft	Publication	Implementation	Motivation	Impact
09/07/1992	12/18/1992	01/01/1993	C	2.83 bn €

This law introduced spending and revenues measures in order to foster long-term budget sustainability. These measures included general cuts to integration services for immigrants from Eastern Europe with a German heritage that led to a relief of the benefits paid by the unemployment insurance scheme (1.53 bn €) but increased costs for the federal budget (-0.51 bn €); measures related to individual promoting vocational training and retraining (0.77 bn €), a limit to the amount of funding of the training (0.28 bn €), a transformation of the funding conditions (0.41 bn €), a tightening of the eligibility criteria in promoting vocational rehabilitation (0.26 bn €), the deletion of §40 b AFG – Employment Promotion Act (0.03 bn €), the introduction of a refund claim with respect to wrongly paid health contributions to the unemployment insurance (0.01 bn €), the authorization for the unemployment insurance scheme to introduce a fee when issuing work permits for contract workers (0.01 bn €), measures for the relief of the budget of the unemployment insurance scheme from unemployment costs in some cases (0.05 bn €).

The measures were introduced for reasons of budget consolidation.

http://pdok.bundestag.de/extrakt/ba/WP12/955/95528.html

Gesetz zur Umsetzung des Föderalen Konsolidierungsprogramms

Draft	Publication	Implementation	Motivation	Impact
04/20/1993	06/23/1993	06/27/1993	C	1.3 bn €

This legislation is already in the Uhl (2013) database. The bill introduces a consolidation program, aiming at adjusting the state and the economy to the new conditions and tasks after the reunification. The additional parts of the law with respect to social security are: cuts to child-raising benefits (0.34 bn €), to housing benefits (0.04 bn €), to basic welfare benefits (0.86 bn €) and changes in the Arbeitsförderungsgesetz (0.07 bn €).

Motivation in accordance with Uhl is considered as driven by consolidation needs.

http://pdok.bundestag.de/extrakt/ba/WP12/959/95955.html

Gesetz zur Vereinheitlichung der Kündigungsfristen von Arbeitern und Angestellten

Draft	Publication	Implementation	Motivation	Impact
06/03/1993	10/07/1993	10/15/1993		-

No substantial financial impact.

Erstes Gesetz zur Umsetzung des Spar-, Konsolidierungs- und Wachstumsprogramms

Draft	Publication	Implementation	Motivation	Impact
09/04/1993	12/21/1993	01/01/1994	MS	4.17 bn €
		04/01/1994	MS	0.2 bn €
		06/01/1995	MS	2.0 bn €

The bill introduced cuts to unemployment insurance from 1994 onwards and fixed the contribution rate at 6,5% from 1993 onwards. The draft also mentions a temporary implied increase in costs for basic welfare benefits of -2 bn €, which would be compensated within 1.5 years. Lastly, the bill contained a one-off lump-sum payment to beneficiaries of the statutory accident insurance.

Despite the name of this bill, its motivation is endogenous since the German economy experienced a substantially weaker and unexpected economic development in the first half of 1993. The economy suffered from a deterioration of domestic demand which led to more unemployment and an increase in short-time jobs. This is in line with Uhl (2013)

http://pdok.bundestag.de/extrakt/ba/WP12/963/96398.html

Beschäftigungsförderungsgesetz 1994

Draft	Publication	Implementation	Motivation	Impact
05/17/1994	07/26/1994	08/01/1994		-

The costs of the bill are neutral.

Gesetz zur Änderung des AFG im Bereich des Baugewerbes

Draft	Publication	Implementation	Motivation	Impact
05/17/1994	09/20/1994	09/29/1994		-

No substantial financial impact.

Gesetz zur Vereinheitlichung und Flexibilisierung des Arbeitsrechts

Draft	Publication	Implementation	Motivation	Impact
10/13/1993	06/06/1994	07/01/1994		-

No substantial financial impact.

Gesetz über die Aufhebung rechtstaatswidriger Verwaltungsentscheidungen im Beitrittsgebiet die daran anknüpfenden Folgeansprüche

Draft	Publication	Implementation	Motivation	Impact
05/19/1993	06/23/1994	08/01/1991		-

No substantial financial impact.

Gesetz zur Änderung des Gesetzes zur Bekämpfung der Schwarzarbeit und zur Änderung anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
05/17/1994	07/26/1994	08/01/1994		-

No financial impact identifiable.

Gesetz zur sozialen Absicherung des Risikos der Pflegebedürftigkeit

Draft	Publication	Implementation	Motivation	Impact
09/04/1993	05/26/1994	01/01/1995	S	8.64 bn €
		04/01/1995	S	-0.41 bn €
		10/01/1996	S	7.41 bn €
		04/01/2004	S	0.41 bn €

With this law, the Federal Government introduces a new institution in the social security system to deal with long-term care. The contribution rate of the long-term care insurance is first set at 1% for 1995, which in the draft is expected to be increased by 0.7 pp at the beginning of 1996. In the final version of the law, the increase was postponed until July 1996, but the actual implementation according to budgetary data has been even further delayed to the the third quarter of 1996, where we date this shock. The law also fixes temporary yearly capital expenditures of 0.41 bn € from the 1st of April 1995 until the 31st of March 2004. The motivation of the law is clearly structural.

http://pdok.bundestag.de/extrakt/ba/WP12/963/96387.html

Gesetz zur Reform der Agrarsozialen Sicherung

Draft	Publication	Implementation	Motivation	Impact
10/13/1993	07/29/1994	01/01/1994		-

No substantial financial impact.

Zweites Gesetz zur Umsetzung des Spar-, Konsolidierungs- und Wachstumsprogramms

Draft	Publication	Implementation	Motivation	Impact
09/04/1993	12/21/1993	01/01/1994		-

No substantial financial impact.

Verordnung zur Bestimmung der Beitragssätze in der GRV 1994

Draft	Publication	Implementation	Motivation	Impact
10/27/1993		01/01/1994	SD	8.76 bn €

This order consisted of two measures. On the one hand, the rate of pension contributions was increased from 17.5% to 19.2% for 1994, meaning a revenue increase of 9.82 bn € and on the other hand, pensions were adjusted, which meant a permanent increment in the costs of 1.06 bn €. Both measures followed the standing rule in the pension system, thus the motivation is spending-driven.

https://www.gesetze-im-internet.de/bsv_1994/BJNR198700993.html

Verordnung zur Bestimmung des Beitragssatzes 1995

Draft	Publication	Implementation	Motivation	Impact
07/20/1994		01/01/1995	SD	-4.5 bn €

This order reduced the contribution rate of the statutory pension insurance scheme (gesetzliche Rentenversicherung) from 19.2% to 18.6%, which implied a reduction of the revenues in the amount of 4.5 bn €. The order was enforced by the standing rule in the pension system in the case of reduced costs, thus the motivation is spending-driven.

https://www.gesetze-im-internet.de/bsv_1995/BJNR343800994.html

Gesetz zur Anpassung arbeitsrechtlicher Bestimmungen an das EG-Recht

Draft	Publication	Implementation	Motivation	Impact
03/02/1995	07/20/1995	07/28/1995		-

No substantial financial impact.

Zweites Gesetz zur Änderung des Arbeitsförderungsgesetzes im Bereich Baugewerbe

Draft	Publication	Implementation	Motivation	Impact
10/24/1995	12/15/1995	01/01/1996		-

No substantial financial impact.

Verordnung zur Bestimmung der Beitragssätze 1996

Draft	Publication	Implementation	Motivation	Impact
11/02/1995		01/01/1996	SD	4.76 bn €

This order increased the rate of contribution from 18.6% to 19.2% for 1996, meaning a revenue increase of 4.76 bn €. As the standing rule required an increase in contribution rates following increased costs, the motivation of the legislation is spending-driven

https://www.gesetze-im-internet.de/bsv_1996/BJNR158400995.html

Gesetz zur Reform des Rechts der Arbeitslosenhilfe

Draft	Publication	Implementation	Motivation	Impact
11/27//1995	06/24/1996	04/01/1996		-

No substantial financial impact.

Gesetz zur Änderung des SGB VI und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
12/05/1995	10/28/1996	01/01/1996		-

No substantial financial impact.

Gesetz zur Förderung eines gleitenden Übergangs in den Ruhestand

Draft	Publication	Implementation	Motivation	Impact
04/15/1996	07/23/1996	08/01/1996	S	-0.15 bn €
		01/01/1998	S	2.81 bn €
		01/01/1999	S	-0.66 bn €

The practice of the early retirement in Germany led to increasing costs for the unemployment and pension insurance scheme. The law thus introduced the possibility of a smoothing retirement, enabling the introduction of shorter hours for early retirees. The expected financial impacts of the law show a negative effect on the budget of the social security institutions for the first years after its implementation, yet the financial impacts after full implementation are calculated with the expected positive final impact.

It is argued that the early retirement practice in its former form endangered the future stability of the social security system, thus the law is categorized as a structural measure.

http://pdok.bundestag.de/extrakt/ba/WP13/627/62707.html

Arbeitsrechtliches Beschäftigungsgesetz

Draft	Publication	Implementation	Motivation	Impact
05/10/1996	09/25/1996	10/01/1996		-

No substantial financial impact.

Gesetz über zwingende Arbeitsbedingungen bei grenzüberschreitenden Dienstleistungen

Draft	Publication	Implementation	Motivation	Impact
09/25/1995	02/26/1996	03/01/1996		-

No financial impact identifiable.

Gesetz zur Entlastung der Beiträge in der gesetzlichen Krankenversicherung (Beitragsentlastungsgesetz - BeitrEntlG)

Draft	Publication	Implementation	Motivation	Impact
05/10/1996	11/01/1996	01/01/1997	RD	5.08 bn €
		01/01/1998	MS	-0.64 bn €

The goal of the law was the reduction of the expenses of the statutory pension scheme, which would then enable a reduction of its rate of contribution. The measures implemented were reduction in expenses (3.14 bn €), the consolidation of parts of pension finances, which was temporary (0.64 bn €), the limitation of management fees (0.08 bn €) and a reduction of costs for in-patient treatment (1.23 bn €). Since the law was explicitly motivated by reduction in contribution rates, while these could not be identified in the narrative, it is given a revenue-driven motivation.

http://pdok.bundestag.de/extrakt/ba/WP13/629/62949.html

Verordnung zur Bestimmung der Beitragssätze 1997

Draft	Publication	Implementation	Motivation	Impact
11/22/1996		01/01/1997	SD	3.78 bn €

This order increased the rate of pension contributions from 19.2% to 20.3% for 1997, meaning a revenue increase of 3.78 bn €. The order was forced by increased costs, thus a spending-driven motivation

applies.

https://www.gesetze-im-internet.de/bsv_1997/BJNR208500996.html

Gesetz zur Einordnung des Rechts der gesetzlichen Unfallversicherung in das Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
08/24/1995	08/07/1996	08/21/1996		-

No substantial financial impact.

Gesetz zur Umsetzung der EG-Rahmenrichtlinie Arbeitsschutz und weiterer Arbeitsschutz-Richtlinien

Draft	Publication	Implementation	Motivation	Impact
01/22/1996	08/07/1996	08/21/1996		-

No financial impact identifiable.

Gesetz zur Umsetzung des Programms für mehr Wachstum und Beschäftigung in den Bereichen der Rentenversicherung und Arbeitsförderung (Wachstums- und Beschäftigungsförderungsgesetz - WFG)

Draft	Publication	Implementation	Motivation	Impact
05/10/1996	01/01/1997	01/01/1997	S	5.93 bn €
		01/01/1998	S	-0.56 bn €
		01/01/1999	S	-0.2 bn €

The draft 13/4610 notes the adjustment and reduction of costs in the pension system and the promotion of jobs through limits on non-wage labor costs. The measures implemented on the side of the statutory pension system were to accelerate the increase in the retirement age for early retirement to 65 years (1.28 bn €), restrictions on benefits not based on contribution payments (1.28 bn €), returning the expenditure for rehabilitation to the level of 1993 (1.18 bn €), abolition of the co-payment of spa treatments (0.10 bn €), raising contributions of students (0.26 bn €), postponing reimbursement of contributions by two years (0.20 bn €), more timely retroactive insurance for former soldiers (0.23 bn €), earlier monthly date for payment of contributions (1.02 bn €) and to subsidize pension contributions of short-term unemployed (-0.20 bn €). Among others, additional measures introduced were an acceleration of arrear payments (0.26 bn €), which had a temporary impact and lowering subsidies for vocational rehabilitation services (0.26 bn €).

The draft of this law states clearly that its goals are pushing potential growth and creating jobs. The motivation is therefore structural.

http://pdok.bundestag.de/extrakt/ba/WP13/629/62941.html

Gesetz über Europäische Betriebsräte

Draft	Publication	Implementation	Motivation	Impact
06/05/1996	10/28/1996	11/01/1996		-

No substantial financial impact.

Gesetz zur Stabilisierung der Krankenhausausgaben

Draft	Publication	Implementation	Motivation	Impact
11/22/1995	04/29/1996	01/01/1996		-

No substantial financial impact.

8. SGB-V-ÄndG

Draft	Publication	Implementation	Motivation	Impact
02/06/1996	10/28/1996	10/31/1996		-

No substantial financial impact.

1.SGB-XI-ÄndG

Draft	Publication	Implementation	Motivation	Impact
02/06/1996	06/14/1996	06/25/1996		-

No substantial financial impact.

Gesetz zur Reform des Sozialhilferechts

Draft	Publication	Implementation	Motivation	Impact
09/27/1995	07/23/1996	08/01/1996		-

No financial impact identifiable.

Gesetz zur Änderung Ladenschluß und Neuregelung Bäckereien und Konditoreien

Draft	Publication	Implementation	Motivation	Impact
03/28/1996	07/30/1996	11/01/1996		-

No substantial financial impact.

6. SGB-V-ÄndG

Draft	Publication	Implementation	Motivation	Impact
12/05/1996	10/28/1996	01/01/1996		-

No substantial financial impact.

Gesetz zur Reform des Arbeitsförderungsgesetz

Draft	Publication	Implementation	Motivation	Impact
10/01/1996	03/24/1997	01/01/1997	S	3.78 bn €
		01/01/1998	S	2.98 bn €
		01/01/1999	S	1.43 bn €

The goals of the bill are the following: to improve employment opportunities of the unemployed and prevent unemployment, to increase the efficiency and effectiveness of the BA, to fight against illegal employment, to develop the Employment Promotion Law and to relief contributors. To that end, most of the measures introduced cuts in the spending of both the unemployment insurance and the federal budget. The Table of the draft from the SPD Drucksache 13/4941 on page 255 provides the financial impact per measure after full implementation.

The motivation of the bill is clearly structural.

http://pdok.bundestag.de/extrakt/ba/WP13/635/63537.html

Gesetz zur Förderung der ganzjährigen Beschäftigung im Baugewerbe

Draft	Publication	Implementation	Motivation	Impact
06/24/1997	10/22/1997	11/01/1997		-

No substantial financial impact.

Erstes Gesetz zur Änderung des Drittes Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
10/01/1997	12/16/1997	01/01/1998		-

No financial impact identifiable.

Gesetz zur Reform der gesetzlichen Rentenversicherung (Rentenreformgesetz 1999 - RRG 1999)

Draft	Publication	Implementation	Motivation	Impact
06/24/1997	12/16/1997	01/01/1998	S	-1.72 bn €
		01/01/2000	S	-1.64 bn €

The draft announced to reduce the rate of contribution of the pension fund system by 2.9% during the following years, yet there is no confirmation of such a reduction having been implemented. On the other hand, the law introduces increased spending for child-rearing periods (-1.72 bn €). Moreover, the reform of pension eligibility criteria leads to a stronger utilization of the unemployment insurance and long-term unemployment benefits (-1.64 bn €). The law is linked to the "Gesetz zur Finanzierung eines zusätzlichen Bundeszuschusses zur gesetzlichen Rentenversicherung".

As the law aims at an overhaul of the long-term sustainability of the pension system, the motivation is structural.

http://pdok.bundestag.de/extrakt/ba/WP13/656/65676.html

Jahressteuergesetz 1997

Draft	Publication	Implementation	Motivation	Impact
08/26/1996	12/20/1996	01/01/1997	S	0.19 bn €

Most of the measures referred to changes in taxes – the suspension of the wealth tax and the changes in the income tax. The bill also introduced incentives to simplify the procedures of domestic employment for workers, inducing a yearly revenue impact of 0.19 bn €. This impact is way below threshold, but we include it because it is already in Uhl (2013).

As Uhl (2013) argues, the motivation of this law is straightforward, since the draft mentioned the need to implement structural measures that would boost domestic output.

http://pdok.bundestag.de/extrakt/ba/WP13/627/62708.html

Erstes GKV-Neuordnungsgesetz

Draft	Publication	Implementation	Motivation	Impact
10/08/1996	06/23/1997	07/01/1997		-

No substantial financial impact.

Zweites Gesetz zur Neuordnung von Selbstverwaltung und Eigenverantwortung in der gesetzlichen Krankenversicherung (2.GKV-Neuordnungsgesetz - 2.GKV-NOG)

Draft	Publication	Implementation	Motivation	Impact
11/12/1996	03/26/1997	07/01/1997	C	1.02 bn €

The law is concerned with stabilizing the financial situation of the public health insurance. After the expiration of the Stabilisation Act 1996 the administrative court considered that the future public health expenses would jeopardize the stability of the contribution rate of the GKV and thus decided to introduce out of pocket payments for certain aids, leading to public spending cuts (1.02 bn €).

Motivation is straightforward. It driven by consolidation requirements.

http://pdok.bundestag.de/extrakt/ba/WP13/640/64029.html

Gesetz zur sozialen Absicherung flexibler Arbeitszeitregelungen

Draft	Publication	Implementation	Motivation	Impact
02/09/1998	04/06/1998	01/01/1998		-

No substantial financial impact.

Erstes Gesetz zur Anpassung der Bedarfssätze der Berufsausbildung

Draft	Publication	Implementation	Motivation	Impact
03/12/1998	06/25/1998	01/01/1999		-

No substantial financial impact.

Gesetz zur Änderung des Bürgerlichen Gesetzbuches und des Arbeitsgerichtsgesetzes

Draft	Publication	Implementation	Motivation	Impact
03/30/1998	06/29/1998	07/03/1998		-

No substantial financial impact.

Gesetz zur Korrekturen in der Sozialversicherung und zur Sicherung der Arbeitnehmerrechte

Draft	Publication	Implementation	Motivation	Impact
11/17/1998	12/19/1998	01/01/1999	S	0.82 bn €
		04/01/1999	S	0.26 bn €
		07/01/1999	S	-7.15 bn €
		01/01/2001	S	0.92 bn €

The measures included in this bill consisted of the abandonment of the demographic factor in the pension system until the 31st of December 2000 (-0.92 bn €), the inclusion of fake self-employed workers in the compulsory pension insurance (0.82 bn €), a general cost reduction for the pension system (0.26 bn €) as well as a lowering of the rate of contribution, which implied a decrease in the revenues of 6.24 bn €.

The law points to a need to lower the non-wage labour costs which have become very high and burden the labour market, hence the law is labeled structural.

http://pdok.bundestag.de/extrakt/ba/WP14/438/43830.html

1.SGB-III-ÄndG

Draft	Publication	Implementation	Motivation	Impact
10/01/1997	12/16/1997	01/01/1998		-

No financial impact identifiable.

Erstes Gesetz zur Änderung des Medizinproduktegesetzes

Draft	Publication	Implementation	Motivation	Impact
04/20/1998	08/06/1998	08/11/1998		-

No substantial financial impact.

Gesetz zur Stärkung der Solidarität in der GKV

Draft	Publication	Implementation	Motivation	Impact
11/09/1998	12/19/1998	01/01/1999		-

No substantial financial impact.

Gesetz zur Stärkung der Finanzgrundlagen der GKV in den neuen Ländern

Draft	Publication	Implementation	Motivation	Impact
12/09/1997	03/24/1998	01/01/1999		-

No substantial financial impact.

Entlassungentschädigungs-Änderungsgesetz (EEÄndG)

Draft	Publication	Implementation	Motivation	Impact
02/22/1999	03/24/1999	04/01/1999		-

No substantial financial impact.

Gesetz zur Neuregelung der geringfügigen Beschäftigungsverhältnisse

Draft	Publication	Implementation	Motivation	Impact
01/19/1999	03/24/1999	04/01/1999	S	2.61 bn €

The goal of the law is to improve the social and working conditions of marginal employment. In order to do that, and apart from tax changes, the employer is forced to pay 10% to the statutory health insurance (1.15 bn €) and 12% to the statutory pension system (1.46 bn €).

The motivation is straightforward. The law is structurally motivated.

http://pdok.bundestag.de/extrakt/ba/WP14/452/45205.html

Zweites Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
04/30/1999	07/21/1999	08/01/1999		-

No substantial financial impact.

Gesetz zur Neuregelung der Förderung der ganzjährlichen Beschäftigung in der Bauwirtschaft

Draft	Publication	Implementation	Motivation	Impact
09/29/1999	11/23/1999	01/01/1999		-

No substantial financial impact.

Gesetz zur Fortentwicklung der Altersteilzeit

Draft	Publication	Implementation	Motivation	Impact
10/20/1999	12/20/1999	01/01/2000		-

No financial impact identifiable.

Gesetz zur Förderung der Selbständigkeit

Draft	Publication	Implementation	Motivation	Impact
10/26/1999	12/20/1999	01/01/1999		-

No substantial financial impact.

Gesetz zur Sanierung des Bundeshaushalts (Haushaltssanierungsgesetz - HSanG)

Draft	Publication	Implementation	Motivation	Impact
08/31/1999	12/02/1999	01/01/2000		-

The law was mentioned in Steffen (2019). Even though the changes where substantial (in particular cuts to public servants' wages), they were not related to the social security system. Thus we exclude the law.

Gesetz zur Bekämpfung der Arbeitslosigkeit Schwerbehinderter (SchwbBAG)

Draft	Publication	Implementation	Motivation	Impact
06/23/2000	09/29/2000	10/01/2000		-

No substantial financial impact.

Gesetzes zur Einführung des Euro im Sozial- und Arbeitsrecht sowie zur Änderung anderer Vorschriften

Draft	Publication	Implementation	Motivation	Impact
10/24/2000	12/21/2000	01/01/2001		-

No substantial financial impact.

Gesetz zur Neuordnung seuchenrechtlicher Vorschriften (Seuchenrechtsneuordnungsgesetz – SeuchRNeuG)

Draft	Publication	Implementation	Motivation	Impact
01/19/2000	07/20/2000	01/01/2001		-

No substantial financial impact.

Gesetz zur Neuregelung der sozialversicherungsrechtlichen Behandlung von einmalig gezahltem Arbeitsentgelt (Einmalzahlungs-Neuregelungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
10/24/2000	12/01/2000	01/01/2001	S	-2.05 bn €
		06/22/2000	S	-0.41 bn €
		04/01/2001	S	0.77 bn €

The law includes one-off wage payments (e.g. bonuses like Christmas bonus) in the basis for assessment of unemployment benefits (ALG1, SGB3), sickness benefits (SGB5), interim allowances (SGB6) and injury benefits (SGB7).

The law was introduced to fulfill some rulings of the federal court of justice of 1998 and early 2000. However, the ruling of the court only stated that the law needed to be introduced up until 30.06.2001 and 01.01.2001 respectively. So even if there was an announcement by the court of justice to rule out the existing law, it was not clear then, what rule would follow and when. It is thus plausible to use the publication date as announcement date.

Parts of the law (Art2) regarding sickness benefits were paid retroactively from 06/22/2000 already. Since the law follows a ruling of the court, it is structurally motivated.

http://pdok.bundestag.de/extrakt/ba/WP14/492/49268.html

Gesetz zur Reform der Renten wegen verminderter Erwerbsfähigkeit

Draft	Publication	Implementation	Motivation	Impact
10/09/2000	12/20/2000	01/01/2001		-

No substantial financial impact.

Gesetz zur Verbesserung der Zusammenarbeit von Arbeitsämtern und Trägern der Sozialhilfe

Draft	Publication	Implementation	Motivation	Impact
07/04/2000	11/20/2000	12/01/2000		-

No substantial financial impact.

Gesetz zur Vereinfachung und Beschleunigung des arbeitsrechtlichen Verfahrens

Draft	Publication	Implementation	Motivation	Impact
03/23/1999	03/30/2000	05/01/2000		-

No substantial financial impact.

Zweites Gesetz zur Fortentwicklung der Altersteilzeit

Draft	Publication	Implementation	Motivation	Impact
04/10/2000	06/27/2000	07/01/2000		-

No substantial financial impact.

Drittes Gesetz zur Änderung des Bundeserziehungsgeldgesetzes

Draft	Publication	Implementation	Motivation	Impact
06/07/2000	10/12/2000	01/01/2001		-

No substantial financial impact.

Gesetz zur Reform der gesetzlichen Rentenversicherung und zur Förderung eines kapitalgedeckten Altersvorsorgevermögens (Altersvermögensgesetz – AVmG) & Gesetz zur Ergänzung des Gesetzes

zur Reform der gesetzlichen Rentenversicherung und zur Förderung eines kapitalgedeckten Altersvorsorgevermögens (Altersvermögensergänzungsgesetz – AVmEG) & Gesetz über eine bedarfsorientierte Grundsicherung im Alter und bei Erwerbsminderung (Grundsicherungsgesetz, GSiG)

Draft	Publication	Implement.	Mot.	Impact
11/14/2000	06/29/2001 (AVmG, GSiG)	07/01/2002 (AVmG, AVmEG)	S	1.28 bn €
		01/01/2003 (GSiG)	S	-0.4 bn €
	03/26/2001 (AVmEG)	07/01/2003	S	1.31 bn €
		07/01/2004	S	1.33 bn €
		07/01/2005	S	1.33 bn €
		07/01/2006	S	1.34 bn €
		07/01/2007	S	1.35 bn €
		07/01/2008	S	1.36 bn €
		07/01/2009	S	1.39 bn €

The most detailed draft is the one by SPD/B90Grüne (DS 14/4595) which was also used by Uhl (2013). According to the Beschlussempfehlung (DS 14/5146) the law was split into two parts, the AVmG with the GSiG, which had to be approved by the Bundesrat and the AVmEG without an impact on the Länder.

The law had substantial impact on tax deductions to promote private pensioning and these financial impacts are also in the Uhl (2013) shock series. Effectively, the following changes to the statutory pension system counterbalanced the tax allowances for private pensions introduced by the law.

However, the law also changed the path of pension payments by de-indexing them from inflation towards an indexing on a modified version of gross labor income diminished by the Altersvorsorgeanteil (AVA), the share of income that workers should save privately for their pension with the implementation of the reform. According to the draft these changes amounted to a flatter increase of pensions by 5 pp in 2010. This is equivalent to a shock of 0.63 pp of lower pension increases each year in 8 steps from 2002 to 2009, as verified by another source:

http://www.sozialpolitik-aktuell.de/tl_files/sozialpolitik-aktuell/_Politikfelder/Alter-Rente/Dokumente/2010_06_03%20Anpassungsfaktoren.pdf

In the first year of implementation 2002 this amounts to only 1.28 bn €, but the value increases each year and the full effect in 2009 is 10.68 bn €. This is a phasing-in shock.

The path was later changed by 2 other laws, namely the RV-Nachhaltigkeitsgesetz and the Gesetz zur Rentenanpassung 2008 and we record these shocks as well. (source: http://www.portal-sozialpolitik.de/uploads/sopo/pdf/2013/2013-04-03-Die_Anpassung_der_Renten_2003_bis_2013_PS.pdf)

An additional measure, the so-called Ausgleichsfaktor which should have reduced pension levels in the future by a substantial amount of 6 pp in the long run, did not come into effect, as the Beschlussempfehlung clarifies (DS 14/5146).

We follow Uhl (2013) in giving the law a structural motivation.

http://pdok.bundestag.de/extrakt/ba/WP14/563/56399.html

Gesetz über eine bedarfsorientierte Grundsicherung im Alter und bei Erwerbsminderung (Grundsicherungsgesetz, GSiG)

Draft	Publication	Implementation	Motivation	Impact
01/24/2001	01/24/2001	01/01/2003		-

This law is part of the above Altersvermögensgesetz.

Beitragssatzverordnung 2001 (V. v. 21.12.2000 BGBl. I S. 1877; 2001 I 260; Geltung ab 01.01.2001)

Draft	Publication	Implementation	Motivation	Impact
12/21/2000	01/01/2001	01/01/2001	S	-1.71 bn €

The order decreased the contribution rate to the pension fund system by 0.2 pp in accordance with the Haushaltssanierungsgesetz 1999 (BGBl. 2534) (HSanG 1999), which gave the administration control over the contribution rate within the limits of §287 stating that the contribution rate has to take care of meeting a stable buffer stock. As the measure is based on the HSanG 1999 it should have the same motivation. Yet the measure is expansionary, so a consolidation-motivation would be misleading. Thus, we opt for a structural motivation.

https://www.gesetze-im-internet.de/bsv_2001/__2.html

Gesetz zur Anpassung der Regelungen über die Festsetzung von Festbeträgen für Arzneimittel in der gesetzlichen Krankenversicherung (Festbetrags-Anpassungsgesetz – FBAG)

Draft	Publication	Implementation	Motivation	Impact
05/14/2001	07/27/2001	08/03/2001		-

No substantial financial impact.

Gesetz zur Ablösung des Arznei- und Heilmittelbudgets

Draft	Publication	Implementation	Motivation	Impact
06/19/2001	12/19/2001	12/31/2001		

No substantial financial impact.

Gesetz zur Eindämmung illegaler Betätigung im Baugewerbe

Draft	Publication	Implementation	Motivation	Impact
11/16/2000	08/30/2001	08/31/2001		

No substantial financial impact.

Gesetz zur Reform der arbeitsmarktpolitischen Instrumente (Job-AQTIV-Gesetz)

Draft	Publication	Implementation	Motivation	Impact
09/24/2001	12/10/2001	01/01/2002		-

No substantial financial impact.

Gesetz zur Reform und Verbesserung der Ausbildungsförderung– Ausbildungsförderungsreformgesetz (AföRG)

Draft	Publication	Implementation	Motivation	Impact
11/24/2000	03/19/2001	04/01/2001		-

No substantial financial impact (about 1bn=0.05% GDP).

Gesetz zur Verbesserung des Hinterbliebenenrentenrechts

Draft	Publication	Implementation	Motivation	Impact
05/15/2001	07/17/2001	07/18/2001		-

No substantial financial impact .

Sozialgesetzbuch - Neuntes Buch - (SGB IX) Rehabilitation und Teilhabe behinderter Menschen

Draft	Publication	Implementation	Motivation	Impact
01/16/2001	06/22/2001	07/01/2001		-

No substantial financial impact.

Zweites Gesetz zur Änderung und Ergänzung des Anspruchs- und Anwartschaftsüberführungsgesetzes

Draft	Publication	Implementation	Motivation	Impact
03/23/2001	07/27/2001	05/01/1999		-

No substantial financial impact (about 1 bn = 0.05% GDP temporary and about 0.4 bn permanently), retroactive implementation.

Bekanntmachung der Neufassung des Betriebsverfassungsgesetzes

Draft	Publication	Implementation	Motivation	Impact
04/02/2001	09/25/2001	09/25/2001		-

No substantial financial impact.

Bekanntmachung der Neufassung des Zehnten Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
	01/18/2001	01/18/2001		-

No substantial financial impact.

Gesetz zur Änderung des Bundesversorgungsgesetzes

Draft	Publication	Implementation	Motivation	Impact
11/09/2001	04/16/2002	04/17/2002		-

No substantial financial impact.

Gesetz zur Qualitätssicherung und zur Stärkung des Verbraucherschutzes in der Pflege

Draft	Publication	Implementation	Motivation	Impact
02/23/2001	06/22/2001	01/01/2002		-

No substantial financial impact.

Gesetz zur Ergänzung der Leistungen bei häuslicher Pflege von Pflegebedürftigen mit erheblichem allgemeinem Betreuungsbedarf

Draft	Publication	Implementation	Motivation	Impact
10/17/2001	12/14/2001	01/01/2002		-

No substantial financial impact.

Gesetz zur Bestimmung der Schwankungsreserve in der Rentenversicherung der Arbeiter und der Angestellten

Draft	Publication	Implementation	Motivation	Impact
11/06/2001	12/20/2001	01/01/2002		-

The law decreased the lower limit of the buffer stock of the pension system in order to prevent an increase in the contribution rate. According to our general procedure (only counting effective changes to spending and revenues) and to the prevailing uncertainty about what measure would be implemented, the lowering of the buffer stock cannot be interpreted as a shock. After all, no change to private sector disposable income took effect.

http://pdok.bundestag.de/extrakt/ba/WP14/566/56633.html

Arbeitslosenhilfeverordnung

Draft	Publication	Implementation	Motivation	Impact
	12/20/2001	01/01/2002		-

The order changed the limits for allowances for private wealth for means-testing regarding long-term unemployment benefits (former Arbeitslosenhilfe, now ALG II). The order closed down exemptions for some categories of wealth while lifting those for old age precautionary savings. However, on average the level of allowances was lowered, and thus overall benefits should shrink such that a contractionary impulse should be expected. However, orders do not require a calculation of the financial impact. Therefore we have to classify the order as having no substantial financial impact.

Gesetz zur Einführung des diagnose-orientierten Fallpauschalensystems für Krankenhäuser (Fallpauschalengesetz – FPG)

Draft	Publication	Implementation	Motivation	Impact
11/12/2001	04/23/2002			-

No substantial financial impact.

Gesetz zur Änderung der Vorschriften zum diagnose-orientierten Fallpauschalensystem für Krankenhäuser (Fallpauschalenänderungsgesetz – FPÄndG)

Draft	Publication	Implementation	Motivation	Impact
03/17/2003	07/17/2003			-

No substantial financial impact.

Erstes und Zweites Gesetz für moderne Dienstleistungen am Arbeitsmarkt (Hartz 1+2)

Draft	Publication	Implementation	Motivation	Impact
11/05/2002	12/23/2002	01/01/2003	S	6.46 bn €

Both laws were introduced and announced simultaneously. The fiscal impact described is based on the very same measures. Thus we treat both laws as one. The laws introduced numerous budget cuts for the Bundesanstalt für Arbeit and the federal budget.

According to the draft of the law, the main motivation is structural as the central claim is efficiency gains. However, the Hartz reforms were announced by the time when the German economy was rather weak and motivated by consolidation/structural efforts and vast unemployment at the same time. The draft says on page 25 that the recession demands budget cuts. Thus a procyclical motivation would also be plausible.

Since the Zweites Gesetz für moderne Dienstleistungen am Arbeitsmarkt is in the Uhl (2013) dataset we treat the law as structurally motivated, in accordance with Uhl (2013).

http://pdok.bundestag.de/extrakt/ba/WP15/332/33258.html
http://pdok.bundestag.de/extrakt/ba/WP15/343/34358.html

Gesetz zur Sicherung der Beitragssätze in der gesetzlichen Krankenversicherung und in der gesetzlichen Rentenversicherung (Beitragssatzsicherungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
11/05/2002	12/23/2002	01/01/2003	C	7.27 bn €

The law introduced some expenditure cuts in health costs amounting to about 3 bn €. Moreover, an increase in the contribution rate to the pension system of 0.4 was decided. This is below the increase of 0.8 pp that would have been necessary according to the ruling of the HSanG 1999, which demands that the receipts of the pension system cover expenditures such that the buffer stock is constant year-on-year. The remainder to close the gap was financed by raising the contribution cap for high earners and by lowering the buffer stock. The draft claims that raising the contribution rate less than what would have been necessary reflects an expansionary measure. It is not straightforward to decide whether this reasoning is plausible. It depends on whether households and firms would have anticipated the rise in the contribution rate or not. Some newspapers reported on the inevitable rise in the contribution rate, drawing on forecasts by the Schätzerkreis Rentenversicherung. FAZ reported on a necessary rise of about 0.4 pp in May 2002. http://www.faz.net/aktuell/wirtschaft/renten-rentenbeitrag-wird-doch-steigen-1103708.html. This number increased during the year. In that sense, it seems plausible to argue that the private sector may have anticipated the rise and may be eased by the milder increase. On the other hand, the definite change that was decided was an increase in the rate. Up to this point there was much uncertainty, how large the gap would be and through which measures it would be closed. Therefore, in line with our general decision we regard the very change in the rate as a shock and not the attenuation of the possible increase. We had to calculate the financial impact of the increase of the contribution rate by 0.4 pp on our own. We used the data by the Deutsche Rentenversicherung to calculate the financial impact of a 1 pp increase to be about 8.6 bn € from 2002 to 2003. A rate increase of 0.4 pp thus equals 3.443 bn €. These numbers are very much in line with the draft's calculation that the attenuation of the rate increase (not 0.8 but 0.4 pp) would save the private sector some 3.4 bn € disposable income. There are some additional changes. The increase of the cap will bring some additional 1 bn €, and there are some tiny changes to revenues and expenditures of the pension system of farmers.

Deciding on a motivation does not appear to be straightforward. In line with a motion for resolution by one of the parties of the opposition (FDP), the draft holds bad economic performance of the German economy and the world economy responsible for the need for action. On the other hand, the law is part of a bigger bundle of social reforms (Agenda 2010, Hartz Reforms), announced and implemented at the same time that had an overall structural or consolidation motivation. In view of the econometric reasoning for choosing a narrative approach to solve the identification problem, it would be inconsistent to take only some of the laws with an equal implementation/announcement date to be driven by macroeconomic circumstances, while others are given an exogenous motivation. Thus, we consider the law to be motivated by consolidation efforts in line with the other laws.

http://pdok.bundestag.de/extrakt/ba/WP15/346/34667.html

Zwölftes Gesetz zur Änderung des Fünften Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
11/05/2002	06/17/2003	06/17/2003	C	0.25 bn €
		01/01/2004	C	-0.25 bn €

The law announced two major changes: 1. a transitory cap to administrative costs of health insurance funds in 2003 amounting to savings of 0.2 to 0.3 bn €. 2. a price fixing for patented pharmaceuticals that should save some 10% of annual turnover of this market (which should have been about 11 bn € in 2003, according to a secondary source (Wissenschaftliches Institut der AOK 2011) so the cut would have been about 1.1 bn €) However, the price fixing wasn't realized after all, since the Bundesrat (federal council) did not pass that part of the bill. Thus, only the cap to administrative costs was enacted. Thus only a small shock is left. However, since the law was in fact co-introduced with the Gesetz zur Sicherung der Beitragssätze, we add the temporary shock.

The motivation should be in line with the former law. It is driven by consolidation needs.

http://pdok.bundestag.de/extrakt/ba/WP15/289/28957.html

Drittes Gesetz für moderne Dienstleistungen am Arbeitsmarkt (Hartz 3)

Draft	Publication	Implementation	Motivation	Impact
10/01/2003	12/23/2003	01/01/2004	S	0.18 bn €

In general, the law restructured the Bundesagentur für Arbeit. The law also had a minor financial impact due to changes to unemployment benefits. We nevertheless included it as it is part of the substantial Hartz laws.

Regarding motivation, the same ambiguous reasoning is given as in the drafts of Hartz 1+2. The Hartz reforms were announced by the time when the German economy was rather weak and motivated by consolidation/structural efforts and vast unemployment at the same time. The draft on page 1 states that due to bad cyclical conditions and structural problems reforms to the system of unemployment benefits are necessary. As with the other Hartz laws, we opt for a structural motivation.

http://pdok.bundestag.de/extrakt/ba/WP15/373/37304.html

Viertes Gesetz für moderne Dienstleistungen am Arbeitsmarkt (Hartz 4)

Draft	Publication	Implementation	Motivation	Impact
10/01/2003	12/23/2003	01/01/2005	S	4.2 bn €

The law introduced major restructurings to responsibilities regarding the payment of long term unemployment benefits and housing benefits between the federal state and the municipalities. The main financial impact came through cutting these benefits at the same time. In the draft the law was said to come into effect by July 2004, thus all calculations in the draft regarding financial impact started in 2004. However, the law was only implemented in January 2005 such that we only referred to the financial impact starting from 2005 onwards. Calculations in the draft for half of the year of 2004 basically gave half of the financial impact of the full year 2005, so no structural difference occurs from our choice. According to the draft the overall effect was 6.5 € in 2007 onwards. However, these calculations included assumptions about the medium term success of the program to bring down unemployment rates. We thus focused on the figures according to the first year of full implementation, which is 2005. These figures summed up to 4.2 bn €.

The Hartz reforms were announced by the time when the German economy was rather weak and motivated by consolidation/structural efforts and vast unemployment at the same time. The draft on page 1 states that due to bad cyclical conditions and structural problems reforms to the system of unemployment benefits are necessary. As with the other Hartz laws, we opt for a structural motivation.

http://pdok.bundestag.de/extrakt/ba/WP15/348/34819.html

Gesetz zu Reformen am Arbeitsmarkt

Draft	Publication	Implementation	Motivation	Impact
09/02/2003	12/30/2003	01/01/2004	S	1.1 bn €

The law is connected to the bunch of laws of the Hartz reforms. Besides changes to dismissals protection without a financial shock, it lowered the time period during which beneficiaries are eligible for short term unemployment benefits from 32 months 12 or 18 month respectively.

As with the other Hartz laws, we opt for a structural motivation.

http://pdok.bundestag.de/extrakt/ba/WP15/346/34605.html

Gesetz zur Einordnung des Sozialhilferechts in das Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
10/01/2003	12/27/2003	01/01/2005	S	0.06 €

The law is connected to the bunch of laws of the Hartz reforms. The net financial impact is rather small but it can be considered as part of the other Hartz laws. In general, the law streamlines some redundant or intransparent rulings regarding social benefits. The benefits for long-term unemployed are indexed to pensions and, every five years, calibrated to a periodic statistic (Einkommens- und Verbrauchsstichprobe, EVS) that helps to calculate the sociocultural subsistence level in Germany.

As with the other Hartz laws, we opt for a structural motivation.

http://pdok.bundestag.de/extrakt/ba/WP15/356/35626.html

Gesetz über die Berufe in der Krankenpflege und zur Änderung anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
10/25/2002	10/16/2003	01/01/2004		-

No substantial financial impact.

Gesetz zur Modernisierung der gesetzlichen Krankenversicherung (GKV-Modernisierungsgesetz – GMG)

Draft	Publication	Implementation	Motivation	Impact
09/08/2003	11/14/2003	01/01/2004	C	9.3 bn €
		04/01/2004	C	-5.61 bn €
		01/01/2005	C	3.5 bn €

The law introduced substantial changes to spending and revenues of health insurance. Some benefits had to be paid completely out of pocket afterwards, amounting to a decrease in transfers of 2.5 bn €; for some (pharmaceuticals) co-payments were increased, and access fees were introduced, lowering transfers by 3.2 bn € in general; moreover co-payments for dental prosthesis were introduced, amounting to consolidation of 3.5 bn € from 2005 on. Pensioners now had to pay contribution rates to health insurance, amounting to an increase in contributions of 1.6 bn €. Some structural savings were identified that by and large should freeze or lower prices of pharmaceuticals and administrative costs, amounting to 2 bn € in 2005. The draft notifies a temporary investment in smartcards and related infrastructure for all insurants, amounting to 0.7 bn € in 2006. However, introduction was postponed in 2005 due to concerns of data security. A special increase in the contribution rate of 0.5 pp effective January 2006, targeted at employees was set up, such that parity of contributions was effectively given up and the burden of additional contributions was shifted towards employees. The measure was later increased to 0.9pp and pulled forward by the Gesetz zur Anpassung der Finanzierung von Zahnersatz. As the measure was intended to lower the "normal" contribution rate and merely shifts the burden between employees and employers, there is no direct net effect on the private sector as a whole, even though there are clear distributional effects. After all, what matters for the shock series is the change in the overall contribution rate.

The savings should be used to consolidate the budgets of health insurance funds and should also be used to lower contribution rates. No definite decrease in the contribution rate was decided. However, according to Forschungsportal der Deutschen Rentenversicherung (2014), average overall contribution rates fell by some 0.58pp as a full year effect that, according to the Bundesbanks' budgetary data plausibly set in in the second quarter of 2004.

The law also announced that parts of the budget of social insurance funds covering extraordinary benefits should be covered by the federal budget instead. Such a change of responsibility is not a shock to the private sector per se. However, according to the law other spending increases should be counter-financed by an increase in tobacco taxation. The tobacco taxation shock is already in the Uhl (2013) shock series.

The draft states that long-term demographic developments and possible efficiency gains motivate the law and require cuts to benefits as well as increased contribution rates. Thus the motivation is clearly consolidation-based.

http://pdok.bundestag.de/extrakt/ba/WP15/379/37919.html

Zweites Gesetz zur Änderung des Sechsten Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
10/23/2003	10/27/2003	04/01/2004	C	2.0 bn €
		07/01/2004	C	1.0 bn €

Besides measures to decrease the lower limit of the buffer stock (no shock according to our definition), the law suspended the (usually indexed) increase of pensions, amounting to savings of approx. 1 bn €, effective July 2004. Moreover, it cancelled the subsidies to pensioners' contributions to the long-term care system, amounting to 2 bn € effective April 2004.

The law is part of the general social reform agenda that has structural or consolidation-driven motives but comes at a time of weak business cycle performance. In accordance with the other laws, we decide for a consolidation-driven motivation.

http://pdok.bundestag.de/extrakt/ba/WP15/373/37305.html

Drittes Gesetz zur Änderung des Sechsten Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
10/23/2003	12/27/2003	04/01/2004	C	0.75 bn €

The law defers the date of the monthly payment of pensions for new pensioners from the beginning of the month to the end of the month, effective April 2004, which is in effect a suspension of payment of 1 month as compared to the counterfactual. According to the draft the savings amount to 0.75 bn € for each of the next 20 years. Motivation is in accordance with the Zweites Gesetz zur Änderung des

Sechsten Buches Sozialgesetzbuch und anderer Gesetze.

http://pdok.bundestag.de/extrakt/ba/WP15/349/34991.html

Gesetz zur optionalen Trägerschaft von Kommunen nach dem Zweiten Buch Sozialgesetzbuch (Kommunales Optionsgesetz)

Draft	Publication	Implementation	Motivation	Impact
03/30/2004	07/30/2004	08/06/2004		

No substantial financial impact.

Gesetz zur Neufassung der Freibetragsregelungen für erwerbsfähige Hilfebedürftige (Freibetragsneuregelungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
05/10/2005	08/14/2005	09/01/2005		-

No substantial financial impact.

Gesetz zur Berücksichtigung der Kindererziehung im Beitragsrecht der sozialen Pflegeversicherung (Kinder-Berücksichtigungsgesetz – KiBG)

Draft	Publication	Implementation	Motivation	Impact
09/03/2004	12/15/2004	01/01/2005	S	0.7 bn €

The law increases the contribution rate for the long-term care system of childless insurants by 0.25pp which raises additional contributions of about 0.7 bn €.

http://pdok.bundestag.de/extrakt/ba/WP15/403/40394.html

Gesetz zur Vereinfachung der Verwaltungsverfahren im Sozialrecht (Verwaltungsvereinfachungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
09/03/2004	03/21/2005	various		-

No substantial financial impact.

Gesetz zur Neuordnung der Sicherheit von technischen Arbeitsmitteln und Verbraucherprodukten

Draft	Publication	Implementation	Motivation	Impact
09/29/2003	01/06/2004			-

No substantial financial impact.

Berichtigung des Gesetzes zur Neuordnung der Sicherheit von technischen Arbeitsmitteln und Verbraucherprodukten

Draft	Publication	Implementation	Motivation	Impact
11/05/2003	02/11/2004			-

No substantial financial impact.

Gesetz zur Anpassung der Finanzierung von Zahnersatz

Draft	Publication	Implementation	Motivation	Impact
09/06/2004	12/15/2004	01/01/2005	C	-3.5 bn €
		01/01/2006	C	4.64 bn €

The law changed the out of pocket financing of dental prosthesis that was introduced by the Gesetz zur Modernisierung der gesetzlichen Krankenversicherung (GKV-Modernisierungsgesetz – GMG) which should have taken effect January 2005 and which would have led to consolidation of 3.5 bn €. Thus the implementation effect of the GMG is simply cancelled out, while there is still an announcement effect of some quarters. The draft mentions respective necessities to counter-finance the measure that should lead to increased contributions.

The law moreover aggravated the increase in the special contribution rate to the health care funds that would be solely paid for by employees to 0.9pp (the GMG introduced it at a rate of 0.5pp). The measure was intended to lower "normal" contribution rate by the same amount in order to have a neutral overall effect. However, these reductions did not fully come into effect. As a net effect the overall average contribution rate (including the special contribution by employees) increased by about 0.48pp according to Forschungsportal der Deutschen Rentenversicherung (2014). This implies an amount of 4.64 bn € in increased contributions, but this is an ex post effect that was not intended by the law and cannot be directly assigned to it.

Overall, the law was closely related to the GMG and therefore falls under the same category of motivation.

http://pdok.bundestag.de/extrakt/ba/WP15/403/40395.html

Gesetz zur Förderung der Ausbildung und Beschäftigung schwerbehinderter Menschen

Draft	Publication	Implementation	Motivation	Impact
01/09/2004	04/23/2004	05/01/2004		-

No substantial financial impact.

Gesetz zur Neuordnung der einkommensteuerrechtlichen Behandlung von Altersvorsorgeaufwendungen (Alterseinkünftegesetz – AltEinkG)

Draft	Publication	Implementation	Motivation	Impact
12/09/2003	07/09/2004	various		-

Shocks are not related to social security. Law is included in the Uhl (2013) dataset.

Gesetzes zur Organisationsreform in der gesetzlichen Rentenversicherung (RVOrgG)

Draft	Publication	Implementation	Motivation	Impact
08/24/2004	12/09/2004	01/01/2005		-

No substantial financial impact.

Gesetz zur Sicherung der nachhaltigen Finanzierungsgrundlagen der gesetzlichen Rentenversicherung (RV-Nachhaltigkeitsgesetz)

Draft	Publication	Implementation	Motivation	Impact
02/26/2004	07/21/2004	07/01/2005	S	3.87 bn €
		07/01/2010	S	1.4 bn €

The main implication of the law is a substantial change in the pension formula that effectively reorients the pension system from a defined-benefit system towards a defined-contribution system. The effect is a lowered path of pension increases due to the so-called "Nachhaltigkeitsfaktor" that takes into account the ratio of beneficiaries to contributors. The factor thus introduces a procyclical element to pension payments as it increases pensions more strongly than labor income in phases when unemployment is low (many contributors) and increases them less in phases of high unemployment. A lower-bound (Schutzklausel) prevents the new elements of the formula to trigger pension decreases.

Structurally, the overall level of pensions is lowered in the long run and the medium term perspective, according to the draft is a decrease in payments worth 0.4 pp of contributions. This amounts to approx. 3.87 bn €.

Due to some technical details the law moreover prolonged the effects of the Altersvermögensgesetz by another year to 2010. Thus there is an additional lowering of pension payments, a permanent shock of 1.4 bn € in 2010. (source: http://www.portal-sozialpolitik.de/uploads/sopo/pdf/2013/2013-04-03-Die_Anpassung_der_Renten_2003_bis_2013_PS.pdf)

Motivation again is not straightforward. The draft of SPD/Grüne discusses the role of unexpectedly bad economic performance that takes into question the assumptions that were made in the Altersvermögensgesetz – AvmG of 2001 and that would necessitate further reforms. On the other hand the draft declares long term demographic changes to trigger the reform steps which would favor a structural motivation. Since the law is part of a bigger bundle of socioeconomic reforms, in line with the other laws, we opt for a structural motivation.

http://pdok.bundestag.de/extrakt/ba/WP15/372/37233.html

Gesetz zur Verbesserung des unfallversicherungsrechtlichen Schutzes bürgerschaftlich Engagierter und weiterer Personen

Draft	Publication	Implementation	Motivation	Impact
10/14/2004	12/09/2004			-

No substantial financial impact.

Viertes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
09/06/2004	11/19/2004			-

Weiter-Förderung Ich AGs, Vermittlungsgutschein, Existenzgründungszuschuss, Erhöhung Grundfreibetrag zur Schonung des Vermögens minderjähriger Kinder.

No substantial financial impact.

Zweites Gesetz zur Änderung der Vorschriften zum diagnose-orientierten Fallpauschalensystem für Krankenhäuser und zur Änderung anderer Vorschriften (Zweites Fallpauschalenänderungsgesetz – 2. FPÄndG)

Draft	Publication	Implementation	Motivation	Impact
09/03/2004	12/15/2004			-

No substantial financial impact.

Gesetz zur Organisationsstruktur der Telematik im Gesundheitswesen

Draft	Publication	Implementation	Motivation	Impact
02/22/2005	06/27/2005			-

No substantial financial impact.

Berichtigung des Gesetzes zur Organisationsstruktur der Telematik im Gesundheitswesen Bekanntmachung über den Schutz von Mustern und Marken auf Ausstellungen

Draft	Publication	Implementation	Motivation	Impact
04/13/2005	08/26/2005			-

No substantial financial impact.

Gesetz zur Änderung des Vierten und Sechsten Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
05/31/2005	08/03/2005	01/01/2006		-

Contributions to social security are now to be transmitted earlier each month by firms. No substantial financial impact.

Gesetz zur Neufassung der Freibetragsregelungen für erwerbsfähige Hilfebedürftige (Freibetragsneuregelungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
05/12/2005	08/14/2005			-

No substantial financial impact.

Gesetz zur Reform der beruflichen Bildung (Berufsbildungsreformgesetz – BerBiRefG)

Draft	Publication	Implementation	Motivation	Impact
10/20/2004	03/23/2005			-

No substantial financial impact.

Gesetz zur Vereinfachung der Verwaltungsverfahren im Sozialrecht (Verwaltungsvereinfachungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
11/17/2004	03/21/2005			-

No substantial financial impact.

Neuntes Gesetz zur Änderung des Wohngeldgesetzes

Draft	Publication	Implementation	Motivation	Impact
04/19/2005	07/07/2005			-

No substantial financial impact.

Fünftes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
05/30/2005 11/29/2005	12/22/2005	01/01/2006		-

The law prolongs the payment of subsidies for small-sized start-ups and some part-time subsidies for elderly employees, which have been introduced as a temporary measure by the law "Zweites Gesetz für moderne Dienstleistungen am Arbeitsmarkt". Thus, the temporary shocks of the earlier law are prolonged. The first draft of 05/30/2005 notifies a temporary expansionary shock of 1 bn€ that phases out after 2 years. The second draft, after the change of government in the fall of 2005, claims a much shorter prolongation of the measures which thus have a smaller impact of about 0.27

bn €. The "Zweites Gesetz für moderne Dienstleistungen am Arbeitsmarkt" announced that the subsidies would be cost-neutral as they are paid instead of unemployment benefits. In general the law at hand has only very little impact and should thus not be considered.

No substantial financial impact.

Allgemeines Gleichbehandlungsgesetz

Draft	Publication	Implementation	Motivation	Impact
	08/14/2006			-

No substantial financial impact.

Gesetz zur Umsetzung der Regelungen über die Mitbestimmung der Arbeitnehmer bei einer Verschmelzung von Kapitalgesellschaften aus verschiedenen Mitgliedstaaten

Draft	Publication	Implementation	Motivation	Impact
10/12/2006	12/21/2006			-

No substantial financial impact.

Gesetz über die Weitergeltung der aktuellen Rentenwerte ab 1. Juli 2006

Draft	Publication	Implementation	Motivation	Impact
03/03/2006	06/15/2006	07/01/2006	CC	-2.0 bn €

The law discretionarily changes the formula of pension payments for one year, as otherwise, the standing rule would have brought a negative growth rate of pensions, because unemployment was so high that contributions were low. This ruling is not to be mixed up with the lower-bound for pensions (Schutzklausel) that was introduced by the RV-Nachhaltigkeitsgesetz, as the latter only prevents pensions from falling if this would be caused by the "Nachhaltigkeitsfaktor" or the "Riester-Treppe".

The law effectively sets the growth in pensions to zero for the following year. The draft provides no information on the financial impact, since the precise numbers of the counterfactual were not available around the time. According to merkur online, the net effect was expected to be an expansionary shock of 2 bn € http://www.merkur-online.de/aktuelles/politik/keine-rentenkuerzung-2006-198980.html. Motivation is clearly endogenous. The bad economic performance would have led to the lowering of pensions and its prevention is a clear countercyclical measure.

http://dipbt.bundestag.de/extrakt/ba/WP16/61/6173.html

Gesetz zur Änderung des Betriebsrentengesetzes und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
06/23/2006	12/02/2006			-

The law changed some details in the pension formula with respect to irregular jobs.

No substantial financial impact.

Gesetz zur Änderung des Zweiten Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
11/29/2005	03/24/2006	07/01/2006	S	0.37 bn €

The law increased long-term unemployment benefits paid in the Neue Länder to equal those of the Alte Länder (effect -0.23 bn €). Moreover it introduced cuts to young people benefiting from long-term unemployment benefits and some other changes (effect +0.6 bn €). There were cuts to the pension contributions of the long-term unemployed paid by the state but these are mere internal transfers between the state and the pension system.

Motivation of the law is clearly exogenous, partly structural partly consolidation-driven. The law itself only has a small financial impact, however, the law is part of a bigger reform agenda that in sum has a substantial impact (primarily Haushaltsbegleitgesetz 2006).

http://dipbt.bundestag.de/extrakt/ba/WP16/50/5078.html

Gesetz zur Änderung des Zweiten Buches Sozialgesetzbuch und des Finanzausgleichgesetzes

Draft	Publication	Implementation	Motivation	Impact
11/07/2006	12/21/2006			-

The law changes responsibilities and financial flows between municipalities and federal state regarding housing benefits for long-term unemployed.

No financial impact on the private sector.

Gesetz zur Änderung des Zwölften Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
09/25/2006	12/02/2006			-

No substantial financial impact.

Gesetz zur Förderung ganzjähriger Beschäftigung

Draft	Publication	Implementation	Motivation	Impact
01/24/2006	04/24/2006			-

No substantial financial impact.

Gesetz zur Fortentwicklung der Grundsicherung für Arbeitsuchende

Draft	Publication	Implementation	Motivation	Impact
05/09/2006 05/01/2006 (Beschlussempf)	07/20/2006	08/01/2006	S	0.85 bn €

The law introduced several sanctions and control mechanisms to prevent fraudulent use of long-term unemployment benefits. These sanctions are according to the draft said to save approx. 1.3 bn € per year. The Beschlussempfehlung changed some details and proclaims an additional measure to promote start-ups (maybe a prolongation of the temporary measures), amounting to additional spending of 0.45 bn €. The law itself only has a small financial impact; however, the law is part of a bigger reform agenda that in sum has a substantial impact (primarily Haushaltsbegleitgesetz 2006).

The motivation of the law is structural according to the draft.

http://dipbt.bundestag.de/extrakt/ba/WP16/73/7349.html

Haushaltsbegleitgesetz 2006

Draft	Publication	Implementation	Motivation	Impact
03/17/2006	06/29/2006	07/01/2006	S	0.51 bn €
		01/01/2007	S	-13.88 bn €
		01/01/2011	S	-0.58 bn €

The law is already in the Uhl (2013) database. Relevant changes are an increase in VAT and insurance tax of 3 pp worth 24 bn €. Parts of that money were earmarked to finance a lowering in contributions to unemployment benefits of 2pp.

Summing up, the private sector bears 24 bn € of tax increases (already in Uhl (2013) database), and 0.52 bn € of increased contributions to social security (wages from unusual working time and those from occasional jobs are now charged with a higher rate), and 0.51 bn € of lowered benefits for public employees (temporary until end of 2010, however, the measure was prolonged by the end of 2010, see the BBVAnpG 2010/2011). The private sector is discharged by 14.4 bn € of lowered contributions to unemployment insurance.

Moreover, the draft notified that a large part of the additional revenues would be used to finance the so called 25 bn € Impulsprogramm or Wachstumsprogramm. This however, is not an annual figure, but the sum of measures over the years 2006 to 2010. According to BDS 16/2326, the measures refer to some tax allowances for households that are already in the Uhl (2013) database, the lowering of the contribution rate to unemployment insurance, the introduction of the parental leave benefit in 2007 and maintaining the prevailing level of public investment (which in our definition is not a shock).

The motivation of the law is structural according to the draft.

http://dipbt.bundestag.de/extrakt/ba/WP16/84/8460.html

Gesetz über die Senkung des Beitrags zur Arbeitsförderung, die Festsetzung der Beitragssätze in der gesetzlichen Rentenversicherung und der Beiträge und Beitragszuschüsse in der Alterssicherung der Landwirte für das Jahr 2007 (Beitragssatzgesetz 2007)

Draft	Publication	Implementation	Motivation	Impact
11/07/2006	12/21/2006	01/01/2007	S	1.27 bn €

The law introduced an increase in contributions to pensions funds, the rate rose from 19.5pp to 19.9 pp with a financial impact of 3.4 bn €. Moreover, the law lowered the contribution rate for unemployment insurance further from 4.5 pp to 4.2 pp (in the Steffen (2019) chronicle, this measure appeared under "Änderung des Haushaltsbegleitgesetzes 2006"). No financial impact of the latter measure was given, so we calculated 2.16 bn € on our own, referring to the calculations given in the Haushaltsbegleitgesetz

2006.

The motivation of the law is structural/consolidation based according to the draft.

http://dipbt.bundestag.de/extrakt/ba/WP16/80/8077.html

Gesetz zur Verbesserung der Wirtschaftlichkeit in der Arzneimittelversorgung

Draft	Publication	Implementation	Motivation	Impact
12/13/2005	04/26/2006	04/26/2006	C	1.48 bn €
		05/01/2006	C	0.5 bn €
		01/01/2008	C	-0.19 bn €

The law introduced some rules to dampen the development of prices for pharmaceuticals and medical care worth 2 bn € in sum. The motivation is straightforward, it is consolidation-driven.

http://dipbt.bundestag.de/extrakt/ba/WP16/50/5079.html

Gesetzes zur Stärkung des Wettbewerbs in der gesetzlichen Krankenversicherung (GKV-Wettbewerbsstärkungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
10/24/2006	03/26/2007	01/01/2007	S	5.7 bn €
		04/01/2007	S	1.8 bn €

The law introduced some price fixings and some other cost-reducing measures worth 2.1 bn € while on the other hand, some other benefits where increased. The more important change is an increase in the contribution rates which came with the law, even though the law did not fix the rates, but only allowed health care funds to set contribution rates more freely. The intention of the law, according to the draft and the newspapers was to lower contribution rates by means of increased competition, however, the funds decided to increase their rates in order to balance their budget. The effect, according to Forschungsportal der Deutschen Rentenversicherung (2014) is a contractionary shock worth 5.7 bn €.

Motivation of the law is structural.

http://dipbt.bundestag.de/extrakt/ba/WP16/72/7246.html

Gesetz zur Einführung des Elterngeldes

Draft	Publication	Implementation	Motivation	Impact
06/20/2006	12/05/2006	01/01/2007	S	-1.6 bn €

The law introduced an income-related instead of the former means-tested (Bundeserziehungsgeld) parental-leave benefit, by which employed parents should have an increased incentive to have children. The new benefit came with comparably higher overall costs; however the draft only reports overall budgeting for the new measure, without specifying the additional costs as compared to the previous ruling. However, we determined the shock by identifying the targeted budget for the former ruling as laid out in the 2006 federal budget draft. The former ruling had a budget of 2.8 bn € while the new law according to the draft would require a budget of 4.4 bn €. Thus the shock of a full year would be an expansionary 1.6 bn €. This is in line with the estimates of the German Joint Economic Forecast Spring 2007 (Gemeinschaftsdiagnose).

Motivation of the law is structural, as the intention was to increase fertility rates.

http://dipbt.bundestag.de/extrakt/ba/WP16/74/7459.html

Drittes Gesetz zur Änderung des Zweiten Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
10/23/2007	12/27/2007			-

No substantial financial impact.

Gesetz zur Änderung des Vierten Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
09/28/2007	12/19/2007			-

No substantial financial impact.

Gesetz zur Förderung der zusätzlichen Altersversorgung

Draft	Publication	Implementation	Motivation	Impact
08/10/2007	12/10/2007			-

No substantial financial impact.

Gesetz zur Verbesserung der Beschäftigungschancen älterer Menschen

Draft	Publication	Implementation	Motivation	Impact
12/12/2006	04/19/2007			-

No substantial financial impact.

Gesetz zur Anpassung der Regelaltersgrenze an die demografische Entwicklung und zur Stärkung der Finanzierungsgrundlagen der gesetzlichen Rentenversicherung (RV-Altersgrenzenanpassungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
02/23/2007	04/20/2007			-

The law introduced a slow change to the pension age from 65 to 67 years. It moreover allowed compensation for not-implemented (tough implied by the pension formula) decreases to pensions in later years (Nachhol-Faktor). For example, such an exemption was made by the "Gesetz über die Weitergeltung der aktuellen Rentenwerte ab 1. Juli 2006". The implied decreases can now become effective in later years by offsetting them against implied pension increases in accordance with the pension formula. The major changes however, only take slow effect or are not predictable so no shock can be derived here. Applications of the ruling will be found in later laws (e.g. Gesetz zur Rentenanpassung 2008)

No substantial financial impact.

Viertes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch – Verbesserung der Qualifizierung und Beschäftigungschancen von jüngeren Menschen mit Vermittlungshemmnissen

Draft	Publication	Implementation	Motivation	Impact
06/19/2007	10/10/2007			-

No substantial financial impact.

Zweites Gesetz zur Änderung des Zweiten Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
06/19/2007	10/10/2007			-

No substantial financial impact.

Fünftes Gesetz zur Änderung des Zweiten Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
	12/24/2008			-

No substantial financial impact.

Gesetz zur Änderung des Bundeskindergeldgesetzes

Draft	Publication	Implementation	Motivation	Impact
04/22/2008	09/24/2008			-

No substantial financial impact.

Gesetz zur Förderung von Familien und haushaltsnahen Dienstleistungen

Draft	Publication	Implementation	Motivation	Impact
11/07/2008	12/22/2008			-

Already in the Uhl (2013) database and there are no additional measures to be taken into account.

Gesetz zur Modernisierung der gesetzlichen Unfallversicherung

Draft	Publication	Implementation	Motivation	Impact
05/08/2008	10/30/2008			-

No substantial financial impact.

Gesetz zur Neuregelung des Wohngeldrechts und zur Änderung des Sozialgesetzbuches

Draft	Publication	Implementation	Motivation	Impact
09/28/2007	09/24/2008			-

No substantial financial impact.

Gesetz zur Rentenanpassung 2008

Draft	Publication	Implementation	Motivation	Impact
04/08/2008	06/26/2008	07/01/2008	S	-1.36 bn €
		07/01/2009	S	-1.39 bn €
		07/01/2012	S	1.39 bn €
		07/01/2013	S	1.36 bn €

The law offsets the effects of the Altersvermögensgesetz for 2 years (Riestertreppe). It thus increases pensions by more than expected. This is a phasing-in shock worth 2.75 bn €. The shock, however, is temporary as the effects are compensated in 2012 and 2013.

The motivation of the law should be in line with the Altersvermögensgesetz which it changed. The motivation is thus structural.

http://dipbt.bundestag.de/extrakt/ba/WP16/134/13409.html

Gesetz zur strukturellen Weiterentwicklung der Pflegeversicherung (Pflege-Weiterentwicklungsgesetz)

Draft	Publication	Implementation	Motivation	Impact
12/07/2007	05/28/2008	07/01/2008	S	1.46 bn €
(16/7439)		01/01/2010	S	-0.6 bn €
		01/01/2012	S	-0.6 bn €

The law extends the benefits of long-term care insurance and by the same time raises the contribution rate by 0.25 pp, which means a permanent contractionary shock on the revenue side of 2.5 bn € for a full year. Spending increases stepwise in each subsequent year leading to an increase, in line with revenues, in the long run.

The motivation of the law is structural, as it says that long-term care benefits and their financing are adapted to changed needs.

http://dipbt.bundestag.de/extrakt/ba/WP16/105/10591.html

Gesetz zur Verbesserung der Rahmenbedingungen für die Absicherung flexibler Arbeitszeitregelungen

Draft	Publication	Implementation	Motivation	Impact
09/22/2008	12/21/2008	01/01/2009		-
(16/10289)				

No substantial financial impact.

Gesetz zur Verbesserung der Rahmenbedingungen für die Absicherung flexibler Arbeitszeitregelungen

Draft	Publication	Implementation	Motivation	Impact
09/22/2008	12/21/2008	01/01/2009		-
(16/10289)				

No substantial financial impact.

Gesetzes zur Umsetzung steuerrechtlicher Regelungen des Maßnahmenpakets "Beschäftigungssicherung durch Wachstumsstärkung"

Draft	Publication	Implementation	Motivation	Impact
11/13/2008	12/29/2008	01/01/2009		-

This law is already in the Uhl (2013) database and there are no additional measures to be taken into account by us.

Siebtes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
12/11/2007	04/08/2008	04/12/2008	S	-1.34 bn €

The law introduced prolonged payments of short-term unemployment insurance for elderly workers and some further benefits amounting to around 1 bn € of additional expenses. Overall, there was only minor impact, however, the law was part of a broader package of legislations and thus should be added. The rulings of the law where connected to the "Sechstes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch und anderer Gesetze".

The motivation of the law is similar to the "Sechstes Gesetz". Both a procyclical as well as a structural interpretation would be possible.

http://dipbt.bundestag.de/extrakt/ba/WP16/113/11393.html

Viertes Gesetz zur Änderung des Zweiten Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
	07/28/2008			-

The rulings of the "Gesetz zur Änderung des Zweiten Buches Sozialgesetzbuch und des Finanzausgleichgesetzes" that were only temporary in the first place are made permanent by this law.

No financial impact on the private sector.

Sechstes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch und anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
10/18/2007	12/22/2007	01/01/2008	S	-7.0 bn €

Most importantly the law further decreased the contribution rate to unemployment insurance from 4.2 to 3.3 pp (the first draft only spoke of a decrease to 3.9pp). This amounts to an expansionary revenue shock of 7 bn € according to the Beschlussempfehlung. The law moreover changed some accountabilities and financial flows between unemployment insurance and municipalities without an impact on the private sector. According to the Beschlussempfehlung, elder workers' entitlement to short-term unemployment benefits should be prolonged up to 24 months, depending on prior retention time on the job. These changes however, became part of the "Siebtes Gesetz zur Änderung des Dritten Buches Sozialgesetzbuch und anderer Gesetze".

The draft states that the good cyclical performance has lowered unemployment which gives leeway to reduce contribution rates. The motivation could therefore be classified as procyclical, however this depends on how one interprets the reduction in unemployment in Germany. A structural motivation seems to be dominant here.

http://dipbt.bundestag.de/extrakt/ba/WP16/98/9815.html

Verordnung zur Änderung der Arbeitslosengeld II/Sozialgeld-Verordnung

Draft	Publication	Implementation	Motivation	Impact
12/10/2008				-

There were several such orders in the period between 2008 and 2012 and we lump them together here for efficient documentation. None of them had a substantial financial impact.

No substantial financial impact.

Gesetz zur Senkung des Beitragssatzes zur Arbeitsförderung

Draft	Publication	Implementation	Motivation	Impact
11/07/2008	12/20/2008	01/01/2009	CC	-2.4 bn €

Most importantly the law further decreased the contribution rate to unemployment insurance from 3.3 to 3.0 pp . This amounts to an expansionary revenue shock of 2.4 bn € according to the draft. The related Beitragssatzverordnung 2009 moreover temporarily reduced the contribution rate further to 2.8pp for the period 2009 and 2010.

The law came by the time of the beginning of the financial crisis and the deep 2009 recession in Germany. Motivation should be classified as countercyclical.

http://dipbt.bundestag.de/extrakt/ba/WP16/162/16293.html

Verordnung über die Erhebung von Beiträgen zur Arbeitsförderung nach einem niedrigeren Beitragssatz (Beitragssatzverordnung 2009)

Draft	Publication	Implementation	Motivation	Impact
11/07/2008	12/21/2008	01/01/2009	CC	-1.6 bn €
		01/01/2011	CC	1.76 bn €

The order temporarily reduced the contribution rate to unemployment insurance further to 2.8pp for the period 2009 until mid-2010. This amounts to a temporary shock of 1.6 bn €. The related "Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland" prolonged the temporary measure until the end of 2010. In order to reduce complexity, in our shock series we simply take the whole temporary shock (until end 2010) on board here and leave it out of the other laws impact. In fact both laws are implemented within the same quarter.

Motivation is chosen in line with Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland. It is countercyclical.

http://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&jumpTo=bgbl108s2979.pdf

Verordnung zur Festlegung der Beitragssätze in der gesetzlichen Krankenversicherung (GKV-Beitragssatzverordnung 2009)

Draft	Publication	Implementation	Motivation	Impact
10/08/2008	10/29/2008	01/01/2009	MS	4.0 bn €

The order increases the contribution rate to health insurance by 0.6pp amounting to a shock to the private sector of about 4 bn €. From 2009 onwards the "Gesundheitsfond" came into force as part of the "GKV Wettbewerbsstärkungsgesetz". This effectively introduced a central funding scheme, also centralizing the decision on contribution rates again. The order was set up after a commission identified consolidation needs for the budgets of the health insurance schemes.

The law came by the time of the beginning of the financial crisis and the deep 2009 recession in Germany. It should be classified as influenced by a macroeconomic shock.

http://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&jumpTo=bgbl108s2109.pdf

Maßnahmenpaket "Beschäftigungssicherung durch Wachstumsstärkung" – Konjunkturpaket I

Draft	Publication	Implementation	Motivation	Impact
11/05/2008	12/21/2008	01/01/2009	CC	-1.8 bn €
		01/01/2011	CC	1.98 bn €

This package is also part of the Uhl (2013) database referring to the "Gesetz zur Umsetzung steuerrechtlicher Regelungen des Maßnahmenpakets 'Beschäftigungssicherung durch Wachstumsstärkung.' " Apart from the tax legislations there were some further measures to extend short-term work arrangements, financed by the unemployment scheme, plus some additional public investment assignments amounting to an overall 1.8 bn € annually for two years. Moreover, there was an extension of the facilities of the public investment bank KfW. The latter, however, do not constitute a direct public shock in our reading (and also in the reading of the German joint forecasters 2/2009).

Motivation is straightforward, the measure was meant as a countercyclical stimulus.

https://www.bmwi.de/Redaktion/DE/Gesetze/Wirtschaft/gesetz-steuerliche-regelung-konjunkturpaket-i.html

Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland

Draft	Publication	Implementation	Motivation	Impact
01/27/2009	03/05/2009	02/01/2009	CC	-1.4 bn €
		03/06/2009	CC	-13.55 bn €
		07/01/2009	CC	-0.34bn €
		08/01/2009	CC	-0.8 bn €
		10/01/2009	CC	-4.00 bn €
		01/01/2011	CC	2.43 bn €
		01/01/2012	CC	0.39 bn €

This law is also part of the Uhl (2013) database as it partly consists of tax measures, namely a one-off child benefit, a reduction of the tax rate and extension of the tax-free amount of earnings. Moreover, the law included a substantial temporary provision of public investment worth 17.3 bn € (4 bn direct federal investment + 10 bn given to Länder with the requirement of co-financing of 25% which releases another 3.3 bn.) as well as 1.4 bn € for R&D and another 1.5 bn € for a cash for clunkers programme, called Umweltprämie. So the overall temporary shock, assuming that the provisions to the Länder are actually released, is 20.2 bn € (from which 13.55 bn are expected to be released in 2009 and the rest in 2010). The whole volume of public spending was subsumed under the heading of a special fund (Investitions- und Tilgungsfond ITFG). The fund had a max. volume of 21 bn € as it also included a provision of expected interest payments. However, interest payments have consistently not been taken into account in this database for any of the measures. Usually they are not reported in drafts. This is why we leave them out here as well.

Moreover the law introduced several temporary expansionary measures in the sphere of social security. Notably, there was extension of short-time work with allowances for social security contributions + some additional spending on qualifications of laid-off workers, worth 1.4 bn € in sum. Additionally, 5000 new job agents should be employed by the BA, which, according to the Abendblatt http://www.abendblatt.de/nachrichten/article143641/Konjunkturpaket-Die-wichtigsten-Beschluesse.html should cost an additional 0.8 bn €.

Moreover, benefits for children of long-term unemployed were temporarily increased. Most notably, contribution rates to health insurance were lowered by 0.6pp, amounting to an expansionary shock of 4 bn € after netting out some counter-effects through implied lower tax allowances and flows within the governmental sector. This actually reverses the equivalent increase in contribution rates of 0.6 by the GKV Beitragssatzverordnung 2009. The extension of the temporary lowering of contribution rates to unemployment insurance until end of 2010 that came into force by the "Beitragssatzverordnung 2009" has already been subsumed under the latter.

Motivation is straightforward, the measure was meant as a countercyclical stimulus.

http://dipbt.bundestag.de/extrakt/ba/WP16/179/17946.html

Gesetz zur Änderung des Gesetzes zur Errichtung eines Sondervermögens "Investitions- und Tilgungsfonds" (Ausweitung Umweltprämie)

Draft	Publication	Implementation	Motivation	Impact
04/21/2009	06/25/2009	07/01/2009	CC	-3.5 bn €

This law is an extension of the German cash-for-clunkers program called Umweltprämie, which was introduced as part of the Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland. The present law increased the volume of the cash for clunkers by 3.5 bn € (a one-off measure for 2009). Another 0.7 bn € are reserved for interest payments due to the debt financing. However, interest payments have consistently not been taken into account in this database for any of the measures. Usually they are not reported in drafts. This is why we leave them out here as well. The law has no bearing on social security itself, however, it is part of a bigger package of laws that entailed tax measures and social security measures.

Motivation is straightforward, the measure was meant as a countercyclical stimulus.

http://dipbt.bundestag.de/extrakt/ba/WP16/194/19445.html

Rentenwertbestimmungsverordnung

Draft	Publication	Implementation	Motivation	Impact
	06/17/2009	07/01/2009	S	-

This order sets the base value to calculate pension benefits. It puts into effect the rulings of the pension formula, altered by the temporary changes of the Gesetz zur Rentenanpassung 2008. This is therefore an expected change, no shock at all.

Motivation is straightforward, the measure is structural.

http://dipbt.bundestag.de/extrakt/ba/WP16/195/19581.html

Gesetz zur Änderung des Vierten Buches Sozialgesetzbuch, zur Errichtung einer Versorgungsausgleichskasse und zur Änderung anderer Gesetze

Draft	Publication	Implementation	Motivation	Impact
05/26/2009	07/15/2009	07/16/2009	CC	-0.6 bn €

The law was first drafted under the name "Drittes Gesetz zur Änderung des Vierten Buches Sozialgesetzbuch und anderer Gesetze" with very minor financial impact. However, in the constitutional process some relevant changes were made with respect to the short-time work scheme during the crisis. Allowances for social security contributions under the short-time work scheme were extended for short-time work lasting longer than 6 months. According to an estimation of the "Bundesagentur für Arbeit" that was mentioned in the "Beschlussempfehlung" (p.27) this would amount to an annual 0.5-0.7 bn €. Of course, this amount cannot be deemed as permanent, since it is only relevant in recessions. This measure strengthens the automatic stabilizers.

Moreover, the deep crisis could have led to negative growth of pensions and the law introduces an extended lower bound (erweiterte Schutzklausel, Garantieklausel) that generally prevents pensions from falling even in the case when gross wages fall. The "Nachhol-Faktor" introduced by the "RV-Altersgrenzenanpassungsgesetz", however, ruled that the impact of the lower bound would have to be compensated by a lower growth of pensions in the future (Ausgleichsbedarf). The general impact of this measure is not predictable. In general, it leads to a strengthening of automatic stabilizers since pensions will cease to go down in a downturn and will grow slower in the upturn as long as compensation is indicated.

Motivation is clearly driven by the impacts of the financial crisis and the measures are largely countercyclical.

http://dipbt.bundestag.de/extrakt/ba/WP16/184/18417.html

Gesetz zur Neuausrichtung arbeitsmarktpolitischer Instrumente

Draft	Publication	Implementation	Motivation	Impact
11/08/2008	12/21/2008	01/01/2009	S	-

No substantial financial impact.

Gesetz zur Verbesserung der Rahmenbedingungen für die Absicherung flexibler Arbeitszeitregelungen und zur Änderung anderer Gesetze (Flexi II Gesetz)

Draft	Publication	Implementation	Motivation	Impact
09/22/2008	12/21/2008	01/01/2009	S	-

The law introduced some ruling for flex-time wage records (Wertguthaben, Arbeitszeitkonten) regarding portability of these accounts to other firms, insolvency protection etc.

No substantial financial impact.

Gesetz zur Neuregelung des Wohngeldrechts und zur Änderung des Sozialgesetzbuches

Draft	Publication	Implementation	Motivation	Impact
04/23/2008	09/24/2008	10/01/2008	S	-
		01/01/2009	S	-

The law reviewed and slightly increased housing benefits for low-income households.

No substantial financial impact.

Gesetz zur Förderung von Familien und haushaltsnahen Dienstleistungen (Familienleistungsgesetz – FamLeistG)

Draft	Publication	Implementation	Motivation	Impact
11/07/2008	12/22/2008	01/01/2009	S	-

This law is already in the Uhl (2013) database. No further measures.

Zweite Verordnung zur Änderung der ALG-II-Verordnung

Draft	Publication	Implementation	Motivation	Impact
	07/29/2009		S	-

No substantial financial impact.

Gesetz zur Stabilisierung der Finanzlage der Sozialversicherungssysteme und zur Einführung eines Sonderprogramms mit Maßnahmen für Milchviehhalter sowie zur Änderung anderer Gesetze (Sozialversicherungs-Stabilisierungsgesetz – SozVersStabG)

Draft	Publication	Implementation	Motivation	Impact
01/25/2010	04/14/2010	04/15/2010	CC	-

The law regulated some financial flows between the federal budget and health and unemployment insurance schemes with no direct financial impact on the private sector. The state grant to the health insurance fund that was introduced by the "Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland" to finance the lowered contribution rate was prolonged, amounting to 4 bn € per year. Moreover, an existing loan to the unemployment insurance scheme was transformed into a grant, which should amount to approximately 16 bn €. The measures that have an impact on the private sector, with respect to the stabilization of the milk market (0.2 bn €) and the eased eligibility criteria for the long-term unemployment scheme (higher exemptions for old-age provisions) (0.2 bn €), are of minor importance only.

The motivation is clearly countercyclical, according to the draft the rulings are necessary to counter the great recession.

No substantial financial impact.

Gesetz zur Abschaffung des Finanzplanungsrates und zur Übertragung der fortzuführenden Aufgaben auf den Stabilitätsrat sowie zur Änderung weiterer Gesetze

Draft	Publication	Implementation	Motivation	Impact
04/21/2010	05/27/2010	05/28/2010	S	-

The law reviewed and slightly increased benefits for long-term unemployed in case of sustained hardships. The impact is expected to be 0.1 bn €.

No substantial financial impact.

Verordnung zur Bestimmung der Rentenwerte in der gesetzlichen Rentenversicherung und in der Alterssicherung der Landwirte zum 1. Juli 2010 (Rentenwertbestimmungsverordnung 2010 – RWBestV 2010)

Draft	Publication	Implementation	Motivation	Impact
04/23/2010	06/22/2010	07/01/2010	S	-

The order puts into execution the changes to pensions as ruled by the pension formula. No discretionary changes apply, so there is no shock.

Verordnung zur Festsetzung des Umlagesatzes für das Insolvenzgeld für das Kalenderjahr 2010

Draft	Publication	Implementation	Motivation	Impact
11/05/2010	12/18/2009	01/01/2010	CC	2.0 bn €

During the recession insolvencies have substantially increased and the mutual fund that dampens the effects of insolvencies on workers has built up a substantial deficit. Thus the contribution rate that firms have to pay is increased from 0.1% to 0.41%. No financial impact is mentioned in the draft, but the effects can be calculated indirectly from the information given by German joint forecasters (2/2011) who calculate an impact of the subsequent lowering of the contribution rate in 2011. From these figures, the increase in 2010 should have a contractionary impact of 2 bn €. The measure is generally classified as permanent; however, one year later, the rate was lowered even below its pre-2010 level.

In fact, this is a procyclical measure.

https://www.gesetze-im-internet.de/bundesrecht/insogeldfestv_2011/gesamt.pdf

Dritte Verordnung zur Änderung der Arbeitslosengeld II/Sozialgeld-Verordnung

Draft	Publication	Implementation	Motivation	Impact
04/15/2010			S	-

The order introduced allowances for children of long-term unemployed to earn additional money during the holidays which is exempt from the usual means-testing.

No substantial financial impact.

Vierte Verordnung zur Änderung der Arbeitslosengeld II/Sozialgeld-Verordnung

Draft	Publication	Implementation	Motivation	Impact
12/03/2010			S	-

The order changed a technical detail of the parental leave benefits for long-term unemployed that would have led to distorted exemptions for some beneficiaries.

No substantial financial impact.

Gesetz zur Änderung des Grundgesetzes (Artikel 91e) & Gesetz zur Weiterentwicklung der Organisation der Grundsicherung für Arbeitsuchende

Draft	Publication	Implementation	Motivation	Impact
06/07/2010 05/04/2010	07/21/2010	07/22/2010	S	-

The laws changed a technical detail regarding the responsibilities for long-term unemployed benefits within the federal structure.

No substantial financial impact.

Gesetz zur Änderung krankenversicherungsrechtlicher und anderer Vorschriften

Draft	Publication	Implementation	Motivation	Impact
03/31/2010 06/16/2010	07/24/2010	07/30/2010	C	1.15 bn €

The first draft only attempted to change some technical details. During the legislative process, however, additional (and relevant) measures were discussed which can be found in the "Beschlussempfehlung". Most importantly, a temporary price cap for drugs was decided, which should save 1.15 bn € annually. The measure was supposed to run out at the end of 2013. The impact is below the usual threshold, but the law is part of a bigger package of health care reform, planned in 2010 and implemented over 2010 and 2011.

The motivation according to the draft is structural due to some EU rulings that the German law needs to comply to. The relevant measure pointed out in the Beschlussempfehlung refers to consolidation

needs, and we therefore opt for the latter.

http://dipbt.bundestag.de/extrakt/ba/WP17/245/24509.html

Gesetz zur Neuordnung des Arzneimittelmarktes in der gesetzlichen Krankenversicherung (Arzneimittelmarktneuordnungsgesetz – AMNOG)

Draft	Publication	Implementation	Motivation	Impact
07/06/2010	12/22/2010	01/01/2011	C	0.3 bn €
		01/01/2012	C	1.7 bn €

The law seeks to reduce expenditures of the health insurance scheme for pharmaceuticals due to a strong increase of costs per unit in some segments (special purpose compounds), where costs are substantially above the European average. Effectively the law fixes prices. According to the draft this should save approximately 2 bn € per year. This is somewhat below the usual threshold, however, the law is part of a bigger reform package that comes with the Haushaltsbegleitgesetz and the GKV-Finanzierungsgesetz.

Motivation should thus be in line with those laws, it is consolidation.

http://dipbt.bundestag.de/extrakt/ba/WP17/280/28069.html

Gesetz zur nachhaltigen und sozial ausgewogenen Finanzierung der Gesetzlichen Krankenversicherung (GKV-Finanzierungsgesetz – GKV-FinG)

Draft	Publication	Implementation	Motivation	Impact
09/28/2010	12/22/2010	01/01/2011	C	7.32 bn €

The law has two substantial impacts: first, the contribution rate for the health insurance scheme is raised by 0.6 pp amounting to a contractionary shock of 5.5 bn € (6.3 bn minus resulting tax allowances minus contributions by public employment).

Second, expenditures of the health system are reduced. This amounts to 1.8 bn € for the full year effect.

The motivation according to the draft is consolidation based.

http://dipbt.bundestag.de/extrakt/ba/WP17/294/29433.html

Haushaltsbegleitgesetz 2011

Draft	Publication	Implementation	Motivation	Impact
09/27/2010	12/09/2010	01/01/2011	C	1.13 bn €

This law has also substantial impact on tax revenues, with respect to social security the law reduces benefits to long-term unemployed (abolition of subsidies for pension contributions, abolition of buffer payments during transition from the short-term to the long-term unemployment scheme (0.21 bn €), low-income housing subsidies (0.26 bn €) and for parental leave (0.655 bn €). How to treat the abolition of subsidies for pensions of long-term unemployed persons? The measure will generally reduce the statutory pensions of beneficiaries. Private income will thus only be affected with a substantial lag. On the other hand, beneficiaries may be forced to privately save for old-age due to the ruling. Yet, this requires their ability to save. Moreover, beneficiaries who have been in the scheme for a long time may not be able to contribute enough to the pension system for their pension to surpass the subsistence level which would make them eligible for welfare schemes during old-age as well. In this case the measure would have no effect at all. To conclude, the abolition of the subsidies should not be treated as a shock. This decision is in line with the assessment of the measure by the German joint forecasters (2011/2) who do not list the measure.

The transitory grant to the health care fund represents no direct shock to the private sector in accordance with our general criteria.

The motivation according to the draft is consolidation based. In fact, the law has been advertized as a measure to comply with the new debt brake. Since the law is announced and implemented contemporarily and in a bundle with the GKV-Finanzierungsgesetz – GKV-FinG, we treat it as a consolidation measure, too.

http://dipbt.bundestag.de/extrakt/ba/WP17/291/29166.html

Bundesbesoldungs- und -versorgungsanpassungsgesetz 2010/2011 (BBVAnpG 2010/2011)

Draft	Publication	Implementation	Motivation	Impact
05/27/2010	11/19/2010	01/01/2011	S	0.58 bn €
09/29/2010				

The law implements the usual change in salaries of public servants in line with regular wage growth.

This is not a shock in our definition. However, with the "Beschlussempfehlung" came an extension of a temporary cut of the Christmas bonus as of the Haushaltsbegleitgesetz 2006 that was originally terminated until the end of 2010. The law extends this cut until end of 2014. So we prolong this shock. (Note that one year later, the "Gesetz zur Wiedergewährung der Sonderzahlung" reverses this decision, thus the measure effectively stops by the end of 2011.)

The motivation should be in line with the Haushaltsbegleitgesetz 2006 (structural), whose measure is extended. It should be noted, however, that the law is contemporary to the Haushaltsbegleitgesetz 2011.

http://dipbt.bundestag.de/extrakt/ba/WP17/263/26366.html

Gesetz zur Ermittlung von Regelbedarfen und zur Änderung des Zweiten und Zwölften Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
10/26/2010 11/29/2010	03/24/2011	04/01/2011	CC	-1.22 bn €

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP17/303/30306.html

Gesetz für bessere Beschäftigungschancen am Arbeitsmarkt – Beschäftigungschancengesetz

Draft	Publication	Implementation	Motivation	Impact
06/07/2010	10/24/2010	04/01/2011	CC	-

The law mainly prolongs short-term work benefits for another year. The impact however is negligible. All other changes are also of minor importance. The motivation is clearly countercyclical.

No substantial financial impact.

Verordnung zur Bestimmung der Rentenwerte in der gesetzlichen Rentenversicherung und in der Alterssicherung der Landwirte zum 1. Juli 2011 (Rentenwertbestimmungsverordnung 2011 – RWBestV 2011)

Draft	Publication	Implementation	Motivation	Impact
04/23/2011	06/22/2011	07/01/2011	S	-

The order puts into execution the changes to pensions as ruled by the pension formula. No discretionary changes apply, so there is no shock.

Verordnung zur Festsetzung des Umlagesatzes für das Insolvenzgeld für das Kalenderjahr 2011

Draft	Publication	Implementation	Motivation	Impact
11/05/2010	12/17/2010	01/01/2011	CC	-2.8 €

Since the end of the recession insolvencies have lowered and the mutual fund that dampens the effects of insolvencies on workers has built up a substantial surplus. Thus the contribution rate that firms have to pay is lowered to zero, amounting to an expansionary shock of 2.8 bn € according to German joint forecasters (2/2011).

This is a procyclical measure.

https://www.gesetze-im-internet.de/bundesrecht/insogeldfestv_2011/gesamt.pdf

Gesetz zur Verbesserung der Eingliederungschancen am Arbeitsmarkt

Draft	Publication	Implementation	Motivation	Impact
06/24/2011 11/29/2010	12/20/2011	04/01/2012	S	1.64 bn €

The law basically reduces the significance of a measure of active labor market policies that allows grants for short-term unemployed who try to start their own business. The measure isn't abolished completely, but the eligibility criteria are tightened. This should save some 1.3 bn € annually in the budget of the unemployment insurance scheme. Some further measures should have a direct contractionary impact of 0.34 bn € annually. With the "Beschlussempfehlung" come some minimal changes to the estimated impact, however, they are not detailed there. We thus stick to the original figures from the draft.

The motivation according to the draft is structural as efficiency gains are the central aim.

http://dipbt.bundestag.de/extrakt/ba/WP17/361/36161.html

Gesetz zur Einführung eines pauschalierenden Entgeltsystems für psychiatrische und psychosomatische Einrichtungen (Psych-Entgeltgesetz – PsychEntgG)

Draft	Publication	Implementation	Motivation	Impact
03/14/2012	07/21/2012	01/01/2013		-

No substantial financial impact.

Verordnung über die Bezugsdauer für das Kurzarbeitergeld

Draft	Publication	Implementation	Motivation	Impact
	12/07/2012	12/08/2012		-

No substantial financial impact.

Verordnung zur Bestimmung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2012 (Beitragssatzverordnung 2012 – BSV 2012)

Draft	Publication	Implementation	Motivation	Impact
11/16/2011	12/07/2011	01/01/2012	S	2.6 bn €

The order lowered the contribution rate to the pension system from 19.9% to 19.6%. This amounts to an expansionary shock of 2.6 bn € according to the draft. The timing of the announcement is somewhat questionable here. There were some early rumors already in April 2011 in "Der Spiegel" http://www.spiegel.de/wirtschaft/soziales/konjunkturschub-rentenbeitrag-koennte-schon-2012-sinken-a-759267.html, citing the head of the pension fund, who spoke of a possible lowering of the rate by 0.3pp. However, similar rumors were already apparent in 2010 regarding a rate cut in 2011 that after all did not take place. We therefore stick to the timing of the official publication to determine the announcement date.

With respect to motivation, the order states that there is no alternative to the rate cut due to the pension fund rules. The buffer stock exceeds the maximum level so a rate cut is indicated. In line with our general rules, we however treat the measure as a shock, since it is still a discretionary policy option to either cut the rate or increase the ceiling of the buffer stock (both options have been used in the past) and (as opposed to a change in the buffer stock ceiling) the rate cut has a direct financial impact. The motivation is therefore structural.

https://www.gesetze-im-internet.de/bundesrecht/bsv_2012/gesamt.pdf

Verordnung zur Bestimmung der Rentenwerte in der gesetzlichen Rentenversicherung und in der Alterssicherung der Landwirte zum 1. Juli 2012 (Rentenwertbestimmungsverordnung 2012 – RWBestV 2012)

Draft	Publication	Implementation	Motivation	Impact
04/23/2011	06/22/2011	07/01/2011	S	-

The order puts into execution the changes to pensions as ruled by the pension formula. No discretionary changes apply, so there is no shock.

Gesetz zur Neuausrichtung der Pflegeversicherung (Pflege-Neuausrichtungs-Gesetz – PNG)

Draft	Publication	Implementation	Motivation	Impact
04/23/2012	10/23/2012	10/30/2012	S	-0.21 bn €
		01/01/2013	S	0.12 bn €

The law increases benefits of the long-term care system while at the same time increasing contributions. Overall there is a close to zero net effect, however, the single effects (both about 1.2 bn €) are non-negligible. This is still below the usual threshold; however, the law happens to be contemporary with a substantial decrease in pension system contributions and should thus not be ignored. During the legislative process some additional benefits, with only a minor financial impact, were added.

Motivation of the law is clearly structural due to the reference to changing demographics and therefore changing needs with respect to care.

http://dipbt.bundestag.de/extrakt/ba/WP17/438/43814.html

Gesetz zur Wiedergewährung der Sonderzahlung

Draft	Publication	Implementation	Motivation	Impact
11/08/2011	12/20/2011	01/01/2012	S	0.6 bn €

The law reverses the decision by the "BBVAnpG 2010/2011" to prolong the cut of Christmas bonuses to public servants until end of 2014. With the new ruling, the original transitory shock of the Haushaltsbegleitgesetz 2006 comes to an end, with the same financial impact in percent of GDP.

The motivation should be in line with the original measure of the Haushaltsbegleitgesetz 2006 or the BBVAnpG 2010/2011.

http://dipbt.bundestag.de/extrakt/ba/WP17/399/39911.html

Gesetz zur Stärkung der Finanzkraft der Kommunen

Draft	Publication	Implementation	Motivation	Impact
09/26/2010	12/06/2011	01/01/2012	S	-

The law substantially changed responsibilities for basic social insurance, shifting a large part of the costs from the municipal to the federal level in four consecutive steps, while lowering the fixed contributions of the federal budget to the short-term unemployment fund. No direct shock to the private sector is indicated here.

No substantial financial impact.

Verordnung zur Fortschreibung der Regelbedarfsstufen (RBSFV 2012) (RBSFV)

Draft	Publication	Implementation	Motivation	Impact
	10/17/2011	01/01/2012		-

After the "Gesetz zur Ermittlung von Regelbedarfen und zur Änderung des Zweiten und Zwölften Buches Sozialgesetzbuch", the benefits of long-term unemployed became indexed to the price level and the wage level. Since then, an annual order puts in effect the relevant changes. The shock that came with the chaning of the rules has been captured as a permanent shock. All annual changes by orders are now part of this permanent shock. Thus there is no additional shock here.

No substantial financial impact.

Gesetz zur Festsetzung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2013 (Beitragssatzgesetz 2013)

Draft	Publication	Implementation	Motivation	Impact
11/16/2012	12/05/2012	01/01/2013	S	-6.3 bn €

The law lowered the contribution rate to the pension system from 19.6% to 18.9%. The first draft proclaimed a reduction to only 19.0%, which would have amounted to an expansionary shock to the private sector of 5.4 bn € according to the draft. However, with the Beschlussempfehlung came the additional lowering to 18.9%. That is, the overall effect should be 6.3 bn €.

With respect to motivation, the law states that the rate cut is warranted due to the pension funding rules. The buffer stock exceeds the maximum level so a rate cut is indicated. In line with our general rules, we however treat the measure as a shock, since it is still a discretionary policy option to either cut the rate or increase the ceiling of the buffer stock (both options have been used in the past) and (as opposed to a change in the buffer stock ceiling) the rate cut has a direct financial impact. The motivation is therefore structural. A procyclical motivation might also be plausible, but 2013 was not an upswing year. The overshoot of revenues over benefits results from past decisions to effectively cut the generosity of the pension system, which were motivated by structural concerns, and so should be the present law.

http://dipbt.bundestag.de/extrakt/ba/WP17/470/47080.html

Haushaltsbegleitgesetz 2013 (HBeglG 2013)

Draft	Publication	Implementation	Motivation	Impact
09/03/2012	12/20/2012	01/01/2013		-

The law only shifted some financial flows between the federal budget and the social security system.

No substantial financial impact.

Gesetz zu Änderungen im Bereich der geringfügigen Beschäftigung

Draft	Publication	Implementation	Motivation	Impact
09/25/2012	12/05/2012	01/01/2013		-

No substantial financial impact.

Gesetz zur Regelung des Assistenzpflegebedarfs in stationären Vorsorge- oder Rehabilitationseinrichtungen

Draft	Publication	Implementation	Motivation	Impact
11/07/2012 09/24/2012	12/20/2012	01/01/2013	S	-1.75 bn €

The law's only financially relevant measure abolished the consulting fee of 10 € per visit to the doctor per quarter, which was introduced back in 2004. This measure was not mentioned in the draft which only dealt with very minor financial changes to other rulings. The Beschlussempfehlung then introduced the relevant measure, which should have an annual financial impact of 1.5-2 bn €. We take the mean value of this range for the shock series. This is below the usual threshold, however, the law is announced and introduced contemporarily with other major shocks to which it adds.

The law takes back a measure that was introduced as a structural change to prevent abuse of the health system. As the measure was found to be inefficient and given up, its abolition should be structural as well.

http://dipbt.bundestag.de/extrakt/ba/WP17/467/46721.html

Gesetz zur Beseitigung sozialer Überforderung bei Beitragsschulden in der Krankenversicherung

Draft	Publication	Implementation	Motivation	Impact
04/16/2013	07/15/2013	08/01/2013		-

No substantial financial impact.

Zweites Gesetz zur Änderung des Zwölften Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
05/29/2013	10/01/2013	10/09/2013		-

No substantial financial impact.

Verordnung zur Fortschreibung der Regelbedarfsstufen (RBSFV 2013) (RBSFV)

Draft	Publication	Implementation	Motivation	Impact
	10/17/2012	01/01/2013		-

After the Gesetz zur Ermittlung von Regelbedarfen und zur Änderung des Zweiten und Zwölften Buches Sozialgesetzbuch", the benefits of long-term unemployed became indexed to the price level and the wage level. Since then, an annual order puts in effect the relevant changes. The shock that came with the changing of the rules has been captured as a permanent shock. All annual changes by orders are now part of this permanent shock. Thus there is no additional shock here.

No substantial financial impact.

Zweite Veränderung zur Verordnung über die Bezugsdauer für das Kurzarbeitergeld

Draft	Publication	Implementation	Motivation	Impact
	11/13/2014	01/01/2015		-

The subsidized short-term work (KUG) period was extended from 6 to 12 month in 2012. This provision decides to extend the already prolonged short-time work period for another year from previously end of 2014 to end of 2015. In line with the initial law in 2012, there is no substantial financial impact.

No substantial financial impact.

Beitragssatzgesetz 2014

Draft	Publication	Implementation	Motivation	Impact
12/16/2013	03/26/2014	01/01/2014		

The law decides to keep contribution rates to the pension insurance scheme constant in 2014 despite of high reserves to guarantee stability and planning reliability in financing legal requirements. Reserves would have allowed the contribution rate to be lowered from 18.9% to 18.3%. As before, in line with our general decision we regard the very change in the rate as a shock and not the attenuation of the possible increase.

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/567/56726.html

13. SGB-V-Änderungsgesetz

Draft	Publication	Implementation	Motivation	Impact
12/17/2013	12/22/2013	01/01/2014	C	1.3 bn €

The law prolongs the temporary measure of a statutory price cap for patent-protected drugs implemented in the "Gesetz zur Änderung krankenversicherungsrechtlicher und anderer Vorschriften" of 2010 (see above) for one quarter until end of March 2014. The short-term temporary decision was enacted to bridge the gap to the more substantial solution implemented in "14. SGB-V-Änderungsgesetz"

(below).

The financial impact derives from the previous measure which was 1.15 bn € at the time and caused a countershock in the last quarter of 2013 in the magnitude of 1.3 bn €. The financial impact is below the usual threshold, but given that the law extends a measure which is already in the narrative, we include it.

As in the initial decision for the price cap, the legislator motivates it by the increasing costs of drugs which would lead to significant increases of expenditures for the statutory health insurance. In line with the former assessment of the measure and the fact that it is of temporary nature, the motivation of the law should be classified as driven by consolidation concerns.

http://dipbt.bundestag.de/dip21/btd/18/002/1800200.pdf

14. SGB-V-Änderungsgesetz

Draft	Publication	Implementation	Motivation	Impact
12/17/2013	03/27/2014	04/01/2014	C	2 bn €

Following up on the "13. SGB-V-Änderungsgesetz", the law further extends the price cap on drugs to the end of 2017. The draft of the law re-evaluates the financial impact of not extending the price regulations with 2 bn €, and thereby differs slightly to the assessment at earlier stages. We follow the new assessment and update the impact.

The motivation of the measure remains consolidation.

http://dipbt.bundestag.de/extrakt/ba/WP18/567/56764.html

RV-Leistungsverbesserungsgesetz

Draft	Publication	Implementation	Motivation	Impact
03/25/2014	06/23/2014	07/01/2014	S	-9.6 bn €

The law changes regulations of the "RV-Altersgrenzenanpassungsgesetz 2007". For instance, pension insurants with a long record of contributions can opt for earlier retirement without deductions. Child-raising periods are more strongly taken into account for the calculation of pensions. Also, periods of temporary unemployment can be compensated for insurants with many years of contributions.

The measures cause additional expenditures for the statutory pension system including the health insurance of the pensioners of 9.0 bn € on a full annual budgetary level. The total amount includes changes relating to longer child-raising periods (Kindererziehungszeiten), particularly long-standing insured persons (besonders langjährig Versicherte), reduced earning capacity pension (Erwerbsminderungsrente) and the rehabilitation budget (Rehabilitationsbudget).

Further, the new regulations for particularly long-standing insured persons to retire without deductions also cause a loss of contributions in the statutory pension insurance of 0.6 bn €.

The law extends regulations implemented by the "RV-Altersgrenzenanpassungsgesetz 2007" which changed the pension age from 65 to 67 years and discount-free pensions from the age of 65 for those who have been insured for a particularly long time. Thus the motivation is structural.

http://dipbt.bundestag.de/extrakt/ba/WP18/573/57314.html

Rentenwertbestimmungsverordnung 2014

Draft	Publication	Implementation	Motivation	Impact
04/30/2014	06/16/2014	07/01/2014		

The regulation does not deviate from the statutory pension adjustment.

No substantial financial impact.

Haushaltsbegleitgesetz 2014

Draft	Publication	Implementation	Motivation	Impact
04/04/2014	08/11/2014	08/12/2014		

http://dipbt.bundestag.de/extrakt/ba/WP18/585/58588.html

No substantial financial impact.

Regelbedarfsstufen-Fortschreibungsverordnung 2014 (RBSFV 2014)

Draft	Publication	Implementation	Motivation	Impact
09/04/2013	10/15/2013	01/01/2014		

https://www.bundesrat.de/SharedDocs/beratungsvorgaenge/2014/0401-0500/0423-14.html

No substantial financial impact.

Gesetz zur Stärkung der Tarifautonomie – Tarifautonomiestärkungsgesetz

Draft	Publication	Implementation	Motivation	Impact
05/28/2014	08/11/2014	01/01/2015		

This law mainly introduces a statutory general minimum wage in Germany. In the motivation of the law, the government clarifies that there is not enough data and experience to sufficiently quantify the financial impact of the introduction of the minimum wage on public finances – it generally states that the government expects increasing tax revenues and lower social spending. The financial impact of each part of the law concerning the social security system are not in detail quantifiable but are assumed to be minor.

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/593/59396.html

Verordnung zur Bestimmung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2015 (Beitragssatzverordnung 2015 – BSV 2015)

Draft	Publication	Implementation	Motivation	Impact
11/19/2014	12/22/2014	01/01/2015	CC	-2 bn €

This order reduces the contribution rates to the pension insurance by 0.2 percentage points from 18.9% to 18.7% due to an overfull buffer stock. The decrease in the rate is estimated to reduce revenues of the statutory pension insurance by 2 bn €. The full buffer stock is a consequence of the booming economy and favorable labor market performance. Therefore the law is an cyclical discretionary action, the motivation is thus procyclical.

http://dipbt.bundestag.de/extrakt/ba/WP18/636/63646.html

Fünftes Gesetz zur Änderung des Vierten Buches Sozialgesetzbuch und anderer Gesetze (5. SGB IV-ÄndG)

Draft	Publication	Implementation	Motivation	Impact
10/15/2014	04/15/2015	01/01/2016		

http://dipbt.bundestag.de/extrakt/ba/WP18/634/63400.html

No substantial financial impact.

Rentenwertbestimmungsverordnung 2015

Draft	Publication	Implementation	Motivation	Impact
04/30/2015	06/12/2015	07/01/2015		

No substantial financial impact.

GKV-Finanzstruktur- und Qualitäts-Weiterentwicklungsgesetz (GKVFQWG)

Draft	Publication	Implementation	Motivation	Impact
05/05/2014	06/21/2014	01/01/2015	S	

The central measure of the law is the reduction of the statutory contribution rates to the health insurance from 15.5 to 14.6 percent. Only the employees' rate drops from 8.2 to 7.3 percent, while the employers' rate remains constant at 7.3 percent. The drop in the statutory rate is compensated by a flexible supplementary premium (Zusatzbeitrag) as set by the health insurance funds. On average, health insurers fully compensated the fall in the statutory rate by the flexible rate. Thus, effectively, there is no substantial net financial impact for contributors. There may be distributional effects among members of different health insurance funds, the draft however, does not quantify these effects. Thus, from the perspective of the social security system, there is no financial shock in sum and the law is not integrated in our narrative shocks series.

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/593/59397.html

Gesetz zur besseren Vereinbarkeit von Familie, Pflege und Beruf

Draft	Publication	Implementation	Motivation	Impact
11/10/2014	12/23/2014	01/01/2015		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/629/62956.html

Gesetz zur Stärkung der Versorgung in der gesetzlichen Krankenversicherung (GKV-Versorgungsstärkungsgesetz – GKV-VSG)

Draft	Publication	Implementation	Motivation	Impact
02/25/2015	07/16/2015	07/17/2015		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/643/64389.html

Erstes Pflegestärkungsgesetz (PSG I)

Draft	Publication	Implementation	Motivation	Impact
06/23/2014	12/17/2014	01/01/2015	C	0.51 bn €

The law aims to stabilize the financial conditions of long-term care insurance by raising the contribution rate by 0.3 percentage points from 2.05 to 2.35 %, effective at the beginning of 2015. At the same time the law extends some of the benefits. To name a few, more flexible short-term and preventive care, improved day care and expansion of additional care services in accordance with §87b of the Elftes Buch Sozialgesetzbuch (SGB XI) in inpatient care facilities and improvement of the care ratio.

The expected financial impact of the increase in contribution rates is 3.63 bn €. Measures worth mentioning on the spending side are for instance: Adjustment of benefits -0.9 bn €, expansion of additional care services in inpatient care facilities -0.5 bn €, revenue shortfall due to higher special deductions for income tax including the solidarity surcharge -0.5 bn €. In sum, the financial impact of the law is minor. However, given that there are substantial individual items, both on the revenue and expenditure side, we include the law and its measures in the narrative.

Centrally, the law is intended to stabilize the budget of the care insurance. By doing so it lays the ground for the later restructuring of the care system in the "Zweites Pflegestärkungsgesetz (PSG II)". Thus we opt for consolidation motivation. Alternatively, one might also argue that the law is part of the broader restructuring process in order to safeguard the quality of the care insurance given changed societal conditions and individual needs which would switch the motivation to structural.

http://dipbt.bundestag.de/extrakt/ba/WP18/603/60319.html

Regelbedarfsstufen-Fortschreibungsverordnung 2015 (RBSFV 2015)

Draft	Publication	Implementation	Motivation	Impact
09/18/2014	10/14/2014	01/01/2015		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/623/62320.html

Gesetz zur Änderung des AsylbLG und des SGG

Draft	Publication	Implementation	Motivation	Impact
09/22/2014	12/10/2014	03/01/2015		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/620/62000.html

Gesetz zur Verbesserung der Rechtsstellung von asylsuchenden und geduldeten Ausländern

Draft	Publication	Implementation	Motivation	Impact
11/12/2014	12/23/2014	01/01/2015		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/631/63141.html

Asylverfahrensbeschleunigungsgesetz

Draft	Publication	Implementation	Motivation	Impact
09/29/2015	10/20/2015	10/24/2015		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/694/69467.html

Gesetz zur Änderung des SGB XII und weiterer Vorschriften

Draft	Publication	Implementation	Motivation	Impact
10/08/2015	12/21/2015	01/01/2016		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/685/68551.html

Arbeitslosenversicherungsschutz- und Weiterbildungsstärkungsgesetz (AWStG)

Draft	Publication	Implementation	Motivation	Impact
04/06/2016	07/18/2016	08/01/2016		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/721/72158.html

Rentenwertbestimmungsverordnung 2016

Draft	Publication	Implementation	Motivation	Impact
04/20/2016	06/20/2016	07/01/2016		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/738/73827.html

Zweites Pflegestärkungsgesetz (PSG II)

Draft	Publication	Implementation	Motivation	Impact
09/07/2015	12/21/2015	01/01/2017	S	-2.09 bn €
		01/01/2018		1.24 bn €
		01/01/2022		1.38 bn €

Similarly to the "Erstes Pflegestärkungsgesetz (PSG I)", the law increases contribution rates while adjusting and determining benefits, but has a much stronger focus on changing the structures of long-term care insurance. Contribution rates increase by 0.2 percentage points at the beginning of 2017. The adjustments of benefits follow mainly due to the change of the definition for the need for long-term care, moving from levels of care ("Pflegestufen") to grades of care ("Pflegegrade").

The increase in contribution rates leads to additional revenues of 2.5 bn € on an annual budgetary basis for the long-term care insurance. For the adjustment of expenditures (total additional expenditure 3.7 bn € in 2017), significant measures are the determination of the level of ambulatory cash and non-cash benefits for care grades 2 to 5, which lead to annual additional expenditures of around 1.59 bn €, the change in the calculation basis for contributions to the statutory pension system for people in care will lead to additional expenditures of around 0.4 bn €, the granting of uniformly 125 € per month to finance additional care and relief services for people in need of care (0.4 bn €) and the determination of inpatient benefits in kind (0.2 bn €). The measures of the law further caused reduced expenditures for other social welfare institutions of around 0.5 bn € in total.

The benefits adjustment planned for beginning of 2018 is integrated into the reform. This will result in additional expenditure in 2017 of around 1.3 bn €, which are included in the individual measures such as the ones described above. Compared with the continuation of the current law, there will be reduced expenditures of around 1.4 bn € on an annual basis from beginning of 2018 on. In addition, the transition from "Pflegestufen" to "Pflegegrade" causes additional temporary transitional costs of 3.6 bn € stretched over four years.

The law displays a restructuring process of the long-term care system and it introduces new definitions and criteria for the need of care. The motivation is structural.

http://dipbt.bundestag.de/extrakt/ba/WP18/685/68567.html

Gesetz für sichere digitale Kommunikation und Anwendungen im Gesundheitswesen

Draft	Publication	Implementation	Motivation	Impact
06/22/2015	12/21/2015	12/29/2015		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/671/67134.html

Regelbedarfsstufen-Fortschreibungsverordnung 2016 – RBSFV 2016

Draft	Publication	Implementation	Motivation	Impact
09/24/2015	10/22/2015	01/01/2016		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/693/69354.html

Gesetz zur Einführung beschleunigter Asylverfahren (AsylbLG)

Draft	Publication	Implementation	Motivation	Impact
02/16/2016	03/11/2016	03/17/2016		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/723/72363.html

Gesetz zur Regelung von Ansprüchen ausländischer Personen

Draft	Publication	Implementation	Motivation	Impact
11/07/2016	12/22/2016	12/29/2016		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/772/77237.html

Neuntes SGB-II-Änderungsgesetz (Rechtsvereinfachung)

Draft	Publication	Implementation	Motivation	Impact
04/06/2016	07/26/2016	08/01/2016		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/721/72159.html

Flexirentengesetz

Draft	Publication	Implementation	Motivation	Impact
09/27/2016	12/08/2016	01/01/2017		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/770/77054.html

Gesetz zur Weiterentwicklung der Versorgung und der Vergütung für psychiatrische und psychosomatische Leistungen (PsychVVG)

Draft	Publication	Implementation	Motivation	Impact
09/05/2016	12/19/2016	01/01/2017		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/762/76267.html

Heil- und Hilfsmittelversorgungsgesetz

Draft	Publication	Implementation	Motivation	Impact
11/02/2016	04/04/2017	04/11/2017		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/764/76480.html

Drittes Pflegestärkungsgesetz (PSG III)

Draft	Publication	Implementation	Motivation	Impact
09/05/2016	12/23/2016	01/01/2017		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/762/76282.html

Gesetz zur Ermittlung von Regelbedarfen sowie zur Änderung des Zweiten und des Zwölften Buches Sozialgesetzbuch

Draft	Publication	Implementation	Motivation	Impact
10/17/2016	12/22/2016	01/01/2017		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/769/76949.html

VO zu des §90 Abs. 2 Nr. 9

Draft	Publication	Implementation	Motivation	Impact
01/25/2017	03/22/2017	04/01/2017		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/795/79519.html

Gesetz zur Umsetzung der Änderungen der EU-Amtshilferichtlinie und von weiteren Maßnahmen gegen Gewinnkürzungen und -verlagerungen

Draft	Publication	Implementation	Motivation	Impact
09/05/2016	12/20/2016	12/24/2016		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/761/76153.html

Erste Verordnung zur Änderung der Unbilligkeitsverordnung

Draft	Publication	Implementation	Motivation	Impact
09/19/2016	10/04/2016	01/01/2017		

No substantial financial impact.

https://www.bmas.de/SharedDocs/Downloads/DE/PDF-Gesetze/unbilligkeitsaenderungsverordnung-begruendung.pdf?__blob=publicationFile&v=2

Gesetz zur Verlängerung befristeter Regelungen im Arbeitsförderungsrecht

Draft	Publication	Implementation	Motivation	Impact
05/09/2018	07/10/2018	07/14/2018		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP19/2333/233374.html

EM-Leistungsverbesserungsgesetz

Draft	Publication	Implementation	Motivation	Impact
04/12/2017	07/17/2017	07/22/2017		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/799/79992.html

EM-Leistungsverbesserungsgesetz

Draft	Publication	Implementation	Motivation	Impact
04/12/2017	07/17/2017	07/22/2017		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/799/79992.html

Betriebsrentenstärkungsgesetz

Draft	Publication	Implementation	Motivation	Impact
02/22/2017	08/17/2017	01/01/2018		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/788/78841.html

Verordnung zur Bestimmung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2018 (Beitragssatzverordnung 2018 – BSV 2018)

Draft	Publication	Implementation	Motivation	Impact
11/22/2017	12/18/2017	01/01/2018	CC	-1.1 bn €

This provision decides to reduce contribution rates to the statutory pension insurance by 0.1 percentage points from 18.7% to 18.6% due to an overfull buffer stock. The decrease in the rate is estimated to reduce revenues of the statutory pension insurance by 1.1 bn €. The overfull buffer stock is a consequence of the long cyclical upswing. The reduction in contribution rates is therefore an endogenous discretionary action. The motivation is procyclical.

http://dipbt.bundestag.de/extrakt/ba/WP19/2302/230251.html

Rentenüberleitungs-Abschlussgesetz

Draft	Publication	Implementation	Motivation	Impact
04/12/2017	07/17/2017	07/01/2018		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/799/79991.html

Rentenüberleitungs-Abschlussgesetz

Draft	Publication	Implementation	Motivation	Impact
04/12/2017	07/17/2017	07/01/2018		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/799/79991.html

Regelbedarfsstufen-Fortschreibungsverordnung 2018 (RBSFV 2018)

Draft	Publication	Implementation	Motivation	Impact
09/06/2017	11/08/2017	01/01/2018		

No substantial financial impact.

http://dipbt.bundestag.de/extrakt/ba/WP18/838/83887.html

Chapter 4

The macroeconomic effects of social security contributions and benefits

4.1 Introduction[21]

In recent years, there has been a surge in the literature on the size of fiscal multipliers. While many papers have focused on the effects of federal and local public procurement, employment and investment spending as well as tax shocks, the impact of changes in social security contributions and benefits has received only little attention. This seems surprising given the fact that social security systems have grown substantially in OECD countries since the Second World War and, according to OECD data, represent a share of more than 40% of the general budget (including military spending) in many European countries.

So far, empirical evidence is focused on US data: Using monthly data from 1965 to 1985, Wilcox (1989) provides evidence that anticipated positive shocks to benefits have significant positive short-term effects on consumption expenditure, thus rejecting the zero-response predicted by the life-cycle hypothesis. Romer and Romer (2016), exploiting narratively identified shifts in US social security spending, investigate the impact of benefit increases on private consumption expenditures (where they find a substantial short-run effect) and industrial production and employment (where they find no significant effect). In addition to these studies on benefits, there are several tax narratives (e.g. Romer and Romer, 2010; Cloyne, 2013; Hayo and Uhl, 2014). However, social security contributions have not been considered separately so far, even though the size and frequency of the corresponding law changes is comparable to those of benefits and other taxes (see Figure 3.1 below).

This chapter provides new evidence on the macroeconomic effects of social security contribution and benefit shocks for Germany. Following the narrative approach and exploiting official historical records, we construct a novel time series of legislated social security shocks for Germany, both for expenditures and revenues. These narrative shocks are then fed into a proxy SVAR model à la Mertens and Ravn (2014). We estimate the effects of benefits and contributions on GDP, domestic demand, production, employment, wages, prices and interest rates. This macroeconomic time series analysis is complemented by investigating the impact of our shock series on consumption and income household data from the German Socio-Economic Panel (GSOEP).

In the baseline specification, an exogenous cut to contributions of a prospective size of 1% of GDP yields a statistically significant rise in GDP of about 0.4% on

[21] This chapter is a replication of my co-authored publication Gechert et al. (2020b).

impact, but the effect swiftly peters out. The impact multiplier for benefit increases is higher (1.1), and the GDP response decreases slowly and approaches 0.4% at a 20-quarter time horizon after the shock. The quantitative difference is less pronounced for some alternative specifications, and stronger in others, but the qualitative result is very robust.

The response of other macroeconomic variables suggests that separate channels are at work for contributions and benefits: the consumption response is much more pronounced for benefit shocks. By contrast, contribution changes have a slightly higher impact on gross capital formation and employment, possibly reflecting a more beneficial supply-side impact as compared to changes in benefits.

The differential consumption response is investigated in more detail by applying the shock series to household data from the GSOEP. The identified shocks have a significant and plausible impact on household income. Moreover, consumption expenditures of beneficiaries rises much more strongly when benefits increase, as compared to the consumption response of contributors, when contributions are cut. Further evidence points to differential credit or liquidity constraints as a plausible channel for this heterogeneity in the consumption response.

In conclusion, expansionary social security changes have a positive short-to-medium-term impact on GDP for Germany, in the middle of the range of multipliers in the general fiscal multiplier literature (as surveyed by Gechert, 2015; Gechert and Rannenberg, 2018; Ramey, 2019). Redistributional budget-neutral measures would imply a considerable positive aggregate demand effect, mainly driven by the private consumption response, but might affect employment negatively due to labor supply and demand effects. Given the size of the social security system and its frequent and substantial legal changes, they are likely as relevant for macroeconomic dynamics as are changes to the tax system and general government spending, making them an important subject for future research. Our analysis also speaks to the literature that takes into account the heterogeneity of household consumption responses in aggregate models (Auclert, 2019; Kaplan and Violante, 2014).

The chapter is organized as follows. Section 4.2 recaps the construction of the narrative shock series from chapter 3 and examines their properties. Section 4.3 introduces the empirical model and Section 4.4 the approach to identification. In Section 4.5, the baseline findings regarding GDP multiplier effects and the response of other macroeconomic variables are presented. We test the choices regarding specifications of the shock series, identifying assumptions and model specifications in Section 4.6. Section 4.7 relates the shock series to household data. The final section concludes.

Robustness tests and further information on the dataset can be found in the appendices of this chapter.

4.2 Constructing and Examining the Shock Series

This section lays out the construction of the exogenous shock series for social security contributions and benefits. In contrast to tax laws, whose expected budgetary impacts are listed in the annual budgetary report of the Federal Ministry of Finance (*Bundesfinanzberichte*), discretionary policy changes in benefits and social security contributions are not recorded centrally. However, chronicles from the Federal Ministry of Labour and Social Affairs (Bundesministerium für Arbeit und Soziales, 2011) and various *Sozialberichte*, the chronicle of the German Statutory Pension Insurance

(2011, pp. 267–308) as well as the chronicle of Steffen (2019) document major legislative changes in this area. From these sources, we set up a list of major legislations for pensions, health care, long-term care and unemployment insurance at the German federal level for the period 1970 to 2018. For each law listed in the chronicles, we then examined draft legislations, bills, parliamentary protocols and speeches in order to collect information regarding (i) the underlying motivation, (ii) the dates of the legislative process and (iii) the expected financial impact.

Regarding (i), a central advantage of the narrative approach is that one can readily select discretionary measures and separate them from all automatic fluctuations of the budget. However, discretionary measures can still be endogenous reactions to changing circumstances, which would invalidate the causal interpretation of estimates. Therefore, we attribute to each law an exogenous or endogenous underlying motivation. Following Romer and Romer (2010), those measures are classified as endogenous that are either (a) countercyclical or procyclical[22] policies; (b) reactions to other macroeconomic shocks (like financial crises, oil price shocks, etc.); (c) motivated by other contemporaneous policy measures that substantially change public spending or revenues – likely affecting GDP as well – but whose size is unknown or which are not counted as a shock in our narrative (spending-driven or revenue-driven motivation). A typical example of the latter is the rise in the contribution rates of the unemployment insurance scheme in 1991 due to the *"Gesetz zur Änderung der Beitragssätze in der gesetzlichen Rentenversicherung und bei der Bundesanstalt für Arbeit"*, which was motivated by soaring social spending on unemployment in East Germany after reunification.

Excluding these endogenous measures in the shock series should rule out likely biases from omitted variables or reverse causality. The relevant exogenous changes that lend themselves to a causal interpretation with respect to short-run multiplier effects are those that are motivated by (d) attempts at long-term budgetary consolidation, as they tackle inherited debt unrelated to current circumstances, (e) structural or ideological reasons, for example to increase potential output growth or court rulings, again unrelated to current circumstances. See Romer and Romer (2010) for a further discussion of these categories.

The stated motivation in the draft may not reflect the true underlying motivation, due to marketing purposes or other reasons. Therefore, the information is re-evaluated against external sources like newspapers or major economic events. Nevertheless, there is an element of judgment when determining the effective motivation. As a quality check, we refer to predictability tests of the shock series and to several tests of the robustness of our results when using only a subset of the exogenous shocks in Section 4.6.

(ii) The date of implementation of a measure is obtained from the legal text and it is allocated to a quarter in our time series. Separate implementation dates of individual measures within a law code are recorded if applicable. In some rare cases we lacked sufficient information on expected implementation dates from the legislative texts or found their timing inconsistent with budgetary data from the financial statistics of the Bundesbank (*Finanzstatistik*). In such cases, budgetary data determined the date the shocks. Moreover, we consider whether measures are temporary or permanent. In the event that measures are of a temporary nature, the date of its

[22] A procyclical motivation has not been identified in the original Romer and Romer (2010) paper. However, several cases, where budget deficits as a result of recessions have been answered by increases in contribution rates and vice versa, can be documented for Germany. Procyclically motivated interventions mainly occur in situations when there is an immediate concern about a deficit or overshoot in the social security budget.

expected expiration is recorded, determining the timing of the associated countershock (of the same size but opposite sign). Cases of prolongation of temporary measures are captured as new shocks with their own expiration date. Since dealing with temporary measures is not straightforward, Figure 4.2 shows that the findings do not hinge on the inclusion of temporary measures.

The publication date of the law lends itself to determining the announcement date, as it provides detailed information and usually comes with media coverage.[23] Announcement dates are coded uniformly for all measures of a law.

(iii) The size of the shock and the economic relevance of each law is determined by its total prospective full-year impact (*"Volle Jahreswirkung"*), which is usually given in the draft of the law. It is defined as the annualized financial impact after full implementation, but assuming no change in the respective base of contributions or benefits. This is a desirable feature, since it carves out the size of the pure shock apart from endogenous reactions by agents, which are reflected in the dynamic response of headline budgetary figures and GDP. For normalization purposes, we divide the amount by annual nominal GDP in the year of the shock. We include all laws in the shock series with a prospective full-year impact above or just slightly below 0.1% of annual GDP. Furthermore, some laws may only have a low net impact in sum, but consist of substantial single measures with a particular impact on e.g. pensioners, unemployed or contributors. Such changes are included even though the net effect may be below 0.1% of GDP. Moreover, sometimes minor changes below the threshold are introduced contemporaneously with substantial legislative changes. In this case we include the minor changes as they add to the overall change in the fiscal stance in the respective quarter. Since the calculation of the budgetary impact as given in the draft legislation may be prone to forecast errors or political bias, using the proxy SVAR approach in our econometric specification is particularly appealing as it can cope with measurement error.

Some changes to revenues and expenditures are implemented by laws or decrees, but actually only enforce a standing rule like the statutory pension formula. Changes that comply to such a rule should be expected and therefore do not constitute a shock. Only deviations from or changes of the rule are interpreted as shocks. Other rules however, like the balanced-budget rule of the pension system, provide some leeway regarding the means to compliance. For example, to comply with the balanced-budget rule, the government could change contribution rates or benefits, change the limits of the permitted buffer stock or increase subsidies from the national budget. Effectively, the timing and choice of such measures is very much driven by circumstances and discretion. This ambiguity requires a case-by-case evaluation, as to whether a measure constitutes a shock or not.

Figure 3.1 in Chapter 3 summarizes our exogenous shock series at implementation dates from 1970 to 2018. For contribution shocks, the mean is positive but very low with 0.007 (standard deviation (sd): 0.08); for benefits it is 0.011 (sd: 0.09), positive and close to zero as well.[24] The contemporaneous correlation coefficient between the two series is rather low ($\rho = -0.09$) and not significant. Similarly,

[23] If there is additional information suggesting an earlier or later announcement date, this is taken into account. This can be the case if a law is well-known in detail in public policy debates prior to its promulgation. Nevertheless, we cannot completely rule out further anticipation effects that we did not identify.

[24] For completeness, Figure 3.2 shows the endogenous shock series. The endogenous series of revenue shocks also has a mean close to zero with 0.006 (sd: 0.07), expenditures: -0.006 (sd: 0.08). Endogenous policy actions were concentrated at the beginning of the 1980s, the reunification boom and bust of the 1990s and around the financial crisis. We test a specification including both series in Section 4.6.

TABLE 4.1: Predictability of the shock series – Granger causality tests

		Revenues	Expenditures
Exogenous	χ^2	10.660	12.099
	$p(\chi^2)$	0.558	0.438
Endogenous	χ^2	18.065	17.156
	$p(\chi^2)$	0.114	0.144

The table shows χ^2 statistics and respective p values of Granger causality tests for the narrative shock series of social security contributions and benefits, separately for shocks classified as exogenous and endogenous. Tests are based on lags 1 through 4 of growth rates of GDP, government expenditures and the respective social security time series.

the correlation coefficients from lags 1 to 4 between the exogenous shocks series are small and insignificant (see appendix 4.A, Table 4.8).

A major concern regarding the assumption of exogeneity of the shock series is fiscal foresight which may result in different information sets of agents and the econometrician, thereby ignoring possible reactions to predictable shocks that happen prior to the implementation of the law (Mertens and Ravn, 2010; Ramey, 2011). Table 4.1 captures the predictability of our shock series based on Granger causality tests against the lagged growth rates of the macroeconomic series included in the baseline estimation in Section 4.5 (four lags of growth rates of GDP, government expenditures and the respective headline time series for contributions and benefits). The tests do not reject that the exogenous shock series are not predictable from the included macroeconomic series. In contrast, the p-values for shocks classified as endogenous are close to a 10% threshold of statistical significance, pointing to a relatively higher chance of predictability of the shocks.

Dealing with the issue of fiscal foresight in more detail, in Section 4.6 we also test a subset of legislations whose implementation follows so swiftly after their publication such that anticipatory effects can be largely ruled out.

4.3 Model and Data

The applied VAR model can be summarized as follows:

$$\mathbf{\Gamma}(L)X_t = v_t + u_t \tag{4.1}$$

$$\boldsymbol{A}\mathbf{\Gamma}(L)X_t = \boldsymbol{A}v_t + \boldsymbol{B}\varepsilon_t \tag{4.2}$$

$$X_t = \begin{bmatrix} g_t & y_t & \tau_t \end{bmatrix}' \tag{4.3}$$

Equation (4.1) represents the reduced-form model. $\Gamma(L)X_t$ is a 4th-order lag polynomial of the K (lagged) endogenous variables X_t and their coefficients Γ. For our baseline estimation, all variables are in log-levels. The choice of a 4th-order lag polynomial is based on the quarterly structure of our dataset and has become standard in the fiscal VAR literature for quarterly data. In the baseline specification, X_t includes the log of real per capita government spending on consumption and capital formation (g_t), the log of real per capita GDP (y_t) and the log of real per capita contributions or benefits, respectively (τ_t). In further tests, GDP is replaced by other macroeconomic variables (private consumption, gross capital formation, industrial production, employment, wages, prices and interest rates). v_t contains a constant, a linear time trend, a re-unification dummy and a financial crisis dummy. u_t is the $K \times 1$ vector of reduced-form disturbances.

The budgetary social security data stem from the financial statistics of the Bundesbank and are cash-based (*Finanzstatistik*). Levels prior to unification are extrapolated by means of West-German growth rates. Population and government spending data are taken from the German Federal Statistical Office. GDP data are from the OECD Quarterly National Accounts. Data for private consumption expenditures and gross capital formation stem from the Bundesbank; employment, wages and industrial production are obtained from the German Federal Statistical Office; p (GDP deflator) and r (short-term interest rates) are obtained from the OECD. All series are seasonally adjusted by the original source, or by us, using X-12-Arima. They are transformed to annualized levels and the price adjustment is based on the GDP deflator. The sample runs from 1970q1 to 2018q4.

Equation (4.2) represents the structural model including ε_t, the $K \times 1$ structural-form shocks that are to be identified. This is achieved by the "AB-model" specification (Lütkepohl, 2006, p. 364). The AB-model uses two factorization matrices ($\boldsymbol{A}$ and $\boldsymbol{B}$ of dimension $K \times K$) that span a system of equations, relating the reduced-form and structural residuals. $\boldsymbol{A}$ and $\boldsymbol{B}$ contain the contemporaneous dependencies among the endogenous variables and the structural shocks, respectively.[25] Thus, the relation between u_t and ε_t boils down to

$$u_t = \boldsymbol{A}^{-1}\boldsymbol{B}\varepsilon_t. \tag{4.4}$$

Solving this system of equations requires estimating the variance-covariance matrix Σ_u of the reduced-form residuals. Without loss of generality, we assume orthonormality of the structural shocks ($\varepsilon_t \sim (0, \Sigma_\varepsilon = I_K)$) and exploit the relation

$$\Sigma_u = \boldsymbol{A}^{-1}\boldsymbol{B}\Sigma_\varepsilon\boldsymbol{B}'(\boldsymbol{A}^{-1})' = \boldsymbol{A}^{-1}\boldsymbol{B}\boldsymbol{B}'(\boldsymbol{A}^{-1})'. \tag{4.5}$$

Identification can be achieved by imposing $(K^2 + K(K-1)/2)$ restrictions on $\boldsymbol{A}$ and $\boldsymbol{B}$.

4.4 Identification

In the original Romer and Romer (2010) approach, a narrative shock series m_t is constructed similar to our description in Section 4.2. They then proceed by a direct dynamic regression of GDP on its own lags and the contemporaneous and lagged values of m_t within an autoregressive distributed lag (ARDL) model. The implicit assumption is that the narrative shocks m_t equal the latent structural shocks ε_t^τ. However, this may be invalid because of measurement error and judgment calls when setting up the narrative record. This makes an instrumental variable approach more appealing, which requires only *some* correlation between the narrative shock series and the latent structural shocks ($E[m_t\varepsilon_t^\tau] \neq 0$), but no perfect correlation. We therefore follow the *proxy SVAR* approach of Mertens and Ravn (2013) that takes account of these issues. Identification includes a three-step procedure:

(i) The VAR is estimated in reduced form without the shock series. (ii) The estimated residuals $\hat{u}_t^i$, $i = [g, y]$ are regressed on the fitted values $\hat{u}_t^\tau$ from the first stage

[25] Note that Mertens and Ravn (2014) use a $\mathfrak{B}$ model of identification instead. In the $\mathfrak{B}$ model there is only one factorization matrix $\mathfrak{B}$ such that $\mathfrak{B} = \boldsymbol{A}^{-1}\boldsymbol{B}$. The AB model formulates the relation between reduced-form and structural residuals more explicitly than the $\mathfrak{B}$ model. We discuss the differences in more detail in the supplementary material (appendix 4.B) and show the robustness of our results when using the $\mathfrak{B}$ model.

TABLE 4.2: Relevance and reliability of the instrument

	Revenues	Expenditures
(1) $F(u_t^\tau, m_t)$	10.310	17.702
(2) $p(F)$	0.002	0.000
(3) $R^2(\varepsilon_t^\tau, m_t^{\neq 0})$	0.184	0.258

Rows (1) and (2) show the results of F tests (and the respective p value) of the first stage regression of equation (4.6) to test for possible weak instruments. Row (3) gives the R^2 statistic of a regression of the resulting structural shock series from the proxy SVAR $\hat{\varepsilon}_t^\tau$ on the non-zero observations of the narrative shock series m_t.

regression, using the shock series m_t as the instrument:

$$\hat{u}_t^i = \mu^i + \alpha_{i\tau}^{IV} \bar{u}_t^\tau + \zeta_t^i \tag{4.6}$$

$$\hat{u}_t^\tau = \mu^\tau + \gamma m_t + \zeta_t^\tau = \bar{u}^\tau + \zeta_t^\tau \tag{4.7}$$

The main element of our proxy SVAR approach is that $\alpha_{i\tau}$ are determined by the IV regression. (iii) The coefficients $\alpha_{i\tau}$ are then imposed on the $\boldsymbol{A}$ matrix (with diagonal elements $= 1$ by definition).[26] The factorization matrices of our proxy SVAR read

$$\boldsymbol{A} = \begin{bmatrix} 1 & -\bar{\alpha}_{gy} & -\bar{\alpha}_{g\tau} \\ -\alpha_{yg} & 1 & -\bar{\alpha}_{y\tau} \\ -\bar{\alpha}_{\tau g} & -\alpha_{\tau y} & 1 \end{bmatrix} \qquad \boldsymbol{B} = \begin{bmatrix} \beta_{gg} & 0 & \beta_{g\tau} \\ 0 & \beta_{yy} & 0 \\ \bar{\beta}_{\tau g} & 0 & \beta_{\tau\tau} \end{bmatrix} \tag{4.8}$$

where $\bar{(\cdot)}$ denotes a restricted parameter. Imposing the following restrictions will be sufficient for a just-identified model: The central elasticities for the multiplier effect, as estimated from the IV regression above, equal $\alpha_{y\tau}^{REV} = -0.06$ for revenues and $\alpha_{y\tau}^{EXP} = 0.19$ for expenditures. These elasticities can be transformed into impact multipliers by re-scaling the 1-SD shocks to 1% of GDP changes using the sample-average ratio of τ/y (in linear levels). The elasticity of government spending to the shocks ($\alpha_{g\tau}^{REV} = -0.17, \alpha_{g\tau}^{EXP} = 0.51$) is imposed as well.

The zero entries in the $\boldsymbol{B}$ matrix that are off-diagonal follow from the assumption that the identified structural shocks will not have a direct impact on the other variables, but only transmitted through the impact of the shock on its respective variable via the relations in the $\boldsymbol{A}$ matrix. For example, an orthogonal GDP shock (ε_t^y) may affect the social security budget through actual changes in GDP ($\alpha_{\tau y} \neq 0$), but not by affecting the social security shocks in the respective quarter directly ($\beta_{\tau y}$). There is one reasonable exception to this rule for off-diagonal elements in the $\boldsymbol{B}$ matrix: Leaving $\beta_{g\tau}$ unrestricted and setting $\beta_{\tau g} = 0$ implies that in the process of budget planning, social security budget decisions are taken prior to direct government spending decisions. The robustness of this choice is shown in appendix 4.B. Moreover, the time series of contributions and benefits are assumed not to be driven by direct government spending within the same quarter ($\alpha_{\tau g} = 0$) apart from its indirect influence via affecting output ($\alpha_{yg} \cdot \alpha_{\tau y}$). Government direct spending (excluding transfers and interest) is assumed to be inelastic to GDP within a quarter ($\alpha_{gy} = 0$). These restrictions are in line with Caldara and Kamps (2008).

Table 4.2 shows tests of the relevance and reliability of the instrument of the 2SLS-regression of equation (4.6). F-tests and respective p-values for the first stage show that m_t is a relevant instrument in the regression. A second concern relates to

[26] Note that the Blanchard and Perotti (2002) approach, which is discussed in more detail in the supplementary material (appendix 4.B), implies the opposite strategy, namely imposing external information on the elasticities of contributions or benefits to changes in GDP and government spending ($\alpha_{\tau i}$).

the reliability of the narrative instrument with respect to the latent structural shocks ε_t^τ: can the identified shocks explain a reasonable part of the contemporaneous variation in headline social security spending and revenue figures? We examine this question by regressing the structural shock series $\hat{\varepsilon}_t^\tau$ resulting from the SVAR estimation on the non-zero observations of m_t. The resulting R^2 statistic should asymptotically signal the reliability of the instrument (Mertens and Ravn, 2013). For both social security expenditures and revenues, the instrument seems highly relevant and m_t predicts $\hat{\varepsilon}_t^\tau$ well, despite the limited information in the narrative sources and possible measurement error.

4.5 Impulse-Responses

We now estimate the responses of various macroeconomic variables y to an expansionary shock (ε_t^τ) to either a cut to social security contributions or an increase in benefits. Shocks are sized to 1% of GDP of prospective statutory revenues or expenditures without macroeconomic feedback. The error bands are 95% centered confidence intervals from a recursive wild bootstrap (Gonçalvez and Kilian, 2004).[27] Figure 4.1 shows the IRFs of the various response variables of interest.[28]

Figure 4.1 (a) captures the percentage change of GDP, which can be interpreted as a fiscal multiplier. We find plausible multiplier effects on GDP of slightly above 1.1 on impact for expenditures and around 0.4 for contributions, significantly different from zero for both. The GDP response to a cut in contributions peters out relatively quickly, becoming insignificant at the 95% level soon after impact and crossing zero after about 1.5 years. For benefits, the GDP effects are much more persistent, remaining significantly positive until the end of a 5-year horizon and with a point estimate of 0.4 after 5 years.

These effects are in line with multipliers from the broader literature on tax changes and other government spending. The meta analysis of Gechert (2015) reports an average impact multiplier of about 0.8 for general public spending and 0.5 for taxes, while cumulative multiplier effects are somewhat higher. The effects for benefits are higher on impact compared to US evidence provided by Romer and Romer (2016) and are more persistent in our case. Moreover, Romer and Romer (2016) only find effects on consumption. For Germany, we find a non-negligible impact on overall output.

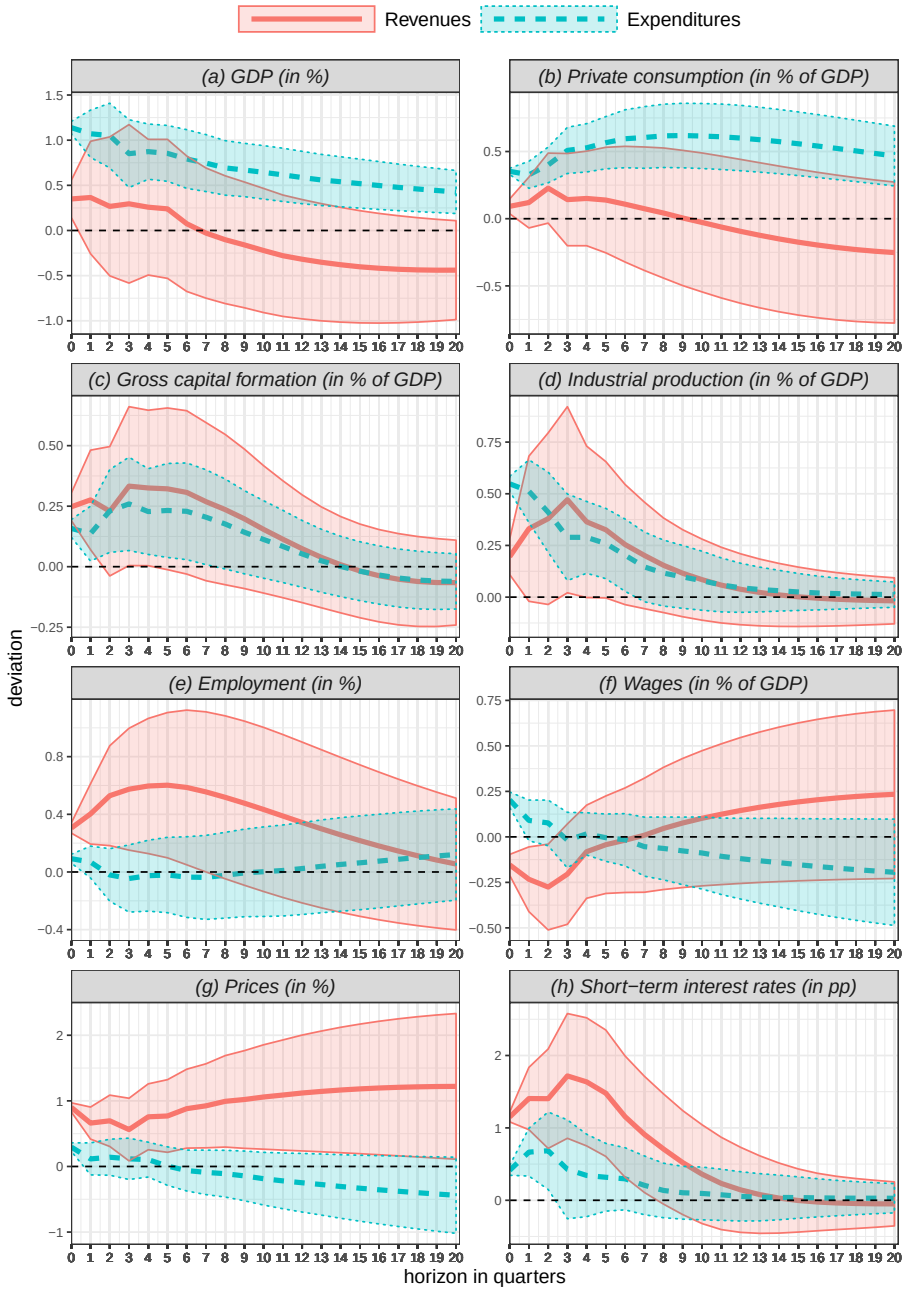
We replace GDP, one by one, by private consumption expenditures (pce), gross fixed capital formation (gcf), industrial production (ip), employment (emp), gross wages (w), prices (p) and interest rates (r).[29] Responses are sized to percent of GDP in the case of private consumption, gross capital formation, industrial production and wages, and to a percentage change in the case of employment, prices and the interest rate.

[27] The confidence intervals are based on 10,000 replications for the baseline estimate with GDP being the variable of interest and 1,000 replications in all other cases in order to save computing time. Note that bootstrapped standard errors are almost identical to those from analytic methods. The confidence intervals of the baseline GDP results are narrow compared to e.g. Romer and Romer (2010), but in line with Mertens and Ravn (2014).

[28] The responses of g and τ for the baseline specification can be found in appendix 4.A, Figure 4.3.

[29] In the VAR estimates for consumption we include two additional time dummy variables, one for the quarters before and one for the quarters right after the six VAT hikes in Germany that took place in 1977, 1979, 1983, 1993, 1998 and 2007. There is a strong pattern of private consumption expenditures increases prior to a VAT hike, followed by an immediate decline in the quarter when the VAT hike becomes effective. These clearly identifiable disturbances would otherwise distort the impulse responses.

FIGURE 4.1: Impulse-responses of y for proxy SVAR baseline specification



The figure shows the IRFs of the variables of interest (y) after an expansionary shock of 1% of GDP to revenues (cut to contributions, solid red) or expenditures (increase in benefits, dashed green). Shaded areas are 95% confidence intervals as obtained from 10,000 bootstrap replications in the case of GDP and 1,000 replications for the other y variables. In the case of GDP, private consumption expenditures, gross capital formation, industrial production and wages (w), responses are in % of GDP. IRFs of employment (emp), prices (p) and short-term interest rates (r) show the percentage change.

Shocks to benefits increase private consumption expenditures (Figure 4.1 b) by 0.4 percent of GDP on impact, which is a little bit smaller than the immediate effect estimated by Romer and Romer (2016) for the US. In their case, the impact turns negative in the third quarter after the shock, while for Germany, the response is hump-shaped and stays statistically significantly positive for several years. In contrast, there is no meaningful effect of contribution shocks on consumption. This qualitative difference likely contributes to the different GDP effects in the baseline specification. A plausible explanation for this might be that beneficiaries of the social security system have a higher marginal propensity to consume than contributors. We investigate this channel at the household level in Section 4.7.

Gross capital formation (Figure 4.1 c) by contrast is more responsive to a cut in contributions than to an increase in benefits. On impact, gross capital formation reacts by 0.25 percent of GDP in the case of contribution shocks and 0.16 percent of GDP for benefits, both statistically significantly different from zero and each other. The investment response thus represents a substantial part of the overall GDP response to cuts in contribution rates. This might reflect an important supply-sided cost channel, given that employers pay about half of social security contributions in Germany.

In contrast to Romer and Romer (2016), we do find a significant effect of benefit increases on industrial production (Figure 4.1 d). The response of industrial production to an expenditure shock is 0.5 percent of GDP on impact, which attenuates after 3 years. The response of industrial production to a revenue shock is lower on impact, but hump-shaped over the 20-quarter horizon and slightly exceeds the benefit effect after about one year. However, the difference is not statistically significant.

Employment (Figure 4.1 e) reacts more strongly to cuts to contributions than to benefit increases. As in Romer and Romer (2016), there is no significant response of employment to benefit shocks. Contribution shocks do have a statistically significant effect on employment of 0.4 percent on impact, hump-shaped and persistent over the estimation horizon. This may again be related to a supply-sided channel, because contribution cuts reduce the tax wedge, which may increase labor demand. At the same time, benefit increases may reduce labor supply incentives, which could partly counter the stronger aggregate demand-side effect of benefits. Gross real wages first fall after a cut to contributions (reducing the tax wedge) but then rise in line with the positive employment reaction. Wages rise more strongly on impact (0.2 percent of GDP) after an unexpected benefit expansion in line with the stronger GDP response, but the effect dies out more quickly. Prices increase in both cases, but more strongly after a cut to contributions. In line with this finding, the short-term interest rate reaction is positive in both cases, but more pronounced for contribution cuts, which may also partly explain the smaller GDP response.

Table 4.3 displays the cumulative multiplier figures on impact and at different horizons for GDP, private consumption expenditures, gross capital formation and industrial production as well as the cumulative percentage changes for the other variables. As a caveat, cumulative multipliers $m_c = \int dy_h / \int d\tau_h$ of elastic budget components can appear quite large since they incorporate the endogenous self-financing response of the budget variable in the denominator. If the self-financing effect becomes large, the denominator shrinks and the cumulative multiplier effect is inflated. We report the cumulative effects to facilitate comparison to other studies, but rather emphasize the simple impulse-response functions of the variables of interest, which depend less on the endogenous dynamics of the response of the social security budget series.

TABLE 4.3: Cumulative effects at different horizons

Shock ε_τ	y	Impact	Cumulative Effects		
			1 Year	3 Years	5 Years
Revenues	gdp	0.35*	0.52	0.20	-0.32
	pce	0.09*	0.24	0.19	-0.06
	gcf	0.25*	0.44*	0.58	0.42
	ip	0.2*	0.55	0.56	0.44
	emp	0.30*	0.82*	1.25	1.26
	w	-0.15*	-0.33	-0.13	0.15
	p	0.66*	0.85*	1.64*	2.74*
	r	0.05*	0.15*	0.13	0.09
Expenditures	gdp	1.14*	2.82*	2.84*	2.81*
	pce	0.35*	0.85*	1.53*	1.96*
	gcf	0.16*	0.39*	0.48	0.33
	ip	0.55*	1.00*	0.72	0.55
	emp	0.09*	0.04	-0.01	0.07
	w	0.20*	0.16	-0.01	-0.20
	p	0.22*	0.23	-0.01	-0.34
	r	0.02*	0.05	0.04	0.03

The table shows the cumulative effects of the variables of interest y, after a shock to social security revenues or expenditures (τ), defined as $m_c = \int dy_h / \int d\tau_h$. In the case of GDP, private consumption expenditures (pce), gross capital formation (gcf), industrial production (ip) and wages (w), they can be interpreted as cumulative multipliers. Cumulative effects of employment (emp), prices (p) and short-term interest rates (r), they are cumulative percent changes related to cumulative changes of τ in % of GDP. * marks statistically significance (at 5% level) of the respective y response.

Overall, expansionary changes in benefits seem to generate a stronger demand-side response, while cuts to contributions may trigger a stronger response through a supply-side channel and thus are more effective with regard to investment and employment.

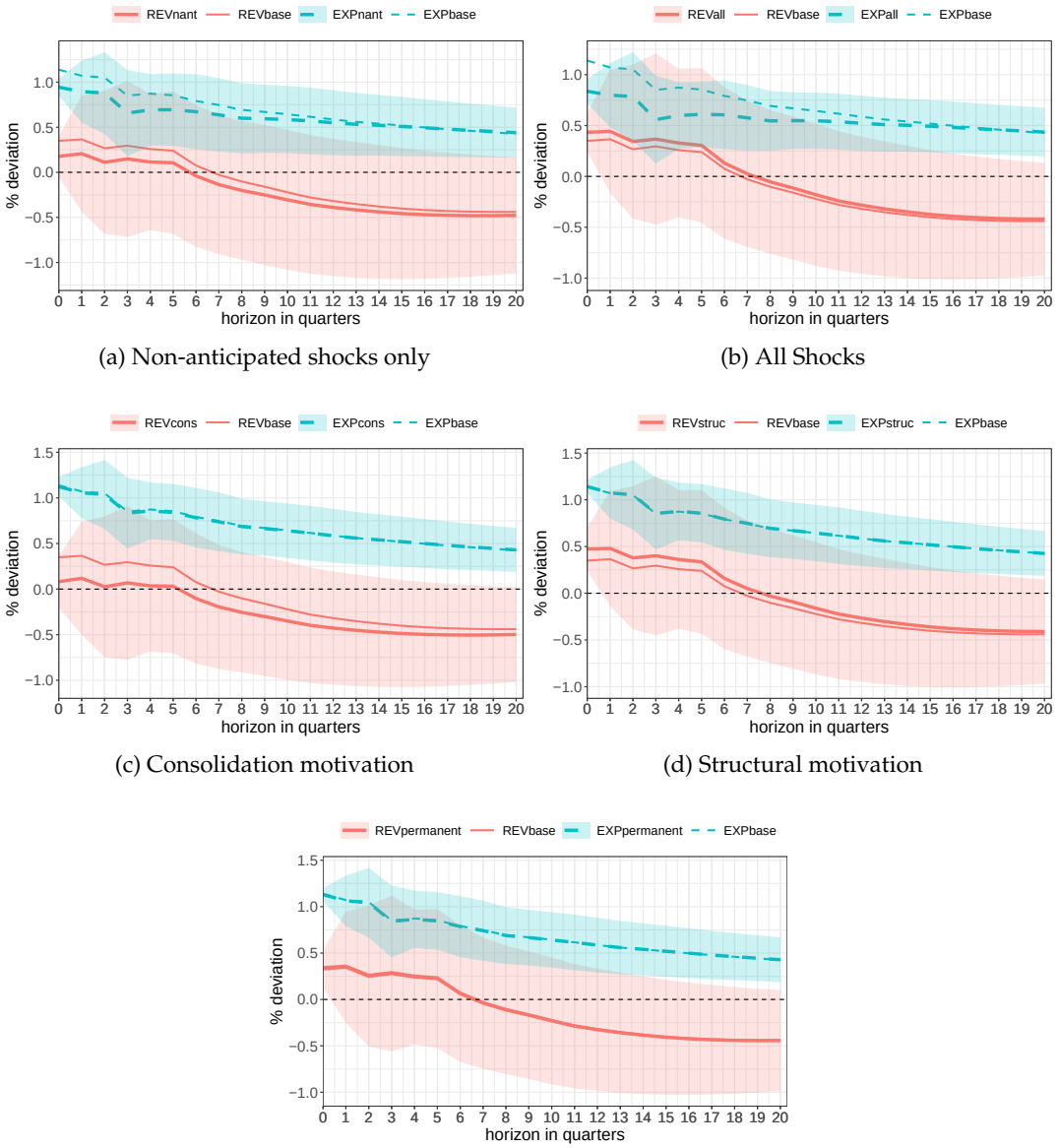
4.6 Robustness

We check the robustness of our results with respect to decisions about the narrative dataset, model specification and identifying assumptions. We confine these tests to the GDP responses for brevity. The GDP response of the baseline specification is always plotted as a thin line in each graph in order to foster comparison.

First, the robustness of the narrative dataset is checked in Figure 4.2. Figure 4.2a deals with the issue of fiscal foresight. In case of long implementation lags, the econometric analysis might miss advance reactions of households and firms to the announcement of the law. Following Mertens and Ravn (2014), we account for such fiscal foresight by restricting the shock series to changes where the period between publication and implementation date does not exceed 90 days, such that anticipation effects are rather unlikely. Using only non-anticipated shocks hardly alters our results as compared to the baseline.

Figure 4.2b shows GDP responses using the full series of identified discretionary shocks (endogenous + exogenous). If endogenous discretionary reactions are counter-cyclical, one would expect the IRFs to be downward-biased as compared to the exogenous shocks. Estimating the responses for the full expenditure shock series yields the expected lower GDP effects with an impact multiplier of 0.8 on impact, statistically significantly different to the baseline for the first quarter. For revenues,

FIGURE 4.2: IRF of GDP: Robustness checks for sample uncertainty



(a) Non-anticipated shocks only

(b) All Shocks

(c) Consolidation motivation

(d) Structural motivation

(e) Permanent shocks only

IRF of GDP after expansionary shock of 1% of GDP in revenues (REV, solid red) or expenditures (EXP, dashed green). Shaded areas are 95% confidence intervals as obtained from 1,000 bootstrap replications. Thin lines are point estimates of baseline specifications for comparison.

however, there are slightly higher multipliers using the full shock series (0.4 on impact), but the difference to our baseline results remains insignificant. This may reflect the fact that contribution rates to the social security system have sometimes been changed in a procyclical manner in Germany. Even though the difference between benefit and contribution multipliers narrows a bit when using the full shock series, the effects are still significantly different on impact and at longer horizons.

In Figures 4.2c and 4.2d we investigate the decision regarding the motivation of the shocks in more detail by splitting the exogenous shock series into consolidation vs. structural (the latter including ideological and court-rulings-based) motivations. The effects are very close to the baseline result in the case of benefit shocks. For revenues, a structural motivation implies a somewhat higher multiplier effect, which is about 0.5 on impact, while the consolidation motivation implies a revenue multiplier which is only about 0.1 on impact. Nevertheless the figures are not significantly different to the baseline results.

Figure 4.2e considers the special role of transitory shocks in the sample, which might have a completely different effect on forward looking and non-forward looking agents. We treat transitory shocks such that there is a countershock of similar size and opposite sign at the expiration date, which is a perhaps controversial choice. There are only a few instances of temporary measures in the dataset and their size is usually small. Consequently, when all temporary shocks are switched off, there is only a minimal difference to the baseline.

We also ask whether our results are robust to other specifications of the SVAR or to alternative econometric modelling approaches and we provide the results in the supplementary material (appendix 4.B). These additional tests compare the multipliers obtained from the proxy SVAR with an IV local projection estimation à la Ramey and Zubairy (2018). Moreover, the baseline narrative identification is contrasted to the Blanchard and Perotti (2002) cyclical adjustment approach, a specification in first differences, alternative factorizations and an extended vector of endogenous variables in the VAR. The results are close to the baseline findings and the qualitative difference between benefit and contribution multipliers remains intact in all tests.

4.7 Household Data Evidence

This section addresses the consistency of our findings regarding GDP and private consumption expenditures with household-level data. In particular, the analysis should verify (i) whether our identified macroeconomic shocks are reflected in the disposable income of households at the micro level and (ii) whether the result that social security expenditures have a stronger multiplier and consumption effect than revenues is consistent at the household level. We employ data from GSOEP, the most relevant household survey of Germany, which includes detailed annual information on personal and household incomes, social security contributions and receipts, savings, employment statuses, etc. GSOEPv34 covers an unbalanced panel from 1984 to 2017, a substantial part of the narrative dataset. The GSOEP does not include direct information on consumption, but it does report saving as a complement to consumption. Consumption is calculated as the difference between reported net income and saving.[30]

[30]The question regarding saving asks, how much money the household can put aside for large purchases, emergencies, or to build savings in an average month of the year.

TABLE 4.4: Meso-level: Influence of narrative shocks on group-specific average growth rates of consumption and income

	(1)	(2)	(3)	(4)	(5)
	$\Delta\bar{y}_{jt}$	$\Delta\bar{c}_{jt}$	$\Delta\bar{y}_{jt}$	$\Delta\bar{c}_{jt}$	$\Delta\bar{c}_{jt}$
	Pooled 2SWLS		Pooled 2SWLS		Pooled WLS
	1st stage	2nd stage	1st stage	2nd stage	direct
m_t^{REV}	0.941***				0.352
	(0.181)				(0.240)
m_t^{EXP}			2.487***		4.653***
			(0.535)		(0.633)
$\Delta\bar{y}_{jt}$		0.261		1.868***	
		(0.283)		(0.221)	
const	0.678***	0.749***	0.756***	-0.325	1.091***
	(0.144)	(0.205)	(0.119)	(0.256)	(0.106)
obs	185	185	185	185	185
clusters	8	8	8	8	8
R^2	0.038	0.314	0.046	0.096	0.066
F	27	0.847	21.6	71.2	30.4

The table shows the impact of the respective shock series for social security revenues (m_t^{REV}) and expenditures (m_t^{EXP}) on average growth rates of consumption Δc_{jt} at the group-level (by employment status j in year t). Columns (1)-(4) are 2SLS regressions, where the shocks serve as instruments for average income growth rates Δy_{jt} in the 1st stage regressions (columns (1) & (3)), with the second stage displayed in columns (2) & (4). Column (5) is a direct regression of average consumption growth on both shocks at once. Pooled data, WLS=weighted least squares, 2SWLS= two-stage weighted least squares (weighted by number of observations in each employment group), clustered standard errors (by employment status) in parentheses. Calculation of standard errors and significance levels corrected for small number of clusters. *** p<0.01; ** p<0.05; * p<0.1.

At first, the narrative shock series need to be converted to annual frequency in line with the GSOEP data. We then attribute the respective revenue and expenditure shocks to those households, whose heads' employment status indicates how they would be affected by the law changes. There are eight employment statuses in GSOEP: full-time, part-time and marginal employment, unemployed (registered), unemployed (other), pensioner, in training or in a sheltered workshop. We allocate social security revenue shocks to full and part-time employees, because they are the relevant contributors, while expenditure shocks are attributed to all other groups, because they are the main beneficiaries.

In a next step, we calculate average annual net income and consumption growth rates for these eight employment groups. This gives us a meso-dataset of consumption and net income changes as well as attributed shocks for 24 years.[31]

We then use two separate 2SLS regressions, one for contributions, the other for benefit shocks, where the respective shocks instrument the group-specific income growth rates in the first stage. In the second stage, the group-specific consumption growth rates are regressed on the instrumented income growth rates. Weighted least squares are employed, with the number of observations in each employment group as the weight. Moreover, we cluster standard errors at the level of the employment group and enforce a correction for the small number of clusters (Baum et al., 2011).[32]

Results are displayed in Table 4.4. Columns (1) and (3) show the first stage effects. A cut to contributions of 1% of GDP increases average net incomes of those

[31] 1993-2016, the main restriction being the lack of saving data before 1993. The number of observations is slightly reduced because households with employment status "sheltered workshop" have only been documented since 1998. Excluding them would only minimally alter the results.

[32] This correction is provided by the *ivreg2* Stata package.

TABLE 4.5: Micro-level: Influence of narrative shocks on households' growth rates of consumption and income

	(1)	(2)	(3)	(4)	(5)
	Δy_{it}	Δc_{it}	Δy_{it}	Δc_{it}	Δc_{it}
	Pooled 2SLS		Pooled 2SLS		Pooled OLS
	1st stage	2nd stage	1st stage	2nd stage	direct
m_t^{REV}	1.211***				-0.507
	(0.370)				(0.457)
m_t^{EXP}			3.250***		7.326*
			(0.855)		(3.573)
Δy_{it}		-0.552		2.257**	
		(0.571)		(0.662)	
const	0.919*	0.770	1.023**	-1.777	0.526
	(0.502)	(0.645)	(0.441)	(1.139)	(0.803)
obs	185,914	185,914	185,914	185,914	185,914
clusters	8	8	8	8	8
F	10.707	0.935	14.439	11.637	4.172

The table shows the impact of the respective shock series for social security revenues (m_t^{REV}) and expenditures (m_t^{EXP}) on growth rates of consumption Δc_{it} per household i in year t. Columns (1)-(4) are 2SLS regressions, where the shocks serve as instruments for average income growth rates Δy_{jt} in the 1st stage regressions (columns (1) & (3)), with the second stage displayed in columns (2) & (4). Column (5) is a direct regression of average consumption growth on both shocks at once. Pooled data, clustered standard errors (by employment status) in parentheses. Calculation of standard errors and significance levels corrected for small number of clusters. *** p<0.01; ** p<0.05; * p<0.1.

concerned as compared to other groups by about 1%. A positive shock to benefits of 1% of GDP increases average incomes of the affected groups by about 2.5% compared to other groups. The larger size is plausible since the group of beneficiaries is smaller and their average incomes are also lower.

The second stage (columns (2) and (4)) shows that a 1% income change that is instrumented by benefit shocks has a statistically significant and much higher effect on consumption growth than when the income change is instrumented by a surprise cut to contributions. This is consistent with our macroeconomic findings and with other evidence on MPC heterogeneity in the literature (Jappelli and Pistaferri, 2014).

Alternatively, a direct regression of group-specific consumption changes on both shocks in column (5) gives qualitatively similar findings. In this specification, the reaction of consumption is again much stronger and statistically significant for social security expenditure shocks. The coefficient related to an expenditure shock in the direct regression is comparably large. A shock sized to 1% of GDP has a higher impact on consumption growth of beneficiaries, because their average consumption level is low in comparison to regular employment households.

The same tests can be repeated when using the data on the household level instead of the group level. Obviously, the household data are much more noisy and driven by individual decisions and events unrelated to legal changes (e.g. employment status or household composition). Thus, we truncate the dataset to annual income changes below $\pm 50\%$.[33] The results can be found in Table 4.5 and they confirm the qualitative findings of the meso-data exercise of Table 4.4 even though the coefficients differ somewhat. The shocks are significant predictors of income changes as

[33] Using other thresholds like $\pm 80\%$ or $\pm 20\%$ does not qualitatively alter the findings.

TABLE 4.6: Relation of employment status and credit/liquidity constraints

	(1) Panel Probit loan repayment burden	(2) Probit liquidity at short notice
part-time	0.149***	-0.480**
	(0.031)	(0.205)
marginal	0.279***	-0.688***
	(0.040)	(0.227)
unemployed	0.786***	-1.323***
	(0.036)	(0.176)
unemp. other	0.196***	-0.919***
	(0.038)	(0.223)
pensioner	0.070*	-0.268**
	(0.042)	(0.119)
training	0.372***	-0.781
	(0.095)	(0.754)
sheltered work	0.337	
	(0.761)	
const	-0.590***	1.212***
	(0.015)	(0.089)
obs	34,228	900
clusters	12,124	
χ^2	487	68.3

The table shows the relation between employment status of the household head (as a factor variable, where the group of full employment is the excluded reference category) and binary variables: column (1) reflecting self-reported burden to repay a consumer credit (1=heavy burden, 0=low or no burden) with clustered (by household and year) standard errors in parentheses; column (2) reflecting self-reported opportunity to cover unforeseen costs of EUR 1,000 at short notice either from own funds or via borrowing (1=possible, 0=impossible) with HAC-robust standard errors in parentheses. *** p<0.01; ** p<0.05; * p<0.1

shown by the first stage regressions. Moreover, there is a much stronger consumption response of beneficiaries after an instrumented income change than for contributors to the social security system, for whom the coefficient is even slightly negative (though statistically insignificant). Appendix 4.C discusses alternative assumptions regarding clustering of standard errors.

Why would the consumption response differ between the groups? A standard argument in the literature is heterogeneous exposure to liquidity or credit constraints. Credit constrained households are less able to smooth consumption and show a stronger consumption response after a surprise income shock. We provide some evidence for this channel by exploiting additional data from GSOEP. The question whether repaying a consumer loan poses a burden on the household has been constantly asked since 2005. We construct a binary variable where '1' reflects a heavy burden as opposed to '0' meaning a low burden or no burden at all.

Further evidence on liquidity or credit constraints can be derived from a representative subsample of the GSOEP time preference test in 2006. Subjects were asked, whether they would be able to secure EUR 1,000 for unexpected circumstances within two weeks (either from own liquid wealth, a loan, or family & friends) or not at all. '1' means that this would be possible, '0' would mean that obtaining the money is impossible.

TABLE 4.7: Relation of income shares and credit/liquidity constraints

A – endog: loan repayment burden, Pooled Probit					
	income share	const	obs	clusters	χ^2
revenues	-1.228***	-0.249***	34,226	12,124	123
	(0.111)	(0.023)			
transfers	1.123***	-0.637***	34,228	12,124	509
	(0.050)	(0.014)			
pensions	0.008	-0.486***	34,228	12,124	0.024
	(0.049)	(0.012)			
B – endog: liquidity at short notice, Probit					
	income share	const	obs		χ^2
revenues	1.172***	0.696***	901		7.047
	(0.441)	(0.074)			
transfers	-1.110***	0.969***	901		22.930
	(0.232)	(0.054)			
pensions	0.033	0.839***	901		0.087
	(0.111)	(0.060)			

The table shows the relation between the shares of social security contributions, transfers and pensions in household net income and binary variables: Panel A reflecting self-reported burden to repay a consumer credit (1=heavy burden, 0=low or no burden) with clustered (by household) standard errors in parentheses; Panel B reflecting self-reported opportunity to cover unforeseen costs of EUR 1,000 at short notice either from own funds or via borrowing (1=possible, 2=impossible) with HAC-robust standard errors in parentheses, *** p<0.01; ** p<0.05; * p<0.1

We use probit regressions to correlate these binary variables with the employment statuses of household heads and with shares of contributions, transfers or pensions in income. The results for the different employment statuses can be found in Table 4.6. Those with less than full employment are more likely to face a heavy burden to repay a consumer loan (column 1) and are less likely to be able to secure EUR 1,000 for unexpected circumstances at short notice (column 2). Households with an unemployed household head have the highest probability of facing a strong burden to repay a consumer loan as compared to a full-time worker household (which is the reference category). Likewise, unemployed household heads foresee the lowest chances of securing liquidity at short notice. The results are weaker for pensioners with respect to both questions. This is plausible given that pensioners may be more able to run down their accumulated assets.

These findings hold, using the shares of social security contributions, transfers and public pensions as percentages of net incomes of households as explanatory variables for the repayment burden or the liquidity constraints (Table 4.7). Those households with a high share of contributions in their income are less likely to face a heavy repayment burden and are more likely to be able to secure money at short notice. Those with a higher share of transfers are more likely to face a heavy burden and are less likely to obtain liquidity. The share of pension income is unrelated to liquidity constraints and to facing a heavy burden to repay a consumer loan.

All in all, the household data point in a direction that is consistent with the macroeconomic time series evidence: beneficiaries of the social security system show a significantly stronger consumption response after a positive income shock than those that are net contributors to the system. A plausible channel for these effects is that net contributors are more likely consumption smoothers while net beneficiaries tend to face credit or liquidity constraints.

4.8 Conclusion

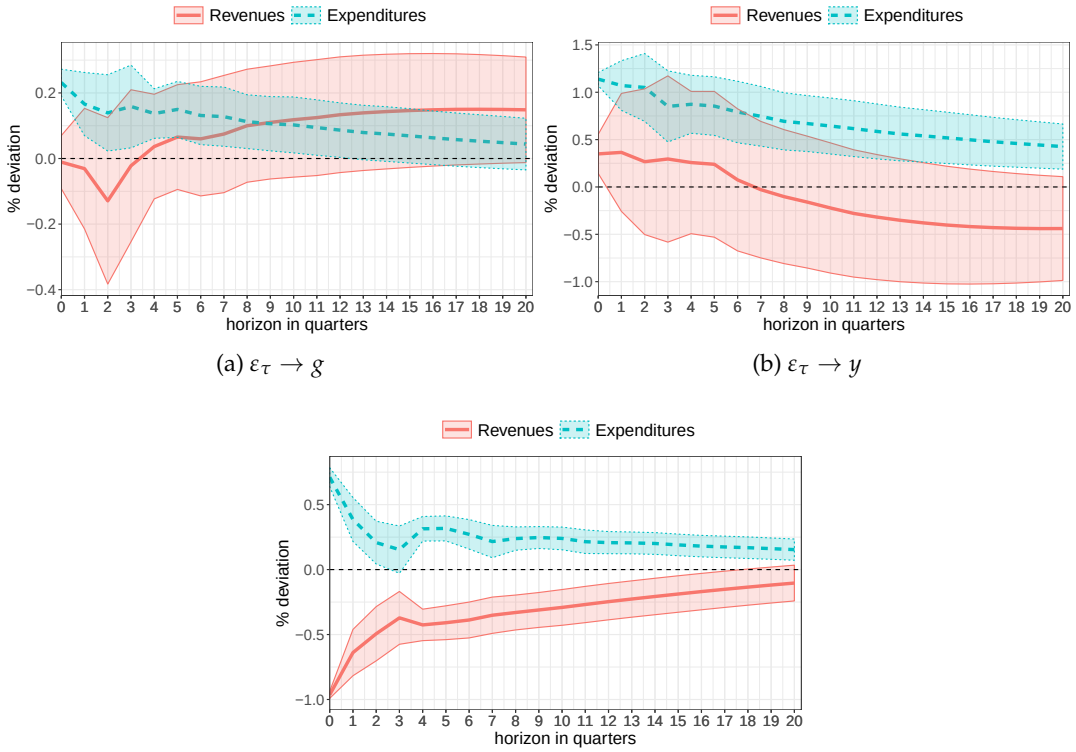
Following the narrative approach of identifying exogenous fiscal policy changes (Romer and Romer, 2010), we have constructed a rich narrative dataset for Germany by coding a series for social security contributions and benefits shocks derived from official documents of major legislative changes in pensions, health care, long-term care, unemployment insurance and basic social security. Based on quarterly data from 1970q1 to 2018q4 we have estimated the multiplier effects of exogenous changes to social security contributions and expenditures recorded by this narrative identification within a proxy SVAR framework developed by Mertens and Ravn (2013).

In our baseline specification, we find a benefit multiplier which is slightly above 1 on impact and rather persistent, and a significantly lower contribution multiplier of 0.4 on impact which peters out quickly. Qualitatively, on impact the effects for changes to benefits are in line with estimates by Romer and Romer (2016) based on US data, however, the effects for Germany are more persistent. Contrary to Romer and Romer (2016), the effects are positive not only for private consumption expenditures but also for output more generally. The multiplier effect of changes in social security contributions is smaller, which seems to be driven by the lower response of private consumption expenditures. On the other hand, contribution changes foster investment and employment more strongly. The findings are robust to several tests regarding model uncertainty and subsamples. In some alternative specifications, the difference between benefit and contribution effects is less pronounced, in others, it is even reinforced, but the qualitative findings hold.

The difference in the consumption response for contributions and benefits can be rationalized by analyzing household data from the German panel survey GSOEP. The identified shocks have a significant and plausible impact on household income and consumption. Moreover, several tests indicate that those households, who are net contributors to the social security system, are more likely consumption smoothers, while those that are net receivers of transfers and pensions are more likely credit or liquidity-constrained. These findings are consistent with other micro-data analyses, which show that poorer households tend to have a higher MPC than richer ones (Jappelli and Pistaferri, 2014).

In conclusion, expansionary social security changes have a positive short-to-medium-term impact on GDP for Germany, right in the middle of the range of multipliers in the literature (Gechert, 2015). Redistributive budget-neutral changes to the social security system would have a considerable expansionary GDP effect, but employment might be reduced. Given the size of the social security system and its frequent and substantial legislative changes, they are likely as relevant for macroeconomic dynamics as are those to the tax system and general government spending, making them a relevant subject for future research. Our analysis also speaks to the literature that takes into account the heterogeneity of household consumption responses in aggregate models (Auclert, 2019; Kaplan and Violante, 2014).

FIGURE 4.3: Impulse-responses of baseline estimation (y=GDP) for all endogenous variables for proxy SVAR after a shock ε_τ to social security contributions (solid red) or benefits (dashed green), sized to 1% of GDP. Shaded areas are 95% confidence intervals as obtained from 10,000 bootstrap replications.



(a) $\varepsilon_\tau \to g$

(b) $\varepsilon_\tau \to y$

(c) $\varepsilon_\tau \to \tau$

4.A Appendix: Further details on the narrative dataset and baseline estimation

TABLE 4.8: Cross-correlation coefficients between one shock series and lags of the other shock series (from lags 0 through 4)

	t	$t-1$	$t-2$	$t-3$	$t-4$
m_t^{REV}	-0.0868	0.0549	0.0197	0.0542	-0.0619
	(0.2265)	(0.4458)	(0.7848)	(0.4543)	(0.3939)
m_t^{EXP}	-0.0868	-0.1123	-0.0376	0.0401	-0.1102
	(0.2265)	(0.1182)	(0.6025)	(0.5797)	(0.128)

m_t^{REV} and m_t^{EXP} are the shock series of revenues and expenditures, respectively. p-values in parentheses.

Figure 4.3 provides the impulse-responses of all endogenous variables of the baseline specification where GDP is the variable of interest. The response of τ itself (4.3c) is below 1 on impact and dies out almost entirely over the 20-quarter horizon. This may partly be attributed to automatic stabilizers: the GDP expansion endogenously lowers expenses and raises revenues over the course of time. Moreover, ε_τ shocks may not be fully permanent in levels themselves in a growing economy. The transitory dynamics of τ may also explain the temporary nature of the GDP response.

The reaction of non-transfer government spending (g) is close to zero on impact and remains insignificant after a cut in social security revenues (4.3a). On the other hand, g reacts significantly positive after an increase in benefits. This may partly explain the more persistent dynamics of GDP in the case of benefit shocks.

4.B Appendix: Further robustness tests

In this appendix, we provide additional robustness tests regarding model uncertainty and identification.

Besides VAR impulse-response analysis, local projections (Jordà, 2005) have become another standard tool in time series analysis. Local projections estimate the impulse-responses directly by using successive leads of the endogenous variable in regressions up to horizon h. They do not require the strong assumption of invertibility, implicit in SVAR analysis, but, as shown by Stock and Watson (2018), rest on the (similarly restrictive) assumption of the narrative shock series being uncorrelated with all leads and lags of other structural shocks.

Ramey and Zubairy (2018) apply a 2SLS version of local projections on US data in order to estimate the multiplier effects of government spending news shocks. As a key difference to our baseline specification, they estimate the cumulative multipliers directly by calculating for each horizon h the cumulative figures of the ratios of GDP, government spending and other variables in percent of trend GDP. These are used as direct ingredients in the local projection regressions. In this robustness check, we follow the Ramey and Zubairy (2018) procedure and calculate the ratios $x_t^s = [y_t^s, g_t^s, \tau_t^s, m_t^s]$ in percent of trend GDP. We use a simple Butterworth filter to obtain trend GDP. The successive regressions can be represented by

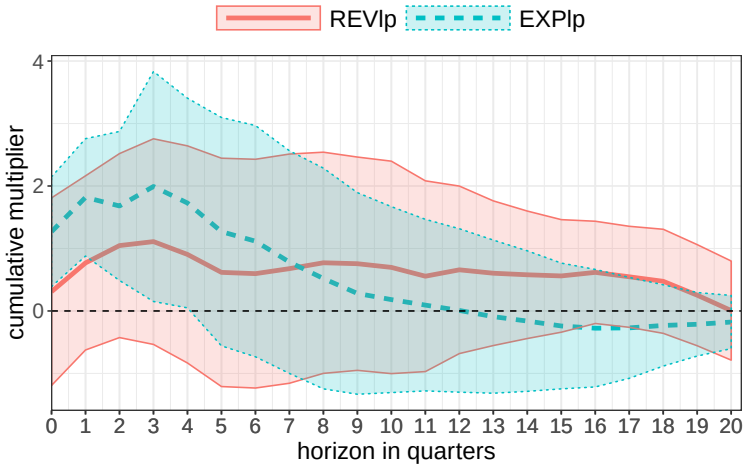
$$\sum_{j=0}^{h} y_{t+j}^s = \alpha_h + \Gamma_h(L) x_{t-1}^s + \kappa_h \sum_{j=0}^{h} \tau_{t+j}^s + \omega_{t+h} \qquad \forall h = 0...20 \tag{4.9}$$

with $\sum_{j=0}^{h} \tau_{t+j}^s$ instrumented by m_t in the first stage regression and with a 4-th order lag polynomial.

The cumulative multiplier effects for each horizon are given by κ_h and are displayed in Figure 4.4. Even though both the estimation approach and the dimension of the variables differ, the baseline results of the SVAR are essentially confirmed by the IV local projection. Benefit multipliers are larger than contribution multipliers, in particular in the first quarters. The impact multipliers are somewhat larger for both shock series by about the same proportion. However, the 95%-confidence bounds, as obtained from a wild bootstrap with 10,000 replications, are wider than in the baseline and render the contributions multiplier insignificant right from the start. The larger standard errors of the local projection are in line with Stock and Watson (2018), who show that estimators of IRFs from a proxy SVAR are usually more efficient if they are consistent. Keeping statistical insignificance of the local projections in mind, the cumulative multipliers at longer horizon are somewhat different as compared to Table 4.3. There is less persistence of the multiplier effect for benefits and more persistence for contributions. To some extent, this qualifies the strong difference of the effects found in the proxy SVAR for longer horizons.

However, a caveat is in order: the calculation of multipliers by the Ramey and Zubairy (2018) method may be suitable for government spending, which is essentially inelastic to GDP in the same quarter. The social security budget, on the other hand, is clearly elastic to contemporaneous GDP and hence the assumed shock size

FIGURE 4.4: Cumulative multiplier effects for GDP from IV local projections



Cumulative multiplier for GDP after expansionary shock of 1% of GDP in revenues (REV, solid red) or expenditures (EXP, dashed green) as derived from local projections (lp) according to equation 4.9. Shaded areas are 95% confidence intervals from a wild bootstrap with 10,000 replications

will vary with the size of the initial multiplier effect and the budget elasticity. That is, in the 2SLS regression, the coefficient κ_h reflects the effect of an expansionary impulse of 1% of trend GDP of *effective* benefits and contributions (i.e. including the contemporaneous feedback through GDP). This is different to the size of shocks in our SVAR model, which are sized to 1% of GDP in *prospective* benefits and contributions (i.e. without contemporaneous feedback). Using the 2SLS local projections, the *effective* impact size of τ is fixed to 1% of trend GDP (as laid out by Stock and Watson, 2018) which implies a prospective shock size that should be larger than in the proxy SVAR. This larger shock size can explain the increased impact multiplier for benefits in Figure 4.4. The dynamics of the cumulative multipliers at horizons $h > 0$ also depend on the assumed shock size and the dynamic response of the social security budget variable, which is likely elastic to lagged GDP.

Figure 4.5 summarizes the IRFs of GDP obtained from further robustness tests. It contains the baseline point estimates as thin lines to foster comparison.

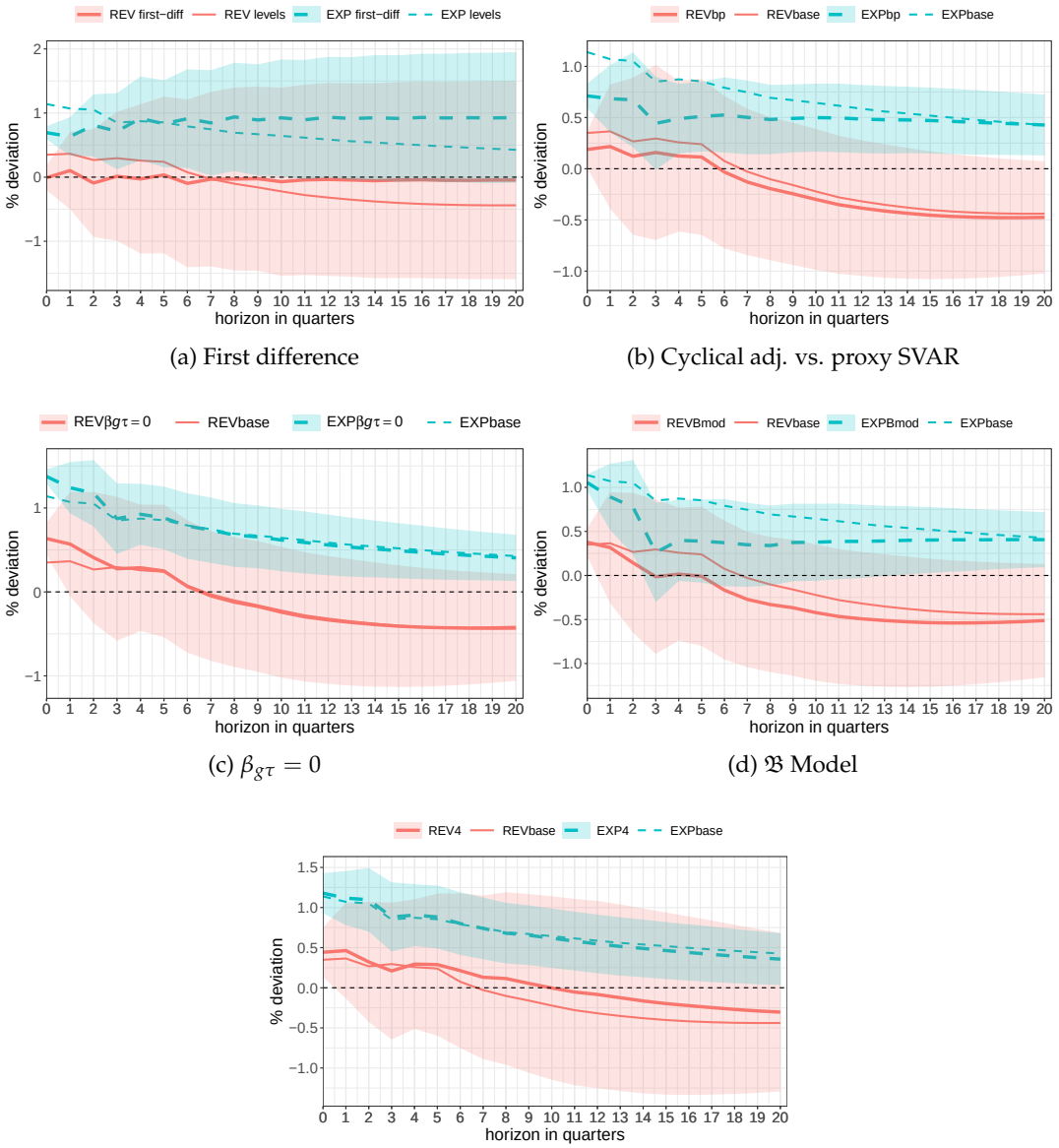
Figure 4.5a uses a specification in first differences instead of the log-levels of the baseline and displays the cumulative impulse-response function. Notably, for both benefit and contribution shocks, the impact effects are somewhat lower and even close to zero in the case of contributions. The difference between the two shocks remains intact.

Figure 4.5b gives the GDP response when using a Blanchard and Perotti (2002) SVAR identification strategy of cyclical adjustment. Since the literature shows rather different results of tax multipliers for the cyclical adjustment approach (with multipliers usually below 1) as compared to the narrative approach (with multipliers often above 2), the results could be quite sensitive to the chosen identification strategy.

With respect to the factorization matrices for the Blanchard and Perotti (2002) approach, we first set the following technical zero and one restrictions:

$$\boldsymbol{A} = \begin{bmatrix} 1 & -\bar{\alpha}_{gy} & -\bar{\alpha}_{g\tau} \\ -\alpha_{yg} & 1 & -\alpha_{y\tau} \\ -\bar{\alpha}_{\tau g} & -\bar{\alpha}_{\tau y} & 1 \end{bmatrix} \qquad \boldsymbol{B} = \begin{bmatrix} \beta_{gg} & 0 & \beta_{g\tau} \\ 0 & \beta_{yy} & 0 \\ \bar{\beta}_{\tau g} & 0 & \beta_{\tau\tau} \end{bmatrix} \tag{4.10}$$

FIGURE 4.5: IRF of GDP: Robustness checks for model uncertainty



(a) First difference

(b) Cyclical adj. vs. proxy SVAR

(c) $\beta_{g\tau} = 0$

(d) $\mathfrak{B}$ Model

(e) 4-variable VAR

IRF of GDP after expansionary shock of 1% of GDP in contributions (REV, solid red) or benefits (EXP, dashed green). Shaded areas are 95% confidence intervals as obtained from 1000 bootstrap replications. Thin lines are point estimates of baseline specifications for comparison.

TABLE 4.9: Elasticities imposed and estimated for the cyclical adjustment and proxy SVAR models.

		Revenues	Expenditures
$\alpha_{\tau y}$			
(1)	cycl. adjustm. imposed	0.60	-0.50
(2)	proxy SVAR implied	0.68 (0.39, 0.97)	-1.39 (-2.08, -0.71)
$\alpha_{y\tau}$			
(3)	cycl. adjustm. implied	-0.03 (-0.11, 0.04)	0.1 (0.04, 0.16)
(4)	proxy SVAR imposed	-0.06	0.19

95% confidence bounds for implied elasticities in parentheses.

In line with our choice for the Mertens and Ravn (2014) approach, we restrict $\alpha_{gy} = \alpha_{\tau g} = \beta_{\tau g} = 0$. Moreover, government direct spending is assumed to be inelastic to social security changes within a quarter ($\alpha_{g\tau} = 0$). The crucial assumption for estimating social security multipliers with the cyclical adjustment approach concerns the elasticity of contributions and benefits to GDP $\alpha_{\tau y}$. We determine $\alpha_{\tau y}$ for our different categories based on OECD estimates (Price et al., 2014). With respect to social security contributions, we follow the OECD measure of the contributions-to-output-gap elasticity of 0.60. Social security expenditures, including transfers are also partly elastic to the cycle, in particular unemployment benefits (-3.3, with a share of 10.47% in total benefits) and earnings-related benefits (-0.64, share: 23.49%), with the remainder assumed inelastic. Hence, the weighted average elasticity of social spending amounts to -0.50.

Caldara and Kamps (2017) show that within a reasonable range of $\alpha_{\tau y}$, not even the sign of the resulting multiplier can be robustly estimated, such that both negative and large positive multipliers can occur. The very nature of the Blanchard and Perotti (2002) approach for estimating multipliers, however, rests upon the assumption of a certain value of $\alpha_{\tau y}$ that is imposed as a scalar without taking into account likely uncertainty around this figure. Comparing the values with the estimates from the proxy SVAR provides a useful test as to whether the restrictions are valid.

Setting the $\alpha_{\tau y}$ value has the advantage that the contemporaneous reaction of GDP to changes in social security revenues and expenditures $\alpha_{y\tau}$ can be left unrestricted and be determined by the data. For comparison, the imposed and implied elasticities can be found in Table 4.9. The imposed budget elasticities ($\alpha_{\tau y}$) used in the cyclical adjustment approach are given in row (1). One can also calculate the implied budget elasticities out of the proxy SVAR approach. They embrace the cyclical adjustment figures within the 95% confidence interval in the case of contributions, but are significantly higher for benefits.

Turning to the elasticities of output to social security shocks ($\alpha_{y\tau}$), row (3) displays the implied elasticities that turn out of the estimation with cyclical adjustment. Row (4) gives the imposed elasticities of y to a change in τ from the proxy SVAR estimation. As a mirror image from the above, they fall inside the 95% confidence interval of the figures with cyclical adjustment for contributions, but are significantly higher for benefits.

The impact multipliers for cyclical adjustment are somewhat below those of the baseline proxy SVAR, with a significant difference in the case of benefit shocks. The differential GDP effects of benefit and contribution shocks can also be found for the alternative identification. The dynamics of the IRFs are similar for both approaches, which is not surprising, given the identical reduced-form model in use. Only the

impact values differ somewhat in line with Table 4.9, which compares the identifying restrictions of the proxy SVAR and cyclical adjustment specifications. The GDP response to a revenue shock with Blanchard and Perotti (2002) identification is insignificant already on impact.

Figure 4.5c evaluates the choice of imposing $\beta_{\tau g} = 0$ and leaving $\beta_{g\tau}$ unrestricted vs. the opposite case. Inverting this ordering tests the sensitivity of the assumption that general government spending decisions are taken after decisions on the social security budget, which is contestable. The impact multipliers increase somewhat both for revenues and expenditures, but the difference between the two remains essentially the same.

Figure 4.5d refers to the case of using a $\mathfrak{B}$ model of factorization, like Mertens and Ravn (2014) used in their original contribution, instead of our baseline AB factorization (see again Section 4.3). The difference boils down to the question whether the structural shocks for the impulse-response analysis are sized as prospective contributions / benefits *without contemporaneous feedback* from the endogenous variables (AB model) or *effective* contributions/benefits of 1% of GDP ($\mathfrak{B}$ model). It turns out that the difference is small and insignificant in our case. The dynamics are a somewhat different at around the 4th quarter of the horizon, where the impulse-responses of GDP for both revenue and expenditure shocks drop to a lower level.

Figure 4.5e presents the GDP responses using a more comprehensive VAR model where we include both expenditures and revenues at once. This approach allows to capture more complex interactions in the VAR, which the simple correlation tests performed in 4.A might miss. Including both series, we impose a Choleski ordering with expenditures ranked prior to revenues. For both shock series the GDP effects are slightly higher than in the baseline.

4.C Appendix: Further analysis of the household data

This appendix includes descriptive statistics and further considerations on clustering of standard errors for the household data analysis of Section 4.7 of the main article.

Table 4.10 and 4.11 show descriptive statistics of the continuous and dummy variables, respectively. Note that net income growth rates are truncated to $\pm 50\%$ on an annual basis. Revenue income shares and transfer income shares are truncated to 100%. Pension income shares may exceed 100% in some cases as the variable reflects shares of *gross* pension income in *net* overall income.

TABLE 4.10: Descriptive statistics of continuous variables

	obs	mean	p50	sd	min	max
Consumption growth Δc_{it}	185,914	0.269	0.057	29.935	-341	424
Net income growth Δy_{it}	263,462	1.156	0.924	17.296	-50	50
Revenues income share	263,460	0.168	0.177	0.102	0	0.966
Transfers income share	263,462	0.093	0.016	0.174	0	1
Pensions income share	263,462	0.240	0.000	0.402	0	1.5

There is an extensive discussion about the appropriate clustering of standard errors (Abadie et al., 2017; Angrist and Pischke, 2009). Our household panel data analysis is an obvious case where clustering can be relevant since the assignment of shocks is correlated within the clusters. We would overstate precision if we did not

TABLE 4.11: Descriptive statistics of factor variables

Employment status				
	Freq.	Percent	Valid	Cum.
full-time	166,675	48.71	48.71	48.71
part-time	29,925	8.75	8.75	57.46
marginal	11,762	3.44	3.44	60.90
unemployed	22,665	6.62	6.62	67.52
unemp. other	20,633	6.03	6.03	99.20
pensioner	87,751	25.65	25.65	93.17
training	2,595	0.76	0.76	99.96
sheltered work	148	0.04	0.04	100.00
Total	342,154	100.00	100.00	
Repayment burden consumer loan				
	Freq.	Percent	Valid	Cum.
[0] no	23,485	6.86	68.61	68.61
[1] yes	10,743	3.14	31.39	100.00
Total	34,228	10.00	100.00	
Secure EUR 1,000 at short notice				
	Freq.	Percent	Valid	Cum.
[0] no	178	0.05	19.76	19.76
[1] yes	723	0.21	80.24	100.00
Total	901	0.26	100.00	

take into account the within-group correlation of errors. This would resemble a simulation study of representative households for each group, then multiplying many times the same observation within each group and adding a random individual error term. A suggested cure to this phenomenon is to use a dataset of the average observations at the group level. Table 4.4 in the main text actually achieves this.

It follows from the assignment of the shocks to the employment groups that one has to cluster standard errors at the employment-group level also when using the micro dataset. We include this clustering in the regressions in Table 4.5 in the main text (note that there is no relevant difference if we cluster only at the group level or both at the household level and at the group level). However, one might consider clustering the standard errors in the time dimension as well. Table 4.12 replicates the baseline results and displays deviating standard errors and F-tests for the case of two-way clustering (employment status and year) in brackets.

The standard errors are substantially wider in the case of two-way clustering. We display these results for the sake of completeness, but do not consider them appropriate for the following reason: in the case of year-clustering the calculation of standard errors assumes these years to have a common unobserved component. However, partly, this common component is already represented by the social security shocks that we model explicitly. If we would now cluster by both employment status and year, we would suspect that all households in a year are subject to the same unidentified correlated error. This conservative assumption is also reflected in the estimated precision of the coefficient of the shock series.

If we would have a sample with a large number of clusters in both dimensions, this might not constitute a problem. However, with much less than 50 clusters in both dimensions, asymptotic efficiency cannot be taken for granted (Baum et al., 2011). For one-dimensional clustering, a small number of clusters would imply that

TABLE 4.12: Micro-level: comparison of one-way (employment status) and two-way (employment status and year) clustering

	(1) Δy_{it}	(2) Δc_{it}	(3) Δy_{it}	(4) Δc_{it}	(5) Δc_{it}
	Pooled 2SLS		Pooled 2SLS		Pooled OLS
	1st stage	2nd stage	1st stage	2nd stage	direct
m_t^{REV}	1.211				-0.507
	(0.370)***				(0.457)
	[0.760]				[0.928]
m_t^{EXP}			3.250		7.326
			(0.855)***		(3.573)*
			[1.091]***		[3.560]*
Δy_{it}		-0.552		2.257	
		(0.571)		(0.662)**	
		[1.188]		[0.515]***	
const	0.919	0.770	1.023	-1.777	0.526
	(0.502)*	(0.645)	(0.441)**	(1.139)	(0.803)
	[0.523]	[1.246]	[0.455]**	[1.067]	[0.799]
obs	185,914	185,914	185,914	185,914	185,914
cluster 1	8	8	8	8	8
[cluster 2]	[24]	[24]	[24]	[24]	[24]
F	10.707	0.935	14.439	11.637	4.172
$[F]$	[2.538]	[0.216]	[8.875]	[19.217]	[2.644]

The table shows the impact of the respective shock series for social security revenues (m_t^{REV}) and expenditures (m_t^{EXP}) on growth rates of consumption Δc_{it} per household i in year t. Columns (1)-(4) are 2SLS regressions, where the shocks serve as instruments for average income growth rates Δy_{jt} in the 1st stage regressions (columns (1) & (3)), with the second stage displayed in columns (2) & (4). Column (5) is a direct regression of average consumption growth on both shocks at once. Pooled data, clustered standard errors (by employment status) in parentheses. Deviations when using two-way clustering for employment status and year in [brackets]. Calculation of standard errors and significance levels corrected for small number of clusters. *** p<0.01; ** p<0.05; * p<0.1.

the estimated confidence intervals could still be too narrow (which is why we apply a small number of clusters correction). However, with two-dimensional clustering, the small-number-of-clusters bias can go in either direction, since the calculation of the overall variance includes a negative term of the joint covariance (see equation (21) in Cameron and Miller, 2015). That is, it could well be the case that the two-way clustered results overstate the true SEs.

One can think of this problem in a way that is akin to a multicollinearity problem that increases confidence intervals. Clustering by year would be somewhat similar to using year-fixed effects. A typical suggestion to cure the small number of clusters in two dimensions is to model the error term explicitly by using for example a time-fixed effect and then to cluster only in the other dimension (Cameron and Miller, 2015). Such year-dummies would be highly correlated with the shock series that we assign to the groups within a year. The only difference, preventing perfect collinearity, is that the year dummy would apply to all households, while the shock only applies to about half of them (either to contributors or to beneficiaries). By imposing year-dummies we would strongly alter the interpretation of our coefficients of interest: the transformation would maintain the cross-sectional variation between those treated within a year (say contributors when there is a shock to contribution rates) vs. the control group, but it would absorb the longitudinal variation between years with larger or smaller shocks or no shock at all. Essentially, year-dummies are a within-year transformation. The coefficient of the shock series could then only reflect the effect between groups in the same year. Year-clustering does something similar, assuming that any between-year variation is driven by unobserved shocks.

If there are additional common shocks, one could model them explicitly (Cameron and Miller, 2015). A natural candidate might be a financial crisis dummy. Indeed, one can detect a common pattern of negative income growth of all employment groups for the year 2008. Using such a dummy increases the statistical significance of the first-stage regression in the case of revenue shocks even when using the two-way clustering because the point estimate increases. The results of this test are reported in Table 4.13. While the quantities change to some extent, the qualitative conclusions hold.

TABLE 4.13: Micro-level: Comparison of one-way and two-way clustering, absorbing a financial crisis dummy

	(1)	(2)	(3)	(4)	(5)
	Δy_{it}	Δc_{it}	Δy_{it}	Δc_{it}	Δc_{it}
	Pooled 2SLS		Pooled 2SLS		Pooled OLS
	1st stage	2nd stage	1st stage	2nd stage	direct
m_t^{REV}	1.825				0.211
	(0.251)***				(0.322)
	[0.727]**				[0.979]
m_t^{EXP}			3.692		7.824
			(0.694)***		(3.472)*
			[0.912]***		[3.432]*
Δy_{it}		-0.088		2.117	
		(0.270)		(0.655)**	
		[0.638]		[0.537]***	
obs	185,914	185,914	185,914	185,914	185,914
cluster 1	8	8	8	8	8
[cluster 2]	[24]	[24]	[24]	[24]	[24]
F	52.867	0.106	28.312	10.451	2.559
$[F]$	[6.297]	[0.019]	[16.377]	[15.560]	[2.604]

The table shows the impact of the respective shock series for social security revenues (m_t^{REV}) and expenditures (m_t^{EXP}) on growth rates of consumption Δc_{it} per household i in year t. Columns (1)-(4) are 2SLS regressions, where the shocks serve as instruments for average income growth rates Δy_{jt} in the 1st stage regressions (columns (1) & (3)), with the second stage displayed in columns (2) & (4). Column (5) is a direct regression of average consumption growth on both shocks at once. Pooled data, clustered standard errors (by employment status) in parentheses. Deviations when using two-way clustering for employment status and year in brackets. Calculation of standard errors and significance levels corrected for small number of clusters. *** p<0.01; ** p<0.05; * p<0.1.

Chapter 5

Fiscal Rules in Good Times and Bad

5.1 Introduction[34]

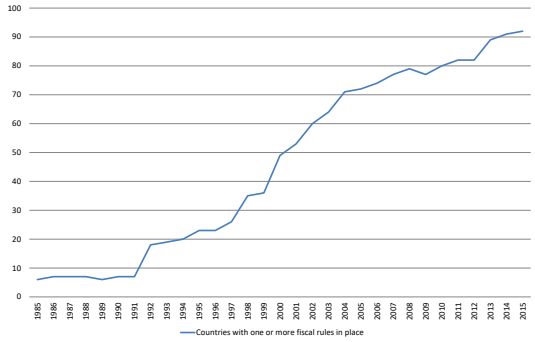
The most commonly used definition for fiscal rules is from Kopits and Symansky (1998, p. 2): "A fiscal policy rule is defined, in a macroeconomic context, as a permanent constraint on fiscal policy, typically defined in terms of an indicator of overall fiscal performance". Each part of the definition is essential. First, constraints on the fiscal policy must be permanent. At the moment of implementation, the limitations of budgetary policy must be meant to last indefinitely to qualify as a rule. Second, the fiscal rule applies to the public finances of governments. Hence, it includes the national or sub-national levels. Third, the constraints target summary indicators of fiscal policy, "such as the government budget deficit, borrowing, debt, or major components thereof – often expressed as a numerical ceiling or target, in proportion to gross domestic product (GDP)" (Kopits and Symansky, 1998, p. 2). Thus, there are generally four types of fiscal rules, which are named after the aggregate they target – balanced budget, debt, expenditure, and revenue rules. These can be combined as well. Other essential characteristics of fiscal rules include the legal basis, the coverage of the budgetary rule concerning government levels and the respective aggregates, exception clauses, automatic correction mechanisms, or sanction options. Simplicity is an important feature of fiscal regulations. Fiscal rules, however, become increasingly complicated in practice in order to meet the different objectives.

Figure 5.1 summarizes selected trends for fiscal rules. While there were only seven countries with one or more fiscal rules covering at least the central government level in the year 1990, this number increased to 77 countries before the financial crisis hit in 2007 (Figure 5.1a). The trend continued in subsequent years. In 2015, 92 countries had one or more national or supranational numerical fiscal targets in place. These 92 countries aggregated 291 numerical constraints on summary fiscal policy indicators, compared to 198 before the crisis. Hence, the trend had already kick-started earlier. A similar picture emerges for Europe, where rules-based frameworks are a central part of fiscal policy nowadays. In line with the start of the trend in the 1990s, ideas of fiscal constraints found their way into the debate on the macroeconomic architecture of the European Monetary Union (EMU), resulting in the supranational rules agreed upon in the Maastricht Treaty (MT) and operationalized in the Stability and Growth Pact (SGP).

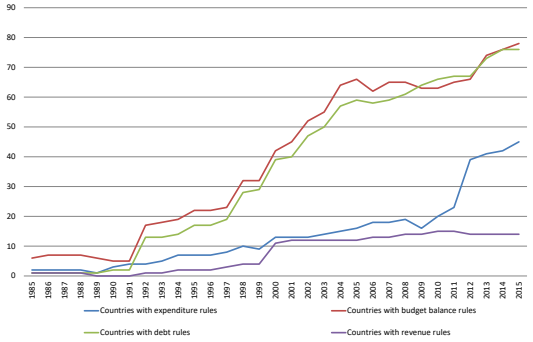
Figure 5.1b shows that until 2004 the implementation of fiscal rules was mainly driven by the introduction of budget balance and debt rules. There is a very high

[34] In a slightly modified version, this chapter has been published as Paetz (2020). Parts of this chapter have also been integrated in Dullien et al. (2020).

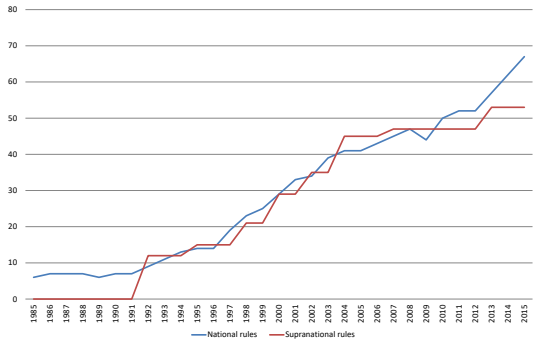
FIGURE 5.1: Fiscal rules trends, 1985-2015



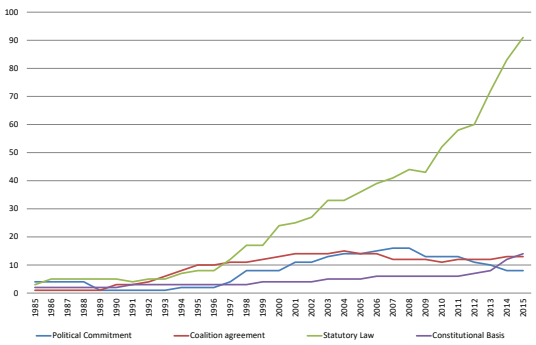
(a) Number of countries with fiscal rules



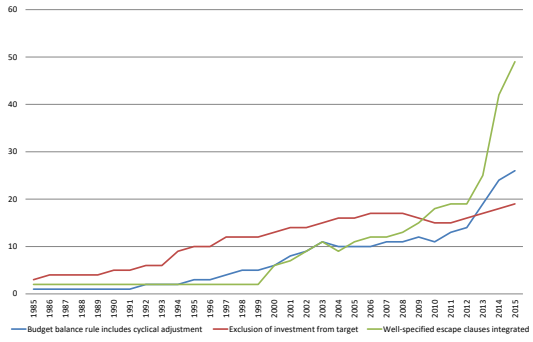
(b) Number of different types of fiscal rules



(c) Number of countries with national and supra-national fiscal rules



(d) Legal basis of national fiscal rules



(e) Stabilization features (flexibility) of national rules

Data from Schaechter et al. (2012) and International Monetary Fund (2016). Calculations and illustrations by the author.

correlation between implementation dates for these two design types. Afterwards, the trend stagnated until the financial crisis. From 2009 on, the introduction of fiscal rules accelerated again, but this time was mainly driven by the implementation of expenditure rules. National and supranational rules moved the general trend equally during the 1990s (Figure 5.1c). Due to the eastward enlargement of the EU in 2004, supranational legislation outnumbered national legislation for a few years. However, after the financial crisis, many countries updated their frameworks with national fiscal rules. This development indicates a more restrictive fiscal policy, given that national regulations would otherwise be of little use.

The turn towards strengthened rules-based frameworks and tighter constraints is echoed in other design issues – for instance, the legal basis of national fiscal rules. For the legal anchor, political decision-makers face the choice of classifying the fiscal rule as a purely political obligation, as a coalition agreement, to adopt legal norms, as international treaties in the case of supranational regulations, or as rules with constitutional rank, as in the case of the German debt brake. It is self-evident that rules which are more deeply rooted within the law are more difficult to break and change by individual governments. A higher statutory basis can be an advantage in terms of assertiveness and a disadvantage if the rule requires economically disadvantageous adjustments in certain situations. Whether a more far-reaching legal framework will therefore lead to a longer-lasting rule cannot be answered with certainty, but depends on other design matters. Figure 5.1d shows the development of the statutory basis of national fiscal rules. While fiscal rules with political commitment have decreased and coalition agreements have stagnated since the crises, the number of regulations with a statutory law as a legal basis have increased significantly. Moreover, in recent years several national rules were written into constitutions.

Another question is which levels of the general government the rule covers. In most cases, supranational rules cover the entire state, since they intend to minimize the moral hazard incentives of member states. Existing national fiscal rules are more diverse and often cover only the federal or sub-levels of the state. Coverage also includes the dimension of which aggregates are included in the numerical targets. In addition to interest payments and cyclically sensitive expenditure components such as unemployment benefits, the debate revolves in particular around the consideration of public investment. The "Golden Rule" of public finance states that credit should finance public investment (Truger, 2015).

One important intention of fiscal rules is to restrict governments which, for various politico-economic reasons, could otherwise implement inadequate fiscal policies with negative effects on general welfare. The second objective is to allow and support short-term macroeconomic stabilization. Given the experience with austerity measures in the aftermath of the financial crisis and new empirical findings, the critical role of fiscal policy for short-term economic stabilization and long-term welfare becomes evident again (Chapter 2). These new findings have a gradual impact on the design of fiscal rules – they start to integrate more flexibility features (Figure 5.1e). The number of budgetary rules that target cyclically-adjusted or structural indicators, excluding public investment spending or other priority items from the fiscal targets and which have well-specified escape clauses, has increased considerably over recent years. The integration of escape clauses into fiscal frameworks has proven to be a useful tool for absorbing severe economic shocks, such as natural disasters, other exceptional emergencies, or severe economic recessions. These are also broadly applied during the Covid-19 pandemic and the associated economic policy reaction. Although exceptions are generally uncontroversial, there is a discussion on

which events display a reason for the exception, on how the decision regarding exceptional circumstances is agreed upon, and, in particular, what the repayment path should look like afterward. It is crucial that repayment is in line with the economic cycle and does not require any politically unrealistic procyclical adjustments.

To better realize the stabilizing function of fiscal policy, target values, particularly in the case of deficit rules, should be cyclically adjusted. This way, automatic stabilizers can work efficiently, and governments have to be more stringent during economic upswings while avoiding procyclical measures in downturns. Despite various adjustment procedures, there is still a risk of legally required procyclical steps and potential downward spirals in longer-term recessions (Claeys et al., 2016; Truger and Will, 2012). This problem derives from the endogeneity in the calculation of potential output (Heimberger and Kapeller, 2017). As a result, cyclical downturns must often be corrected by structural measures. Thus, there is a danger that consecutive budget cuts or tax increases will impede the effectiveness of automatic stabilizers.

In the present chapter, we estimate fiscal reaction functions for a panel of EMU member countries between 1985 to 2015 to analyze the behavior of fiscal policy over the business cycle in the euro area and the potential impact of changes in the respective budgetary framework. The central contribution is to analyze whether fiscal rules have an asymmetric impact on discretionary measures over the cycle. We do so by linking the novel IMF Fiscal Rules dataset (International Monetary Fund, 2016; Schaechter et al., 2012) to a reaction function approach ala Galí and Perotti (2003).

The seminal work by Perotti (1999) emphasizes the importance to differentiate the effects of fiscal policy between good and bad times. This chapter asks, how discretionary fiscal policy behaves with regard to the output cycle in the euro area, and whether this relationship has been affected by the implementation and augmentation of fiscal rules. Fiscal policy is particularly important for EMU member countries because of the loss of other macroeconomic instruments for stabilization, namely national monetary policies and exchange rate adjustments. Countercyclical fiscal policy may turn out to be favorable to debt sustainability and the traditional trade-off between fiscal discipline and macroeconomic stabilization needs to be rethought. Therefore, cyclical behavior is central to the stability of the EMU as a whole. Furthermore, rules play a significant part in the fiscal framework within this group of countries.

Overall, discretionary fiscal policy in the EMU-11 over the sample period is marginally procyclical. However, the average policy is characterized by fiscal contractions in the downturn, while the reaction is neutral in the upturn. Further disaggregation shows that procyclicality is mainly determined by the discretionary reaction of public expenditures, not revenues. The effect of fiscal rules on cyclical behavior is rather limited. Fiscal rules somewhat increase countercyclical policy responses in the upturn, but at the cost of more destabilizing policies in the downturn. Interestingly, expenditure rules perform better concerning the stabilization objective compared to budget or debt rules.

The remainder of the chapter is structured as follows. Section 5.2 takes a look at the related empirical literature on fiscal reaction functions. In Section 5.3, we elaborate on the model and data before presenting baseline results for the cyclical behavior of fiscal policy in Section 5.4. For robustness, in Section 5.5 we discuss potential outliers driving the results. Section 5.6 integrates fiscal rules into the framework and Section 5.7 evaluates their effect on the cyclical behavior of discretionary fiscal policy. Finally, Section 5.8 draws some conclusions and discusses policy implications.

5.2 Related literature

Perotti and Gavin (1997) estimate fiscal reaction functions for Latin American countries. They find a procyclical bias for the overall budgetary balance in these countries, mainly driven by expansionary measures in good economic times and by changes to public expenditures. Talvi and Végh (2000) and Lane (2003) confirm the procyclical bias for a broader sample of developing countries and provide evidence that advanced countries tend to be more acyclical. In a similar vein, Kaminsky et al. (2004) find government spending in developing and "middle-high" income countries to be procyclical, while most OECD countries yield more acyclical or countercyclical results. More recently, Frankel et al. (2013) show, however, that around a third of developing countries graduated from procyclical fiscal policy over the past decade. Their results are driven by better institutional quality and show that stronger institutions have contributed to less procyclical bias. Fatás and Mihov (2006) are among the first to connect the empirical discussion directly to a broader set of fiscal rules. According to them, the presence of budgetary constraints in US states leads to more procyclical policy. Since Schaechter et al. (2012) have developed the IMF Fiscal Rules Dataset, more researchers have turned towards analyzing the effects of fiscal rules on cyclical properties between budgetary variables and economic activity.

Extending the analysis of Frankel et al. (2013), Bova et al. (2014) examine the link between fiscal rules and the cyclicality of public spending for the developing world. Contrary to Frankel et al. (2013), they find no graduation from procyclical policy in emerging and developing economies. Moreover, implementing fiscal rules did not eliminate the systematic procyclical bias of public spending in developing countries. However, they do find evidence for better performance of "second-generation fiscal rules" (Schaechter et al., 2012), characterized, for instance, by cyclically-adjusted targets or escape clauses. Consequently, fiscal rules should be accompanied by the implementation of more flexibility into the rules-based framework. Combes et al. (2017), on the contrary, confirm the finding that developing countries graduated from procyclicality, albeit the respective coefficient is much lower in size compared to advanced countries. For rules, Combes et al. (2017) find them to be rather effective and able to turn fiscal policy more countercyclical.

For Europe, the discussion mainly focused on the impact of the MT and the SGP on cyclicality. In their seminal contribution, Galí and Perotti (2003) analyze discretionary fiscal policy in the EMU and show that it was mildly procyclical before implementing the MT but has become more countercyclical since then. Their evidence is in stark contrast to fears by critics of the European fiscal framework at the time that the implemented constraints would reduce the ability of member states to conduct effective stabilization policy. With a few years of additional data points, Dullien and Schwarzer (2009) confirm that the EMU as a whole moved from somewhat procyclical behavior before the SGP to an overall acyclical reaction in the period after. However, they make an individual country distinction and find that the cases under an European Commission excessive deficit procedure at the time, Germany and Portugal, became more procyclical. Therefore, they conclude that the SGP hinders countries to let their automatic stabilizers fully work. Furthermore, the authors conclude that the cyclical orientation of EMU countries shows the smallest stabilization motive compared to the United States and Japan.

Fatas and Mihov (2009) find discretionary fiscal policy somewhat procyclical in the euro area over a prolonged sample period (1970-2007). They conclude that the

implementation of the SGP had no relevant impact on the cyclical reaction of fiscal policy. In an update of Galí and Perotti (2003) and in contrast to their results, Candelon et al. (2009) find that discretionary fiscal policy remained procyclical after the introduction of the MT and ratification of the SGP using revised data and an extended time dimension. Bénétrix and Lane (2013) evaluate cyclical patterns of fiscal policy regarding the sub-periods pre-MT, post-MT until the launch of the Euro, and post-Euro launch up to the financial crisis, separately. In line with preceding evidence, they find a procyclical bias for the pre-MT period. Post-MT, fiscal authorities behaved more countercyclical during the transition to the agreed-upon targets. However, according to Bénétrix and Lane (2013) improved countercyclicality remained temporary and has become more procyclical again since 1999. Huart (2012) analyzes the cyclical orientation of the fiscal stance for 18 OECD countries, concentrating on European countries over the period 1970 to 2007 and different subperiods. She finds a countercyclical fiscal stance in bad economic times for countries of the euro area after 1999. In this study, there is no significant case for procyclicality after 1999, neither in bad nor in good times.

In sum, there is no clear-cut consensus among researchers about the cyclical orientation of fiscal policy in EMU countries since 1992 or the effects of supranational rules on governments' behavior. Empirical results differ according to their definition of economic conditions, the methodology employed, and the data vintage and samples used (Golinelli and Momigliano, 2008).

5.3 Fiscal reaction function and data

Following Galí and Perotti (2003) (henceforth GP), we use a fixed-effects panel data analysis to investigate the behavior of discretionary fiscal policy concerning economic conditions in a systematic way empirically. The reason is essentially threefold. (i) Data for (cyclically-adjusted) fiscal variables is rather limited and leads to a low number of observations for the individual country analysis. This problem is reinforced due to the application of the IMF Fiscal Rules Dataset in Section 5.6, which further constrains the available data to the period 1985 to 2015. (ii) Higher frequency data is rather problematic when analyzing fiscal policy reactions. Annual data has the advantage that it captures budgetary years more effectively (Checherita-Westphal and Žd'árek, 2017). (iii) Concerning the political economy and stability of the euro area, we are interested in the overall average reaction of fiscal policy.

In its most simple form, the fiscal reaction function (FRF) reads

$$FP_{it} = \alpha_i + \beta Cycle_{it} + \epsilon_{it}, \tag{5.1}$$

where FP is an indicator for the fiscal stance and $Cycle$ a measure of the business cycle, subscripts $i = 1, ..., N$ denote the country- and $t = 1, ..., T$ the time-dimension of the observation. The coefficient α is a country-fixed effect and β a slope coefficient for the business cycle and thus captures the responsiveness of fiscal policy to cyclical conditions, finally ϵ represents an error term.

The simple model is extended to include fiscal sustainability concerns and policy dynamics. First, the lag of public debt D_{it-1} is added as a regressor to take a debt stabilization motive into account when the government sets up the budget (Bohn, 1998). Second, to control for policy inertia, the lagged dependent variable FP_{it-1} is included (see GP). As a result, the augmented reaction function is of the form:

$$FP_{it} = \alpha_i + \beta Cycle_{it} + \gamma D_{it-1} + \delta FP_{it-1} + \epsilon_{it}. \tag{5.2}$$

In this chapter, we are interested in the *discretionary* policy reaction of fiscal authorities. Therefore, one cannot use the headline budget balance for the measure of FP because changes include automatic fluctuations of budgetary components outside policymakers' direct control. When analyzing discretionary fiscal policy, identifying fiscal shocks that can be deemed truly exogenous is crucial since the actual budget is sensitive to cyclical conditions and, therefore, prone to endogeneity bias. We consider the change of the cyclically-adjusted primary balance (CAPB) or components thereof as the measure for the fiscal stance FP to deal with this issue. The CAPB is a top-down identified measure calculated by subtracting a cyclical component based on assumptions regarding budget elasticities and the output gap from headline budgetary figures.

An important caveat when estimating equation 5.2 is the endogeneity between the fiscal impulse and the cycle, as has been pointed out by GP or Jaimovich and Panizza (2007) among others. Therefore, the FRFs are estimated following an instrumental variable (IV) approach.[35] The output gap is taken as proxy for $Cycle$. In line with GP, we instrument the output gap by the own lagged output gap of each country and the lag of the US output gap. Note, the analysis focuses on ex-post fiscal policy outcomes and not real-time ex-ante budgetary plans. The related question of the latter is whether policymakers intend to be countercyclical but lack full information of current cyclical conditions leading to procyclical policy. However, this chapter is concerned with what has been the actual outcome of government policy and whether discretionary policy on average has been pro- or countercyclical. Most studies looking at ex-ante data find policy design to be rather countercyclical (see overview in Cimadomo, 2016).

Regarding the interpretation of β, if $\beta > 0$ the outcome displays countercyclical and if $\beta < 0$ procyclical discretionary fiscal policy. Assuming the government follows a long-term debt-stabilization target, the coefficient γ for the lag of the debt ratio is expected to be positive. One also expects some autocorrelation of budgetary decisions and, therefore, the coefficient δ of the lagged dependent variable to be positive.

A potential extension is to check for the asymmetry of fiscal reactions over the business cycle (Balassone et al., 2010; Agnello and Cimadomo, 2009; Huart, 2012). Thus, equation 5.2 is modified such that the cycle coefficient is allowed to vary for periods of economic contraction and expansion,

$$FP_{it} = \alpha_i + \beta^P Cycle_{it} * P_{it} + \beta^N Cycle_{it} * N_{it} + \gamma D_{it-1} + \delta FP_{it-1} + \epsilon_{it}, \tag{5.3}$$

where P represents positive (upturn) and N negative variations of the output gap (downturn). Thus, good economic times (P) are defined as $\Delta OG > 0$ and bad times (N) as $\Delta OG < 0$, where Δ indicates the change of the output gap in the given as compared to the previous year.

Furthermore, two additional controls are added to some specifications following Candelon et al. (2009) and Checherita-Westphal and Žd'árek (2017). First, we

[35] Considering the dynamic nature of the specification, the lag of the dependent variable as regressor will most likely be correlated with the error term, causing a bias. Nickell (1981) shows that the consistency of the estimator depends upon the properties of the panel, arguing that with large T, the bias becomes less of an issue. Arellano and Bover (1995) proposed a GMM framework to increase the performance of dynamic panels as compared to using the simple within estimator. However, Harris and Matyas (2004) argue that the large instrument matrices of GMM can cause biased results if the sample size is finite (see also in Candelon et al. (2009)). Given the properties of the sample (small N, large T) and the ongoing debate in the econometric literature, we follow most of the recent studies on fiscal reaction functions and decide for the fixed effects IV estimator.

include an election dummy as a proxy for the political cycle turning to 1 in a federal election year.[36] The political economy rationale is to control for the possibility that governments overspend in election years to attract voters. Second, a crisis dummy, which is 1 from 2009 on for the effects of the financial crisis on fiscal policy, is added. As expected, throughout most of the econometric specifications, the latter is strong in magnitude, negative, and highly statistically significant.

Data for fiscal variables and the output gap are taken from the OECD Economic Outlook (June 2017, No. 101) and are in percent of potential output.[37] That leaves me with an unbalanced panel for the EMU-11[38] countries from 1985 to 2015. In some rare cases, debt-to-GDP data is the shortest time series; therefore, we augment the OECD data on debt by the Historical Public Debt (HPDD) database of the IMF. The fact that the panel remains unbalanced comes from missing data on output gaps or cyclically-adjusted fiscal variables.

5.4 Baseline Results

Table 5.1 reports results of equation 5.2 and 5.3 for estimations of the full sample. The cyclically-adjusted primary balance reacts procyclically to the output gap, yet with rather low statistical significance (column (1)). The output gap coefficient does not change when the election year dummy is included; see column (2). However, the dynamics become much clearer when the effect of the business cycle is allowed to vary between good and bad economic conditions. While the discretionary reaction of fiscal policy is on average acyclical in good times for the EMU-11 panel, it is significantly procyclical in bad times (columns (3) and (4)). The remaining coefficients mainly yield expected results. The effect of the lagged dependent variable is found to be positive and highly significant throughout the specifications, showing strong persistence in fiscal policy.

Regarding the response of fiscal policy to the lag of the debt ratio, my results show a small but significant debt-stabilization motive, coefficient of around 0.03, very much in line with recent results in the respective FRF literature concentrating on this relationship (see overview in Checherita-Westphal and Žd'árek, 2017, pp. 23–25). The election dummy is found to be negative, as expected, but not statistically different from zero. Therefore, its inclusion has only a minimal effect on the remaining coefficients. Here in the form of the crisis dummy, the financial crisis had a statistically significant negative effect on the cyclically-adjusted budget balance, which is also high in magnitude.

Next, we disaggregate the CAPB into cyclically-adjusted primary expenditures (CAPEXP) and cyclically-adjusted revenues (CAREV), for which there is both data available by the OECD[39], and use them as a proxy for FP in the FRFs respectively.

[36] In line with Checherita-Westphal and Žd'árek (2017), we use electionresources.org as main source for the election year dummy and correct for missing and erroneous data.

[37] We check for stationarity of the data by panel unit root tests. The null of a unit root for the CAPB and output gap is rejected using the LLC (Levin et al., 2002) and IPS (Im et al., 2003) tests. For the debt ratio, the LLC and IPS show ambiguous results. However, Bohn (1998) argues that unit root tests for the debt ratio fail to detect its mean revision because of its high persistence and the fact that the public balance reacts positively to increasing debt (also shown by the results in Section 5.4) satisfies the intertemporal budget constraint (see also Favero and Marcellino (2005)). Moreover, Checherita-Westphal and Žd'árek (2017) point out that the problem of non-stationarity is less critical in panel data settings.

[38] Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, and Spain.

[39] See Girouard and André (2005) for methodological background on the calculation of this data.

TABLE 5.1: FRF: The cyclical reaction of discretionary fiscal policy in the EMU

	Dependent Variable: CAPB			
	(1)	(2)	(3)	(4)
OG	−0.157*	−0.158*		
	(0.083)	(0.083)		
OG ∗ *bad*			−0.330***	−0.332***
			(0.094)	(0.093)
OG ∗ *good*			−0.103	−0.104
			(0.120)	(0.121)
D_{t-1}	0.032***	0.032***	0.033***	0.033***
	(0.010)	(0.010)	(0.010)	(0.010)
FP_{t-1}	0.620***	0.620***	0.622***	0.621***
	(0.031)	(0.032)	(0.033)	(0.033)
Election		−0.303		−0.304
		(0.230)		(0.230)
Crisis Dummy	−1.506***	−1.511***	−1.804***	−1.810***
	(0.436)	(0.437)	(0.557)	(0.559)
Observations	315	315	315	315
Adjusted R^2	0.534	0.535	0.534	0.535

*Notes: Fixed effects IV panel estimates of equations 5.2 and 5.3 for EMU-11 from 1985-2015. Robust standard errors are reported in parenthesis. *p<0.1; **p<0.05; ***p<0.01 shows coefficient is statistically significant at 10%, 5% and 1%, respectively. The coefficients for fixed effects are not reported. The proxy for FP is the cyclically-adjusted primary balance CAPB, OG is the output gap in year t instrumented by each countries own lag of OG plus the lag of the US OG and D is the debt-to-GDP ratio. Bad constraints the effect to negative and good to positive variations of the output gap. We add a crisis dummy and in (2) and (4) Election is a dummy variable which signals 1 in an election year.*

Results for this exercise are presented in Table 5.2. Importantly, the sign interpretation of the reaction coefficient for the cyclical behavior β and the debt-stabilization motive γ changes in the case of CAPEXP, simply because of $CAPB = CAREV - CAPEXP$. If $\beta > 0$, discretionary expenditures behave procyclically, otherwise countercyclically. Column (1) shows that CAPEXP reacts systematically procyclical to the business cycle. Splitting the direction of the business cycle up into positive and negative variations of the output gap, columns (3) and (4) yield results economically similar to the CAPB estimates above. The procyclical reaction is mainly driven by fiscal tightening in recessionary periods. This implies additional destabilization from fiscal policy during downturns. Behavior in the upturn is also slightly procyclical, but the reaction coefficient has rather low statistical significance. Again, we find a positive debt-stabilization motive, however, on a somewhat lower level than the estimations with CAPB. The effect of the lagged dependent variable is higher, indicating strong policy inertia in case of primary expenditures. Results remain robust when the dummy for an election year is included in the specification. However, compared to the CAPB estimates, an election year has a significant influence on expenditures (see column (2) and (4)).

Regarding the revenue side of the budget, the response of CAREV is acyclical (column (5) and (6)). Nonetheless, conditioning on contractionary economic phases also shows procyclicality for discretionary changes to revenues, similar to the expenditure side. Thus, the overall effect is slightly neutralized by the asymmetric reaction of revenues, column (7), and (8). There is no relationship between the lag of public debt and contemporaneous changes in cyclically-adjusted revenues.

In sum, the marginally systematic procyclical reaction of discretionary fiscal policy is mainly determined by budgetary tightening in the downturn of the business cycle and, to a more considerable extent, by changes in public expenditures. However, these relationships stretch over the whole time dimension of the sample. There might be severe heterogeneities between different countries and sub-periods, which, as has been described above, include substantial underlying changes to fiscal frameworks and implementation of various rules-based constraints, on national and supranational levels, throughout the euro area.

TABLE 5.2: FRF: Disaggregating the CAPB in CAPEXP and CAREV

	Dependent variable:							
	CAPEXP				CAREV			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OG	0.112***	0.113***			−0.007	−0.008		
	(0.025)	(0.025)			(0.030)	(0.030)		
OG ∗ bad			0.166***	0.168***			−0.115***	−0.116***
			(0.026)	(0.025)			(0.044)	(0.045)
OG ∗ good			0.063*	0.064*			0.029	0.028
			(0.034)	(0.034)			(0.026)	(0.026)
D_{t-1}	−0.013**	−0.013**	−0.015**	−0.015**	−0.0004	−0.001	0.001	0.0004
	(0.006)	(0.006)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
FP_{t-1}	0.946***	0.944***	0.952***	0.950***	0.876***	0.878***	0.868***	0.869***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.025)	(0.025)	(0.025)	(0.025)
Election		0.273***		0.271***		−0.201**		−0.200**
		(0.054)		(0.056)		(0.082)		(0.084)
Crisis Dummy	0.640***	0.646***	0.700***	0.707***	0.279*	0.278*	0.088	0.086
	(0.175)	(0.175)	(0.188)	(0.187)	(0.143)	(0.143)	(0.182)	(0.183)
Observations	315	315	315	315	315	315	315	315
Adjusted R^2	0.900	0.901	0.900	0.902	0.795	0.796	0.802	0.803

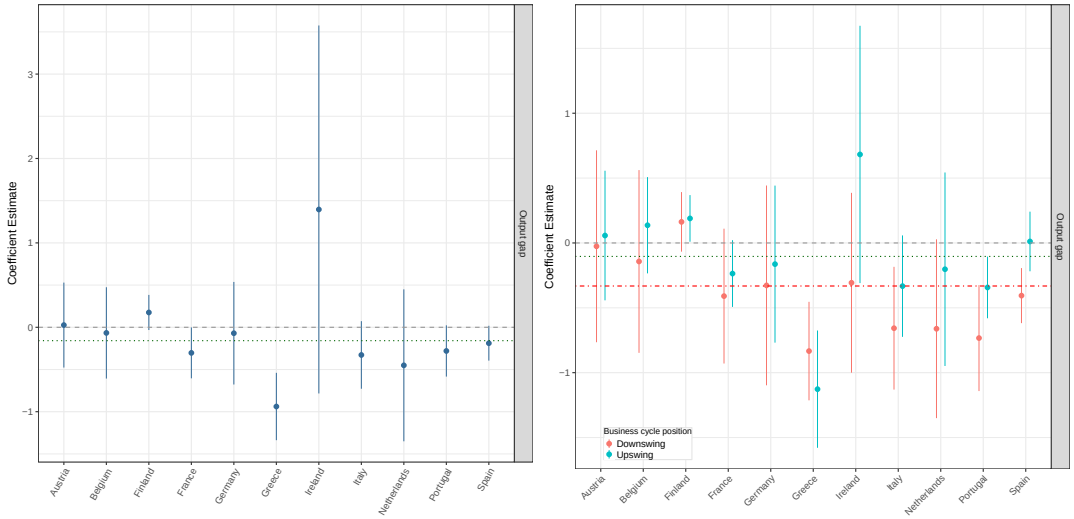
*Notes: Fixed effects IV panel estimates of equations 5.2 and 5.3 for EMU-11 from 1985-2015. Robust standard errors are reported in parenthesis. *p<0.1; **p<0.05; ***p<0.01 shows coefficient is statistically significant at 10%, 5% and 1%, respectively. The coefficients for fixed effects are not reported. The proxies for FP are cyclically-adjusted primary expenditures CAPEXP (1)-(4) and cyclically-adjusted revenues CAREV (5)-(8), OG is the output gap in year t instrumented by each countries own lag of OG plus the lag of the US OG and D is the debt-to-GDP ratio. Bad constraints the effect to negative and good to positive variations of the output gap. We add a crisis dummy and in (2) and (4) Election is a dummy variable which is 1 in an election year.*

5.5 Heterogeneity

Next, potential heterogeneities of the country-dimension with CAPB as the dependent variable are discussed along two paths, (i) individual country estimations and (ii) potential outlier countries driving the overall panel results. For brevity, the analysis will concentrate on the output gap coefficients.

(i) Figure 5.2 shows individual country estimations of the baseline and asymmetric FRF. Note that we choose the panel approach due to data availability problems – with a maximum of 30 observations per country and seven or eight parameters to estimate the results for individual states should be treated carefully. Consequently, for some countries, we find rather large confidence intervals. However, even though there is a fair amount of heterogeneity observable, only Finland and Greece yield estimates statistically significantly different from the baseline (Figure 5.2a). Finland – often referred to as a poster child of public policy – is the only country which shows robustly countercyclical policy. On the contrary, Greece is more strongly procyclical compared to other countries in the sample. The divergence from baseline for Greece is especially pronounced in expansionary phases of the cycle (Figure 5.2b) but not

FIGURE 5.2: Individual country analysis – Output gap coefficient



(a) Baseline (b) Asymmetry

Notes: 5.2a shows output gap coefficients for estimations of $FP_t = \alpha + \beta Cycle_t + \gamma D_{t-1} + \delta FP_{t-1} + \epsilon_t$ *and 5.2b for* $FP_t = \alpha + \beta^P Cycle_t * P_t + \beta^N Cycle_t * N_t + \gamma D_{t-1} + \delta FP_{t-1} + \epsilon_t$*, estimating each country individually. The dependent variable is CAPB. The election and crisis dummy are included. Dots indicate the point estimate of the respective country estimation and vertical whiskers around represent 95% confidence intervals. For comparison, in 5.2a the dotted green line marks the baseline panel point estimate of* β *and in 5.2b it shows* β^P*. Consequently, the dotted-dashed red line represents* β^N *of the baseline panel estimates.*

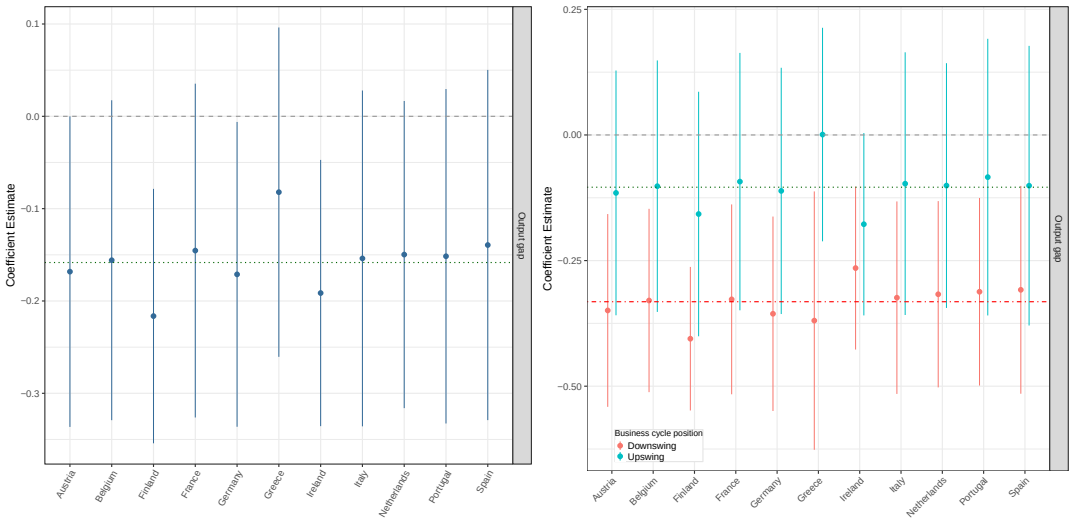
constrained to them. Also, in economic contractions, Greece implements, on average, strongly procyclical discretionary policies. Italy, the Netherlands, and Portugal are also candidates with noticeably lower point estimates, but mainly for Greece, these are statistically significantly different from baseline. Portugal, in the upswing, shows borderline significantly different results towards higher procyclicality as well.

(ii) As a mirror image, one can analyze whether these outliers significantly drive my baseline panel results. Accordingly, Figure 5.3 compares results for output gap coefficients of the basic and asymmetric model wherein each case one country is *dropped* from the full sample. 5.3a shows that the omission of Finland, Ireland, and Greece changes the results most distinctively. Nonetheless, in none of the specifications, the output gap coefficient is statistically significantly different from baseline, indicating robust results against potential outliers. While Greece seems to drive the baseline results more towards procyclicality, Finland and Ireland perform comparatively better in cyclical behavior. 5.3b presents how the omission of countries change the panel results for the output gap reaction when it is allowed to vary between contractionary and expansionary phases of the cycle. Again, for both cases, there is no specification with significantly different results. There is evidence of Finland making results in the downturn generally more countercyclical, whereas Greece pulls the OG coefficient in the upturn towards more procyclicality.

5.6 Extended model and fiscal rules

In this section, we extend the model from Section 5.3 to analyze the effects of changes to fiscal frameworks within the sample of countries. Therefore, the slope coefficients of the intercept and covariates are allowed to vary between periods with and without different fiscal rules and are then estimated simultaneously.

FIGURE 5.3: Outlier analysis – Output gap coefficient



(a) Baseline (b) Asymmetry

Notes: Figures 5.3a and 5.3b show dot-whisker plots for output gap coefficient estimates of different fixed-effect panel estimations of equations 5.2 and 5.3, respectively, where each dot-whisker denotes a panel model with the respective country being dropped (!) from the sample. The dependent variable is CAPB. The election and crisis dummy are included. Dots indicate the point estimate of the respective panel model and vertical whiskers around represent 95% confidence intervals. For comparison, in 5.3a the dotted green line marks the baseline panel point estimate of β and in 5.3b it shows β^P. Consequently, the dotted-dashed red line represents β^N of the baseline estimates.

Following the approach by GP, we specify

$$\begin{aligned} FP_{it} = \alpha_i^{BR} + \alpha_i^{AR} \\ + \beta^{BR} Cycle_{it} + \beta^{AR} Cycle_{it} \\ + \gamma^{BR} D_{it-1} + \gamma^{AR} D_{it-1} \\ + \delta^{BR} FP_{it-1} + \delta^{AR} FP_{it-1} + \epsilon_{it}, \end{aligned} \tag{5.4}$$

where BR signals the period without and AR with the respective fiscal rule in force. Thus, the β coefficients capture the reaction of discretionary fiscal policy to the cycle for different sub-periods. Similarly, the remaining coefficients for the lag of public debt, the lag of the dependent variable, and the election dummy are allowed to vary. Additionally, the model allows for shifts of the fixed-effects, represented by the α coefficients. In line with Candelon et al. (2009), we perform simple F-tests on the hypothesis that the respective coefficient has not changed between BR and AR (e.g., $\beta^{BR} = \beta^{AR}$). Even though the election year had a limited role in the baseline results, it remains in my estimations below as a proxy for political risk given that fiscal rules aim to automatize budgetary decisions and thereby reduce procyclicality especially in the upturn[40].

An important caveat of the analysis is that one only controls for the existence of a rule, not for its compliance. Also, the included breakpoints are motivated exogenously by the fact that a fiscal rule comes into place.The potential breakpoints are not determined endogenously by the data. The reason is that we are interested as to whether a fiscal rule affected how policy behaved over the cycle ex-post.

[40]Given the limited space, we do not show results for estimations excluding the election dummy. However, results for other covariates are very robust to the exclusion of the election and crisis dummy. Results can be obtained upon request.

Regarding information on different fiscal rules in the sample, the analysis relies entirely on the IMF Fiscal Rules Dataset (International Monetary Fund, 2016). We use the information as to whether a specific design type of a fiscal rule is in force or not. The dataset includes dummy variables with 1, indicating that a particular rule is implemented. Generally, there are four design types – balanced budget, debt, expenditure and revenue rules, each named after the budgetary aggregate they target[41]. Accordingly, results for FRFs with a structural break if the country has implemented a budget balance rule (*BBR*), a debt rule (*DR*) or an expenditure rule (*ER*) are presented (Table 5.3). The EMU-11 sample has very little observations for revenue rules, which are therefore omitted from the analysis. Note that the correlation coefficient between budget and debt rules in the sample is very high ($\rho = 0.94$), signaling that these two design types are mostly introduced simultaneously.

Moreover, the European supranational rules set in the MT and SGP are essentially budget and debt rules, which is for most countries in the IMF database the years 1992 or 1995 and therefore drive results for these design types (Table 5.3). Table 5.6 presents estimates for the supranational framework.

5.7 Effects of rules-based constraints on cyclical behavior

Table 5.3 shows estimates for equation 5.4 and variations of it in line with the asymmetric model in Section 5.3. We find the discretionary fiscal policy to be disconnected from the business cycle before the implementation of all rule types. In contrast, the coefficient of the output gap becomes marginally statistically significant when budget and debt rules are implemented, signaling slightly more procyclical policies. However, the estimates for the output gap coefficient before and after implementation of both design types are not statistically different. Given the high correlation between implementing budget and debt rules in the sample, the results are very similar. In the specification allowing an asymmetric reaction of the output gap (column (2) and (4)), fiscal policy has, on average, a stabilizing influence on the cycle in contractions without budget and debt rules in place; this effect is only weakly statistically significant and somewhat higher for budget than for debt rules. However, in the period after implementation of these two rule types, fiscal policy is found to be significantly procyclical and thus systematically exacerbating the downturn. With 0.4, the point estimate is also comparatively high in magnitude and statistically different from the coefficient of the period without a budget and debt rule implemented.

In contrast, in the business cycle upturn, discretionary fiscal policy is found to be somewhat expansionary, thus procyclical. The coefficient is statistically significant without budget and debt rules but becomes effectively disconnected from economic fluctuations afterward. However, the estimates are very similar – -0.14^{**} before versus -0.13 afterward for *BBR*, and -0.15^{***} before versus -0.12 afterward for

[41] A summarised description on what is included in the database is given by Bova et al. (2014, p. 5): "The database includes all rules with specific numerical targets fixed in legislation and arrangements for which the targets can be revised but are binding for a minimum of three years. [..] The database only includes de jure arrangements and does not consider the de facto compliance with the rule. According to the aggregate targeted, rules classify as debt rules, budget balance rules, expenditure rules, or revenue rules. Debt rules set an explicit limit or target for public debt in percent of GDP. Budget balance rules set a limit on the overall balance (including or net of capital expenditures), the structural or cyclically-adjusted balance, or the balance "over the cycle". Expenditure rules set limits on total, primary, or current spending, while revenue rules set ceilings on revenues and specify how unanticipated revenues should be allocated."

DR (Table 5.3). Therefore, concerning the effects of budget and debt rules on the discretionary cyclical behavior of fiscal policy, there seems to be a trade-off according to the results. While it may be argued that the deficit bias in the economic expansion can be marginally attenuated with these rules, it comes at the cost of strongly more procyclical fiscal tightening in economic contractions.

Interestingly, the results differ for expenditure rules. The response of discretionary fiscal policy to the output gap shows no significant effect before and after implementing expenditure rules (column (5)). But, the picture changes when asymmetry regarding the cyclical position is included in the specification. The response is procyclical without expenditure rules, but the estimate becomes substantially more countercyclical after their implementation – turning to be effectively acyclical. Besides, while policy becomes more countercyclical in the downturn with expenditure rules, the estimate for the coefficient of lagged debt remains positive and even increases in magnitude.

In contrast, the implementation of budget and debt rules effectively increases the debt stabilization motive of discretionary fiscal policy, but, as pointed out above, simultaneously increases the destabilizing character of fiscal policy with regard to the output cycle in recessionary times. Note that my estimates for the lag of public debt regarding the AR cases are in line with recent findings by Checherita-Westphal and Žd'árek (2017). When it comes to the influence of an election year on fiscal policy, we find that election years have a statistically significant adverse effect on the budget balance without budget and debt rules. After the use of fiscal rules, however, this statistical significance vanishes.

Now we turn again to cyclically-adjusted primary expenditures and revenues to investigate the potential effects of different fiscal rule types on the budgetary components of fiscal policy. First, Table 5.4 presents results for CAPEXP. Column (1) shows that the implementation of budget rules comes with no change in the reaction to the business cycle (coefficients OG^{BR} and OG^{AR}), which, however, is markedly statistically significant and economically procyclical. Allowing the reaction to vary across cycle regimes shows that procyclicality is determined by fiscal tightening in the downturn (column(2)), again with no substantial changes between the with- and without-rule period. The magnitude of the estimate slightly decreases from 0.26 to 0.15 but is not statistically significantly different from each other. The coefficient for the upturn yields acyclical results throughout the whole sample with no effect of fiscal rules on the cyclical behavior of discretionary changes to expenditures. As discussed above, given the parallel nature of implementing budget and debt rules, the results of columns (3) and (4) are very similar to columns (1) and (2). However, examining expenditure rules shows different results again; see columns (5) and (6) of Table 5.4. In countries and periods without an expenditure rule in place, fiscal policy is found to be systematically procyclical, but the estimate switches sign when an ER is implemented. Even though the coefficient remains statistically insignificant and should therefore be interpreted as an acyclical reaction to the business cycle in this model framework, an expenditure rule in force makes discretionary changes of public expenditures effectively more countercyclical than in the period without it. Looking at column (6) shows that the effect of the output gap is procyclical in the up- and downturn without expenditure rule in place. With an ER, discretionary policy turns neutral in the downturn, as found for the general reaction. Importantly, in the upturn, the coefficient also changes its sign and even becomes marginally statistically significant. Accordingly, expenditure rules seem to be most efficient in containing governments in the boom phase of the cycle while being less restrictive in the downturn than other design types.

TABLE 5.3: FRF: CAPB – Different fiscal rule types

	Dependent Variable: CAPB											
	BBR				DR				ER			
	(1)	BR=AR p-value	(2)	BR=AR p-value	(3)	BR=AR p-value	(4)	BR=AR p-value	(5)	BR=AR p-value	(6)	BR=AR p-value
OG^{BR}	−0.063				−0.081				−0.132			
	(0.067)				(0.061)				(0.121)			
OG^{AR}	−0.196*	0.228			−0.191*	0.338			−0.103	0.815		
	(0.101)				(0.106)				(0.102)			
$OG^{BR} * bad$			0.111**				0.089*				−0.408**	
			(0.053)				(0.051)				(0.163)	
$OG^{AR} * bad$			−0.395***	0.000			−0.392***	0.000			−0.130	0.051
			(0.059)				(0.060)				(0.112)	
$OG^{BR} * good$			−0.136**				−0.154***				−0.015	
			(0.059)				(0.054)				(0.141)	
$OG^{AR} * good$			−0.127	0.957			−0.118	0.831			−0.149	0.460
			(0.157)				(0.164)				(0.138)	
D^{BR}_{t-1}	−0.005		−0.012		−0.003		−0.009		0.033**		0.033**	
	(0.016)		(0.013)		(0.016)		(0.013)		(0.016)		(0.014)	
D^{AR}_{t-1}	0.035***	0.047	0.036***	0.011	0.036***	0.060	0.036***	0.014	0.042***	0.500	0.041**	0.556
	(0.012)		(0.011)		(0.013)		(0.012)		(0.012)		(0.016)	
FP^{BR}_{t-1}	0.691***		0.587***		0.759***		0.660***		0.674***		0.676***	
	(0.149)		(0.112)		(0.142)		(0.121)		(0.068)		(0.062)	
FP^{AR}_{t-1}	0.566***	0.382	0.567***	0.849	0.566***	0.154	0.567***	0.420	0.286***	0.000	0.274***	0.000
	(0.021)		(0.028)		(0.021)		(0.027)		(0.061)		(0.067)	
$Election^{BR}$	−1.017**		−0.982***		−1.077***		−1.021***		−0.218		−0.221	
	(0.394)		(0.349)		(0.357)		(0.317)		(0.369)		(0.350)	
$Election^{AR}$	−0.184	0.112	−0.193	0.095	−0.163	0.065	−0.167	0.056	−0.165	0.883	−0.163	0.869
	(0.270)		(0.267)		(0.277)		(0.276)		(0.159)		(0.160)	
Crisis Dummy	−1.927***		−2.275***		−1.915***		−2.264***		−2.121***		−2.276***	
	(0.377)		(0.481)		(0.382)		(0.485)		(0.702)		(0.773)	
Observations	315		315		315		315		315		315	
Adjusted R^2	0.536		0.541		0.534		0.540		0.554		0.548	

*Notes: Fixed effects IV panel estimates of fiscal reaction functions 5.2 and 5.3 for EMU-11 from 1985-2015. Robust standard errors are reported in parenthesis. *p<0.1; **p<0.05; ***p<0.01 shows coefficient is statistically significant at the 10%, 5% and 1%, respectively. The coefficients for fixed effects are not reported. The proxy for FP is the cyclically-adjusted primary balance CAPB, OG is the output gap in year t instrumented by each countries own lag of OG plus the lag of the US OG and D is the debt-to-GDP ratio. Bad constraints the effect to negative and good to positive variations of the output gap. We add an crisis dummy and in (2) and (4) Election is a dummy variable which signals 1 in an election year. BR restricts the effect to periods without and AR with the respective fiscal rule in force. We analyze balanced-budget rules (BBR), debt rules (DR) and expenditure rules (ER).*

TABLE 5.4: FRF: CAPEXP – Different fiscal rule types

	Dependent Variable: CAPEXP											
	BBR				DR				ER			
	(1)	BR=AR p-value	(2)	BR=AR p-value	(3)	BR=AR p-value	(4)	BR=AR p-value	(5)	BR=AR p-value	(6)	BR=AR p-value
OG^{BR}	0.108***				0.109***				0.134***			
	(0.037)				(0.034)				(0.025)			
OG^{AR}	0.106***	0.972			0.106**	0.948			−0.109	0.003		
	(0.040)				(0.041)				(0.089)			
$OG^{BR} * bad$			0.260***				0.264***				0.171***	
			(0.050)				(0.048)				(0.021)	
$OG^{AR} * bad$			0.154***	0.114			0.154***	0.098			−0.036	0.024
			(0.042)				(0.043)				(0.086)	
$OG^{BR} * good$			0.031				0.038				0.097***	
			(0.062)				(0.061)				(0.036)	
$OG^{AR} * good$			0.059	0.714			0.055	0.828			−0.177*	0.004
			(0.048)				(0.049)				(0.106)	
D^{BR}_{t-1}	−0.032		−0.045		−0.032		−0.044		−0.018**		−0.019**	
	(0.024)		(0.042)		(0.024)		(0.041)		(0.007)		(0.008)	
D^{AR}_{t-1}	−0.014*	0.450	−0.016**	0.469	−0.014*	0.436	−0.016**	0.468	−0.010	0.409	−0.017***	0.825
	(0.008)		(0.007)		(0.008)		(0.007)		(0.008)		(0.006)	
FP^{BR}_{t-1}	1.040***		1.124***		1.041***		1.126***		0.981***		0.981***	
	(0.127)		(0.157)		(0.124)		(0.160)		(0.034)		(0.034)	
FP^{AR}_{t-1}	0.924***	0.385	0.930***	0.232	0.925***	0.375	0.931***	0.238	0.776***	0.000	0.789***	0.000
	(0.036)		(0.036)		(0.036)		(0.036)		(0.041)		(0.043)	
$Election^{BR}$	0.461		0.459*		0.509*		0.532**		0.233**		0.234***	
	(0.286)		(0.267)		(0.261)		(0.259)		(0.090)		(0.088)	
$Election^{AR}$	0.250***	0.529	0.251***	0.504	0.233***	0.370	0.232***	0.313	0.187**	0.772	0.185**	0.737
	(0.074)		(0.072)		(0.071)		(0.067)		(0.094)		(0.078)	
Crisis Dummy	0.746***		0.795***		0.741***		0.789***		0.743***		0.781***	
	(0.232)		(0.249)		(0.232)		(0.250)		(0.216)		(0.205)	
Observations	315		315		315		315		315		315	
Adjusted R^2	0.905		0.905		0.904		0.904		0.914		0.915	

*Notes: Fixed effects IV panel estimates of fiscal reaction functions 5.2 and 5.3 for EMU-11 from 1985-2015. Robust standard errors are reported in parenthesis. *p<0.1; **p<0.05; ***p<0.01 shows coefficient is statistically significant at the 10%, 5% and 1%, respectively. The coefficients for fixed effects are not reported. The proxy for FP is the cyclically-adjusted primary balance CAPEXP, OG is the output gap in year t instrumented by each countries own lag of OG plus the lag of the US OG and D is the debt-to-GDP ratio. Bad constraints the effect to negative and good to positive variations of the output gap. We add an crisis dummy and in (2) and (4) Election is a dummy variable which signals 1 in an election year. BR restricts the effect to periods without and AR with the respective fiscal rule in force. We analyze balanced-budget rules (BBR), debt rules (DR) and expenditure rules (ER).*

TABLE 5.5: FRF: CAREV – Different fiscal rule types

	Dependent Variable: CAREV											
	BBR				DR				ER			
	(1)	BR=AR p-value	(2)	BR=AR p-value	(3)	BR=AR p-value	(4)	BR=AR p-value	(5)	BR=AR p-value	(6)	BR=AR p-value
OG^{BR}	0.093***				0.089***				0.030			
	(0.026)				(0.025)				(0.029)			
OG^{AR}	−0.060*	0.001			−0.064**	0.001			−0.168*	0.027		
	(0.031)				(0.031)				(0.089)			
$OG^{BR} * bad$			0.286***				0.274***				−0.050	
			(0.041)				(0.030)				(0.064)	
$OG^{AR} * bad$			−0.188***	0.000			−0.192***	0.000			−0.247***	0.008
			(0.054)				(0.056)				(0.088)	
$OG^{BR} * good$			0.020				0.024				0.061*	
			(0.026)				(0.023)				(0.034)	
$OG^{AR} * good$			−0.008	0.270			−0.012	0.151			−0.155	0.090
			(0.027)				(0.028)				(0.105)	
D^{BR}_{t-1}	0.006		0.002		0.007		0.004		0.005		0.006	
	(0.005)		(0.013)		(0.005)		(0.012)		(0.010)		(0.009)	
D^{AR}_{t-1}	−0.001	0.394	0.0001	0.892	−0.002	0.338	−0.001	0.751	−0.003	0.345	0.0004	0.546
	(0.007)		(0.008)		(0.007)		(0.008)		(0.007)		(0.009)	
FP^{BR}_{t-1}	0.823***		0.914***		0.809***		0.893***		0.812***		0.803***	
	(0.112)		(0.131)		(0.112)		(0.135)		(0.034)		(0.037)	
FP^{AR}_{t-1}	0.812***	0.931	0.809***	0.480	0.813***	0.970	0.811***	0.590	0.620***	0.003	0.626***	0.006
	(0.044)		(0.040)		(0.043)		(0.038)		(0.061)		(0.069)	
$Election^{BR}$	−0.404		−0.439		−0.454		−0.469		−0.202		−0.202	
	(0.326)		(0.343)		(0.291)		(0.301)		(0.131)		(0.126)	
$Election^{AR}$	−0.126	0.436	−0.132	0.394	−0.106	0.285	−0.108	0.262	−0.177**	0.883	−0.180*	0.893
	(0.089)		(0.090)		(0.093)		(0.092)		(0.087)		(0.094)	
Crisis Dummy	0.165		−0.055		0.155		−0.065		0.152		0.045	
	(0.159)		(0.196)		(0.161)		(0.199)		(0.218)		(0.237)	
Observations	315		315		315		315		315		315	
Adjusted R^2	0.802		0.807		0.802		0.807		0.815		0.815	

*Notes: Fixed effects IV panel estimates of fiscal reaction functions 5.2 and 5.3 for EMU-11 from 1985-2015. Robust standard errors are reported in parenthesis. *p<0.1; **p<0.05; ***p<0.01 shows coefficient is statistically significant at the 10%, 5% and 1%, respectively. The coefficients for fixed effects are not reported. The proxy for FP is the cyclically-adjusted primary balance CAREV, OG is the output gap in year t instrumented by each countries own lag of OG plus the lag of the US OG and D is the debt-to-GDP ratio. Bad constraints the effect to negative and good to positive variations of the output gap. We add an crisis dummy and in (2) and (4) Election is a dummy variable which signals 1 in an election year. BR restricts the effect to periods without and AR with the respective fiscal rule in force. We analyze balanced-budget rules (BBR), debt rules (DR) and expenditure rules (ER).*

What about the reaction of cyclically-adjusted revenues? The response of CAREV to the output gap is countercyclical and highly significant without a budget or debt rule implemented and only becomes marginally procyclical in countries and periods with these rules constraining fiscal policy, see Table 5.5 columns (1) and (3). The result is mainly determined by the reaction in bad economic times, as columns (2) and (4) show. In times of no budget rule in force, the coefficient is 0.29 and statistically significant. With it, the reaction coefficient becomes -0.19, again strongly statistically significant and different from the *BR*-case. A similar picture is found in the case of debt rules.

Contrary to the results for overall CAPB and CAPEXP, discretionary revenue-side measures behave more procyclical with expenditure rules in action. Mainly because *ERs* do not protect from tax increases in the downturn. Discretionary revenues react comparatively more procyclical in the upturn as well. However, the coefficient remains statistically insignificant, with policy being effectively acyclical in the expenditure rule case.

Finally, we look at the EU supranational rules separately, Table 5.6 shows results for fiscal reaction functions when allowing the effects to vary between before and after the introduction of the MT and operationalization of the SGP again with CAPB as the dependent variable. These specifications allow me to compare my estimations to similar studies such as Galí and Perotti (2003), Candelon et al. (2009) or Bénétrix and Lane (2013). We have a prolonged dataset and revised data on cyclical conditions. Columns (1) and (2) present estimations where the structural break is motivated by the MT.[42] In line with the previous literature, we find the discretionary fiscal intervention to be procyclical before 1992. The estimate of the output gap turns statistically insignificant for the post-MT period. Thus policy becomes slightly more countercyclical, being effectively neutral to the cycle, the same result GP find. Contrary to Bénétrix and Lane (2013), the increase in countercyclicality after 1992 is not found to be statistically significant. While the discretionary policy does become more stabilizing post-MT, the sign of the coefficient does not change, in contrast to GP but in line with Candelon et al. (2009), who also investigate a prolonged post-MT sample compared to GP. Nonetheless, my cyclicality coefficient does not remain significantly different from zero compared to Candelon et al. (2009). In the specification controlling for the state of the cycle (column (2)), fiscal policy intervenes systematically procyclical in the up- and downturn pre-MT, however, only marginally statistically significant in recessionary periods. About the post-MT period, the expansionary policy in the upturn disappears, pointing to a potentially stricter constraint for governments to overspend or reduce taxes under favorable economic conditions due to the fiscal framework. In contrast, the output gap coefficient remains statistically significantly procyclical in bad economic times with an effect size slightly higher in magnitude (-0.316) than pre-MT (-0.275). Very much in line with Candelon et al. (2009), the election year has a substantial and significant effect on discretionary fiscal policy pre-MT but not post-MT, and the coefficient for lagged debt halves from around 0.08 pre-MT to 0.04 post-MT. The F-tests show that debt stabilization was significantly less pronounced after MT, and the proxy for political risk signals an increased automatization of fiscal policy.

In columns (3) and (4), the pre-SGP and post-SGP periods are investigated similarly. The output gap coefficients yield estimates insignificantly different from zero

[42] Even though the Maastricht Treaty became effective in 1993, we follow the related literature and determine 1992 as the starting year for the MT dummy, considering the negotiations were already finished in 1991.

TABLE 5.6: FRF: CAPB – Supranational fiscal rules

	Dependent Variable: CAPB							
	MT				SGP			
	(1)	BR=AR p-value	(2)	BR=AR p-value	(3)	BR=AR p-value	(4)	BR=AR p-value
OG^{BR}	−0.221***				−0.036			
	(0.038)				(0.085)			
OG^{AR}	−0.146	0.544			−0.141	0.530		
	(0.113)				(0.152)			
$OG^{BR} * bad$			−0.275*				−0.007	
			(0.150)				(0.099)	
$OG^{AR} * bad$			−0.316***	0.854			−0.337***	0.000
			(0.092)				(0.059)	
$OG^{BR} * good$			−0.197***				−0.071	
			(0.046)				(0.095)	
$OG^{AR} * good$			−0.078	0.459			−0.052	0.935
			(0.162)				(0.229)	
D^{BR}_{t-1}	0.077***		0.076***		0.045***		0.043***	
	(0.023)		(0.019)		(0.010)		(0.011)	
D^{AR}_{t-1}	0.038***	0.119	0.040***	0.085	0.048***	0.892	0.052***	0.663
	(0.013)		(0.013)		(0.015)		(0.015)	
FP^{BR}_{t-1}	0.468***		0.487***		0.610***		0.612***	
	(0.133)		(0.138)		(0.120)		(0.122)	
FP^{AR}_{t-1}	0.583***	0.395	0.588***	0.456	0.549***	0.617	0.552***	0.641
	(0.030)		(0.029)		(0.024)		(0.038)	
$Election^{BR}$	−1.103***		−1.119**		−0.506**		−0.513**	
	(0.414)		(0.455)		(0.196)		(0.202)	
$Election^{AR}$	−0.130	0.071	−0.124	0.084	−0.151	0.376	−0.144	
	(0.263)		(0.266)		(0.322)		(0.326)	0.349
Crisis Dummy	−1.713***		−1.991***		−1.985***		−2.363***	
	(0.432)		(0.531)		(0.529)		(0.589)	
Observations	315		315		315		315	
Adjusted R^2	0.529		0.530		0.536		0.546	

*Notes: Fixed effects IV panel estimates of fiscal reaction functions 5.2 and 5.3 for EMU-11 from 1985-2015. Robust standard errors are reported in parenthesis. *p<0.1; **p<0.05; ***p<0.01 shows coefficient is statistically significant at the 10%, 5% and 1%, respectively. The coefficients for fixed effects are not reported. The proxy for FP is the cyclically-adjusted primary balance CAPB, OG is the output gap in year t instrumented by each countries own lag of OG plus the lag of the US OG and D is the debt-to-GDP ratio. Bad constraints the effect to negative and good to positive variations of the output gap. We add a crisis dummy and in (2) and (4) Election is a dummy variable which signals 1 in an election year. BR restricts the effect to periods without and AR with the respective fiscal rule in force. We analyze the Maastricht Treaty (MT) and the Stability and Growth Pact (SGP) with break points in 1992 and 1999, respectively.*

and, therefore, acyclical over the whole time horizon. Compared to the MT specification, we find some evidence for the argument that the time between the signing of MT and the start of the SGP in 1999 is marked by the consolidation of public finances of countries towards reaching the agreed-upon targets. This transition period was accompanied by a general economic expansion starting in the mid-1990s and only minimal observations with negative variations of the output gap. Therefore, governments were more restrictive in the business cycle upturn, noticeable by comparing the output gap coefficients in good economic times for the pre-MT and pre-SGP case. The cyclical response in the downturn becomes again significantly procyclical in the post-SGP period. Generally, there are only minor differences regarding the effect of lagged debt and the lagged dependent variable between columns (1)-(4) in Table 5.6.

5.8 Conclusion

The present chapter tackles the question of how discretionary fiscal policy behaves with regard to the output cycle in the euro area and whether this relationship has been affected by the implementation of fiscal rules. Fiscal policy and its cyclical performance are particularly important for EMU member countries because of the loss of other macroeconomic instruments for stabilization. Therefore, various fiscal reaction functions for a panel of 11 EMU member countries have been estimated to analyze the cyclical orientation of discretionary fiscal policy in the euro area and the potential impact of changes to fiscal frameworks. Special attention was given to determine the reaction for periods of economic contraction and expansion and major components of the budget.

Overall, discretionary fiscal policy is marginally procyclical. However, it is characterized by strongly destabilizing activity in the downturn, while the response in economic expansions is disconnected from the business cycle. Further disaggregation shows evidence that procyclical policy is mainly determined by the discretionary reaction of public expenditures, not revenues.

The effect of rules-based fiscal constraints on cyclical behavior is rather limited. Fiscal rules somewhat decrease procyclical policy responses in the upturn. They are thus fulfilling their primary objective in fighting the deficit bias. However, the empirical results of this chapter also show that balanced-budget and debt rules come at the cost of more destabilizing policies in the downturn. This can be particularly harmful given new empirical findings for regime-dependent macroeconomic effects on output both in the short- and long-run. Consequently, if fiscal rules reinforce fiscal consolidation in the downturn, they do not just fail to achieve their secondary objective of economic stabilization but potentially also their first – long-term debt sustainability – because of the detrimental effects on (potential) growth. Interestingly, expenditure rules perform comparably better concerning the stabilization objective than other types of fiscal constraints. This may not come as a surprise because expenditures are observable and in direct control of the government while the public balance and debt ratio result from various endogenous dynamics.

Therefore, the empirical evidence in this chapter supports the proposals of different institutions pushing for a focus on expenditure rules in the fiscal framework of the EU, instead of the opaque set of cyclically-adjusted budget balance and debt rules.

Chapter 6

Fiscal Surplus Regimes – A Critical Appraisal of the Political Economy Literature

6.1 Introduction

Starting in the early 1990s, there has been a notable global trend towards rules-based fiscal policy. Proponents of fiscal rules employ the theory of deficit bias to justify their implementation. According to the deficit bias, politicians tend to neglect the consolidation of the public finances, primarily during economic upturns, for political reasons. Based on the public choice literature (Imbeau, 2005, for an overview), the underlying assumption of this voluntaristic view is that politicians maximize their self-interest. It is argued that due to too much discretionary leeway and the fact that tax increases or expenditure cuts are unpopular with the electorate, politicians face incentives to run excessive deficits in the public budget. Consequently, the policy conclusion from this perspective is to strictly limit the discretionary room for fiscal policy (Portes, 2015; Wyplosz, 2011).

In the previous chapters, we provided evidence from an economic perspective which raises significant doubts for a strict limitation of public deficits. It could be shown that fiscal rules can, depending on their design, lead to destabilizing procyclical fiscal measures. Imposing strict limits neglect the effectiveness of discretionary fiscal policy in stabilizing the economy both in the short and long term.

Recently, the deficit bias theory has also been questioned from a modern political economy perspective. On the one hand, in a seminal paper, Haffert (2019) takes historical circumstances and path-dependencies into consideration and asks how the deficit-bias theory can explain cases of long-lasting fiscal surplus. Long periods of budgetary surpluses do not align with the theory of deficit bias. There are, however, various cases among OECD countries. According to Haffert, long periods of budget surplus are better understood through the lenses of a fiscal regime concept (Haffert, 2019; Haffert and Mehrtens, 2015). On the other hand, according to Baccaro and Pontusson (2016) or Treeck (2009), the evaluation of budget balances has to be embedded into a broader analysis of the overall growth regime. Following this literature, the developments of sectoral financial balances and different aggregate demand components significantly influence the success or failure of budget consolidations.

This chapter picks up the political economy discussion, reflects, and adds to it by combing the two different approaches. The question is whether Haffert's political economy explanation about long periods of budget surpluses withstands a macroeconomic analysis.

Haffert (2019) identifies the following mechanism: surplus regime countries experience first a fiscal crisis, then there is a consolidation process, and due to changing political preferences, the country keeps the surplus in place. The change in political preferences depends on which side of the government balance dominates the consolidation process. Expenditure-based consolidations have higher fiscal path-dependencies and therefore cause more likely a regime change and the solidification of the surplus. Consolidations driven by expenditure cuts reorder the political landscape by making the state more residual and shifting voter behavior. Selected empirical indicators support this political economy explanation.

With its focus on institutions and national histories, the concept of fiscal regimes is generally rooted in the comparative political economy (CPE) literature and thus related to the varieties of capitalism (VoC) approach (Hall and Soskice, 2001). It is striking that the surplus regime countries are very different regarding their national institutions. From a VoC standpoint, the three Scandinavian countries of Denmark, Finland, and Sweden are typically coordinated market economies (CMEs). Australia, Canada, and New Zealand are classified as liberal market economies (LMEs) (Höpner, 2009). It remains uncertain how surplus regimes are connected to national strategies.

Treeck (2009) and Baccaro and Pontusson (2016) introduce macroeconomic and particularly post-Keynesian insights to the study of comparative political economy and the varieties of capitalism (VoC) approach. In contrast to the VoC literature, the growth model perspective by Baccaro and Pontusson (2016) considers the relative importance of different sectors of the economy (private, government, and external sector) for aggregate demand. We apply this growth model perspective to the concept of surplus regime. In particular, following Behringer and van Treeck (2019) trends in sectoral financial balances and growth contributions of demand components are examined.

We argue that the surplus regime explanation puts too much emphasis on the consolidation period and its asymmetric political effects. There is substantial heterogeneity among the surplus regimes countries. In many cases, short surplus and no surplus period countries experienced very similar developments at the time. Different indicators suggest that some surplus regime countries had already implemented significant expenditure cuts in the 1980s. For those, consolidation success in the 1990s and the "black zero" in the 2000s no longer reflect substantial fiscal policy changes.

While extensive consolidation processes might reshuffle political preferences and have long-lasting effects on voters' and politicians' priorities, such as hawkish fiscal policy, significant developments concerning other macroeconomic policy instruments play a substantial role too, for instance, in monetary, wage, or trade policy. We show that a broad macroeconomic perspective is necessary to understand fiscal developments in these countries. Without the strong backing of monetary policy and the open economy, these countries would not have experienced the favorable conditions they needed to achieve the budgetary surplus in the first place, not least preserve it.

Government sector surpluses tend to be aligned with the over-indebtedness of either the domestic private or the external sector. That way, CMEs and LMEs can achieve fiscal surpluses because their economic growth depends either on credit-financed private consumption or export surpluses. Both strategies, however, lead to macroeconomic imbalances. Thus, periods of long budgetary surplus lead to sectoral balance positions that are difficult to maintain in the long run. This instability,

in turn, questions the persistence assumption of the fiscal surplus regimes. When the economy is weak, fiscal targets will inevitably have to be set lower.

The remainder of the chapter is structured as follows. In Section 6.2 we summarize Haffert's political economy explanation for fiscal surplus regimes. Section 6.3 critically reappraises some of the empirical evidence used to show structural differences between the surplus regime and episode countries. An in-depth analysis of fiscal policy in surplus regime countries compared to other groups of countries follows in Section 6.4. In Section 6.5, we discuss the importance of the macroeconomic performance for the success of consolidation. The general economic policy mix of the surplus regime countries is analyzed in Section 6.6. In the following Section 6.7, we apply the comparative political economy approach to the surplus regime countries by investigating sectoral financial balances and specific demand structures. Finally, Section 6.8 concludes.

6.2 Haffert's political economy explanation of surplus regimes

This section summarizes the political economy explanation with respect to fiscal surplus regimes as provided by the seminal contributions of Haffert (2019) and Haffert and Mehrtens (2015). Furthermore, we replicate and update the stylized empirical facts presented by the authors.

The political economy argument in a nutshell

The literature speaks of a surplus regime when a country has a budget balance in surplus for at least ten consecutive years. Surplus periods only start when the public balance has been positive for at least two years.

The political economy argumentation is that fiscal consolidation, depending on its design, can induce fiscal regime change and transform long-run fiscal policies. The transformation affects all dimensions – policies, politics, and institutions – and therefore stabilizes itself in terms of economic policies, fiscal objectives (budgetary surplus and low public debt) become central and supersede other policy goals such as the stabilization target (Musgrave, 1959). Policies will be primarily evaluated in terms of their budgetary impact, and sustaining a positive budget balance becomes key. Thus, the driving force is not the budget surplus per se but the strong rejection of deficits. The reason given is that the consolidation process has adjusted interests within the electorate. Consolidations may decrease some interest groups' power compared to others, which causes political parties to shift their strategies. Lastly, institutions are also affected. Politically binding numerical rules, legal regulations, or fiscal councils are implemented to control and monitor fiscal policy in order to secure the more stringent fiscal policy path. As such Haffert (2019) discusses that proponents of the implementation and augmentation of binding fiscal rules to fight the deficit-bias rest on an endogeneity problem. According to his analysis, institutional reform is not an exogenous factor implemented to reduce fiscal deficits in the first place but an endogenous consequence of the underlying fiscal policy change and thereby a tool for surplus preservation.

The concept of fiscal regimes takes historical circumstances and path-dependencies into consideration. In itself, the idea of a fiscal surplus regime derives from Pierson (2001). Accordingly, fiscal policy is conceptualized as a conflict over tax rates and expenditure policy, which is driven by the specific configuration of political interests. This leads to substantially less discretionary leeway for governments, limited

room for maneuver, and pressure for budgetary surpluses. Nonetheless, the question remains, what eventually triggers the regime to change from deficit to permanent surplus? Here the contribution of Haffert (2019) offers further explanations.

Not every consolidation induces regime change. One major factor is that the country is first confronted with a fiscal crisis, which led to consolidation efforts. However, only consolidations that transform political interests, policies, and institutions can have long-lasting consequences. Therefore, a political explanation is given in the next step, arguing that expenditure-side consolidations generate stronger path-dependencies. Fiscal policy is mapped as a conflict between essentially two coalitions – the expenditure coalition and the tax-cutting coalition. One can think of expenditure coalitions as mainly consisting of center-left parties, unions, beneficiaries of redistribution, and domestically-oriented sectors in favor of higher public spending. Center-right parties and the export-oriented sectors demand lower taxes and therefore belong to the tax-cutting coalition. At this stage, Haffert (2019) connects the war of attrition models by Alesina and Drazen (1991) to the explanation. A middle group, with who the two groups can engage, potentially shifts between the coalitions. Suppose neither coalition is dominant enough to impose their agenda. In that case, fiscal policy is in a deficit regime as there is no majority that decides which group pays for balancing the budget.

Against this background, the argument is that the political effects of expenditure- and revenue-based consolidations are highly asymmetrical. An expenditure-driven consolidation, it is argued, weakens the expenditure coalition by reducing the welfare state. That is because households have to find private alternatives to the generally lower provision of public goods, making them less reliant on the state. At the same time, the tax-cutting coalition remains relatively unaffected by expenditure cuts. In contrast, revenue-based consolidations do not significantly affect the expenditure coalition but strengthen the tax-cutting coalition, given that those who pay higher taxes might join the tax-cutting coalition. It follows that expenditure-side consolidations have a stronger path-dependency and, therefore, lead to a higher probability of fiscal regime change than revenue-side consolidations. As a consequence, Haffert (2019) argues that in the surplus regime countries, tax-cut coalitions improved their power over time.

In sum, the concept of fiscal regimes is argued to explain long periods of budgetary surpluses better than the voluntaristic approach. Due to its stronger path-dependencies, expenditure-side consolidations cause regime change. Countries with long surpluses first experienced a fiscal crisis, followed by a consolidation effort to cut public expenditures. That led to a change in political preferences and a keen interest to sustain the surplus.

Empirical evidence: replication and update

Haffert (2019) provides stylized empirical evidence to back up the explanation mentioned above. We first replicate key parts of the evidence and give an update in a further step, including new cases.

Table 6.1 lists periods of budgetary surpluses among OECD countries. The sample period of Haffert (2019), until 2009, excluded more recent budgetary surpluses. The author shows patterns regarding related indicators for countries with long periods of surpluses that are not visible in short episode cases.

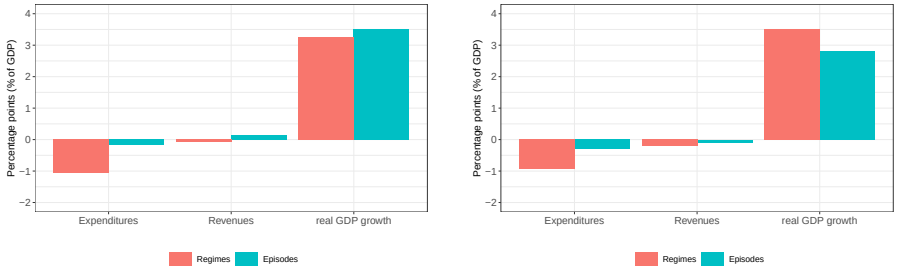
The stylized data involves, first, financial market pressure before consolidation periods as an indicator of fiscal crisis. As a proxy Haffert (2019) looks at country ratings by Standard & Poor's. All surplus regimes he analyzed – Australia, Canada,

TABLE 6.1: Periods of budgetary surpluses, OECD Founding members, 1980-2019

Country	Surplus period	Length in years	Structural
Until 2009 as in Haffert (2019)			
Surplus regimes			
New Zealand	1994-2008	15	1992-1998, 2000-2008
Canada[a]	1997-2007	11	1997-2000, 2005-2007
Finland	1998-2008	11	1996-2008
Sweden	1998-2008	11	1997-2009
Australia[b]	1998-2007	11	1996-2008
Denmark	1999-2008	10	1999-2008
Short episodes			
Japan	1988-1992	5	1987-1992
Denmark[c]	1986-1989	4	1986-1989
Iceland	2004-2007	4	2005-2006
Sweden	1987-1990	4	1987-1991
Netherlands[d]	2006-2008	3	2005
Spain	2005-2007	3	2006
United Kingdom	1999-2001	3	1999-2000
United States[e]	1998-2000	3	-
Iceland	1999-2000	2	1999-2000
Netherlands	1999-2000	2	-
Update			
Switzerland	2006-2019	14	2006-2013, 2015-2019
Germany	2012-2019	8	2013-2019
New Zealand	2014-2018	5	2013-2017
Netherlands	2016-2019	4	2016-2019
Denmark	2017-2019	3	2017
Iceland	2016-2018	3	2012-2016
Greece	2016-2019	3	2014-2019
Austria	2018-2019	2	2018-2019
Belgium	2006-2007	2	-
Switzerland	2000-2001	2	-
United Kingdom	1988-1989	2	-

Notes: Adapted from Haffert (2019), own amendments. Data from OECD Economic Outlook No. 106 (November 2019). *Structural* refers to cyclically-adjusted government net lending as a percent of potential GDP in surplus; cyclically-adjusted surpluses at other periods, not related to the particular surplus regime/episode, are not listed. Surplus period years are kept as in Haffert (2019) for analytical reasons below. However, some would need minor corrections due to data revision: (*a*) The surplus regime of Canada lasted 12 years until 2008. (*b*) This regime already started in 1997. (*c*) The short surplus period of Denmark in the 1980s lasted 3 years until 1988 instead of 4 years. (*d*) 2007 has been a deficit year for the Netherlands. (*e*) The US recorded only a budgetary surplus in the year 2000, which would exclude this period from the analysis. Surplus periods in Finland (in the 1980s), Ireland, Luxembourg and Norway are excluded from the table due to special geographical/geological circumstances; see Haffert (2019) for more detail.

FIGURE 6.1: 3 years preceding the surplus, averages – Change of cyclically-adjusted components of the government budget and real GDP growth, OECD data



(a) Country sample of Haffert (2019) (b) Update – all surplus cases in Table 6.1

Notes: Bars for the cyclically-adjusted components in % of GDP show the change in percentage points and bars for real GDP are average growth rates over the period in %. Expenditures exclude gross interest payments.

Denmark, Finland, New Zealand, and Sweden – were downgraded at the end of the 1980s or the beginning of the 1990s. No other OECD country was downgraded between 1980 and 2000 apart from the countries that later became surplus regimes.

The key evidence provided in support of the political economy explanation is what is shown in Figure 6.1a. It shows the change of the components – expenditures and revenues – of the cyclically-adjusted budget balance for the three years before the date where the actual budget balance became positive for both the group of fiscal regimes and the group of countries with short surplus episodes. It also plots average real GDP growth over the same timeframe to compare whether regime countries simply profited from favorable GDP growth. The change in the cyclically-adjusted balance (CAB) or its components as a percentage of potential output is an often-used proxy to display the discretionary fiscal stance of the respective government. The actual balance cannot be used as an indicator of discretionary action as its value includes automatic fluctuations outside the direct control of the government. The CAB is an unobserved, statistically derived measure, calculated by subtracting a cyclical component (based on assumptions about budgetary elasticities and the macroeconomic output gap) from the actual balance.[43] According to these indicators, fiscal regime countries massively cut their expenditures before their surplus period, while countries with surpluses only for a relatively short episode consolidated less. Simultaneously, GDP growth was more robust on average in episode countries. Furthermore, while regime countries did not increase taxes and even lowered taxation on average before the surplus period, episode countries consolidated to a larger extent via revenue-side measures.

What is interesting, however, in Figure 6.1b we update the change of cyclically-adjusted components and real GDP growth three years prior to surplus for the more recent regime and episode cases compared to Haffert (2019), and two things change: first, average GDP growth is now more favorable in the regime cases as compared to the episode cases and, second, revenues for the group of episode countries switch signs as compared to before and also become slightly expansionary. Therefore, including more recent cases tends to weaken the empirical case made by Haffert (2019).

[43]The identification issue of discretionary fiscal policy measures has been extensively discussed throughout this dissertation; see Chapters 2, 4 and 5 for more information. Note that cyclically-adjusted fiscal variables are not free of problems and should be taken with a grain of salt. There has been some criticism of the methods and assumptions used to calculate the cyclically adjusted balances (Carnot and Castro, 2015; Heimberger and Kapeller, 2017; Truger and Will, 2012).

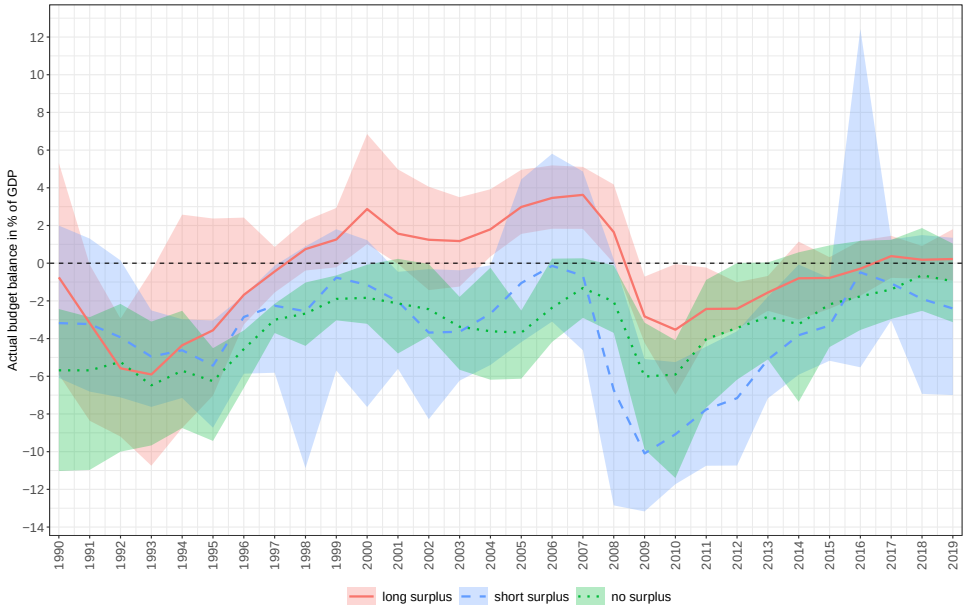
6.3 A critical reappraisal of the empirical evidence

This section provides a critical analysis of the stylized empirical facts. First, we focus on the structural differences to other country groups and ask whether these are overestimated. Second, we assess the homogeneity assumption behind the stylized evidence shown above.

Structural differences between other country groups overestimated?

A closer look at Table 6.1 already reveals a significant time overlap of years with budgetary surpluses for the regimes countries. Does it, to some extent, simply reflect common time effects?

FIGURE 6.2: Actual budget balance, % of GDP, averages for different country groups



Notes: OECD data. Ribbons display the minimum and maximum values of the groups, respectively. Long surplus countries: Australia, Canada, Denmark, Finland, New Zealand, Sweden. Short surplus countries: Japan, United Kingdom, United States, Iceland, Netherlands, Spain. No surplus countries: Austria, Belgium, France, Germany, Italy, Portugal.

Figure 6.2 plots means of actual budget balances for different country groups (long, short, and no surplus countries) over time.[44] In principle, long surplus periods are parallel in time. These countries experienced consolidation periods in the middle of the 1990s, which led to budgetary surpluses at the end of the decade, reaching a first peak of the actual budget balance with a mean of 2.9% of GDP in 2000. With the burst of the dot-com bubble in 2001 and the subsequent global crisis, most surplus regimes experienced economic contraction and deteriorating fiscal balances. Canada, Denmark, and Sweden even recorded two consecutive years of fiscal deficits in 2002 and 2003. Fiscal balances improved afterwards again, peaked in 2007 at 3.6 % of GDP before the financial crisis hit, and caused an end to all surplus periods.

[44] Note that the countries included in the long and short surplus group derive from Haffert (2019), where the analysis is restricted until 2009. The "no surplus group" includes selected OECD countries that have not registered surplus episodes between 1980 and 2009. Some cases, such as Germany, recorded a surplus episode in more recent years; however, after 2009.

Interestingly, the group of countries with short surplus episodes and no surpluses experienced somewhat similar paths for actual budget balances. After the early recession in the 1990s, there was a consolidation period at the end of the decade, followed by a U-shaped development in the next. The peaks and troughs of the long and short surplus period countries overlap. When the mean of the surplus regime countries has its local peak, there are more cases with fiscal surpluses; the average of the group of short episodes even reaches zero in 2006. The mean of the countries recording no surplus is lagging and is on a slightly lower level.

This shows that there seem to be significant cross-country commonalities that one would not expect from purely national factors leading to surplus regimes deriving from the political economy explanation. It would be expected that surpluses are more evenly distributed over time and patterns differ from other groups of countries.

Heterogeneity among surplus regime countries?

It has been shown that mean fiscal balances developed in parts similarly in non-surplus regime countries. In the next step, we analyze within-group heterogeneity for the change in the cyclically-adjusted budget balance. Given that one central ingredient of the political economy explanation is that expenditure-side consolidation causes the readjustment of political preferences, fiscal discipline, and finally, long-lasting surplus, there should not be considerable dissimilarities within the group of fiscal regimes. Moreover, surplus episode countries should not show a significant amount of cases with substantial expenditure-side consolidation, where only a few outliers pull the average down.

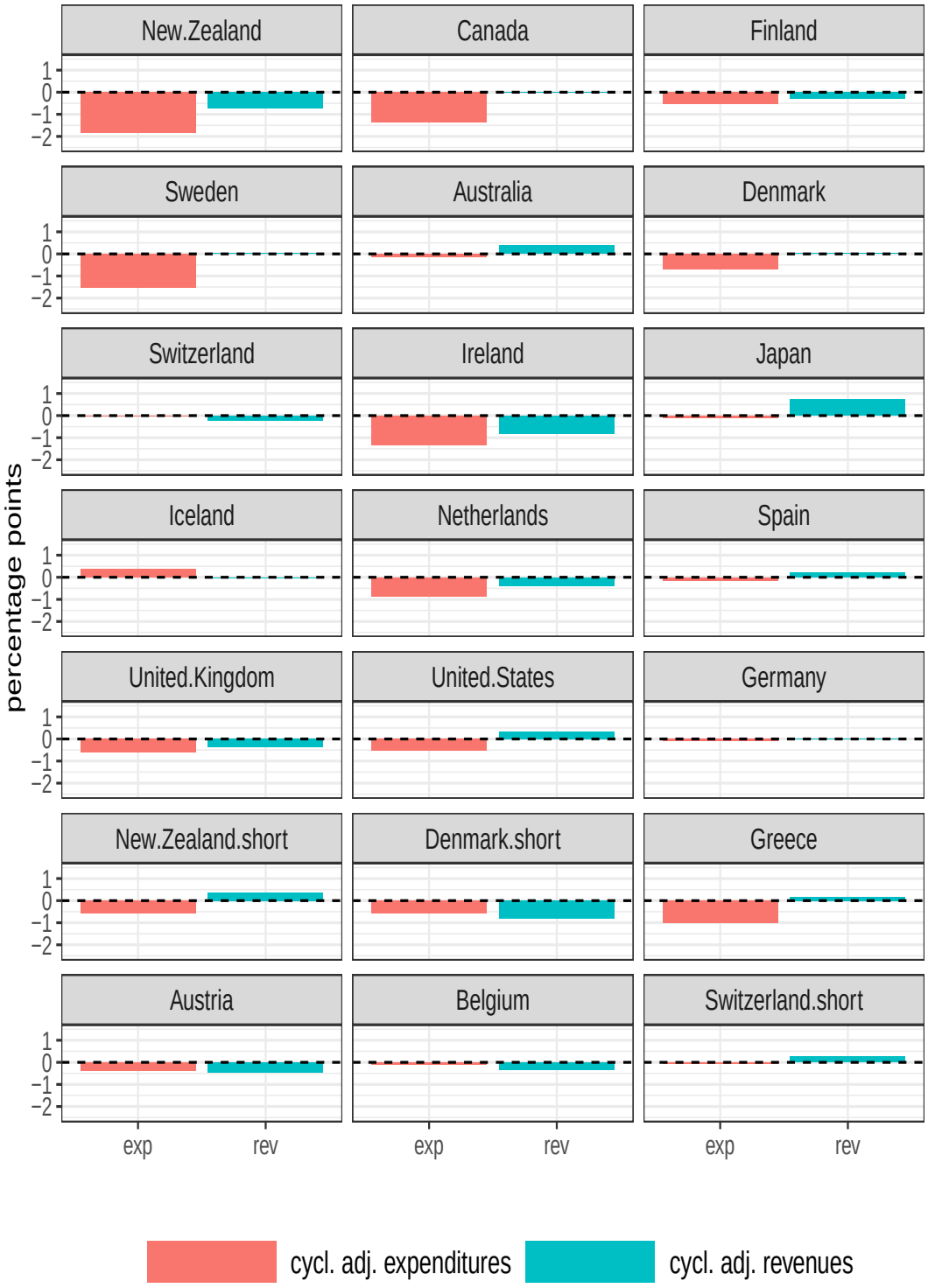
Figure 6.3 shows the average change in cyclically-adjusted expenditures and revenues, as an indicator for the fiscal stance, three years before surplus for all countries listed in Table 6.1.[45] According to this indicator, and in line with the argument by Haffert (2019), there was a massive expenditure-based fiscal effort in Canada (1.4 percentage points yearly for three years), New Zealand (1.8 pp), and Sweden (1.5 pp). However, the consolidations of Finland (0.5 pp) and Denmark (0.7 pp) are less strong and are partly responsible for the total average to decrease to slightly under one for cyclically adjusted expenditures in surplus regime countries. Only Australia deviates from the average. The consolidation of Australia was mainly tax-based. Note also that in the more recent long surplus cases, Germany and Switzerland both did not, on average, implement discretionary measures to consolidate public finances.

The heterogeneity is more pronounced when turning to the group with short surplus episodes. The Netherlands, United Kingdom, and to a lower extent, the United States also recorded expenditure-based consolidations before surplus, which were of similar magnitude as the cases of Finland or Denmark. Greece had a massive expenditure-based consolidation after the financial crisis[46], more in line with the fiscal regime cases of Canada or Sweden. Japan and Iceland display two outliers, which reduce average expenditure-driven and increase tax-based consolidation for the entire group of surplus episode countries.

[45] For the early episode cases of Denmark and Sweden there is no data on cyclically-adjusted data available.

[46] Due to the endogeneity problem of potential output calculations, Truger (2015) presents evidence that the consolidation effort of Greece shown by the change in the cyclically-adjusted variables might be underestimated, and the true fiscal stance was more restrictive. Moreover, according to the discretionary fiscal effort of the European Commission, Greece implemented most of the austerity measures in 2010-13, while the fiscal surplus was achieved in 2016 after consolidation had slowed down.

FIGURE 6.3: 3 years before surplus period, averages – Change in the cyclically-adjusted components of the public budget



Notes: OECD data. Values indicate the percentage point change of cyclically-adjusted primary expenditures and revenues in % of GDP. The suffix "short" marks the average change before the surplus *episodes* of the respective countries, which also experienced long periods of budgetary surplus. The countries with long surplus periods are New Zealand, Canada, Finland, Sweden, Australia, Denmark and Switzerland. The remaining countries experienced exclusively short surplus episodes.

In summary, there is more heterogeneity for both the regime and episode countries than one would expect, at least concerning the change in cyclically-adjusted variables, given that expenditure-side consolidation is assumed to induce the regime change.

6.4 Fiscal expenditures under scrutiny

This section analyzes fiscal policies for the group of surplus regime countries at the time of transition and preservation compared to the group of short surplus and no surplus countries in more detail. The aim is to scrutinize whether an analysis of aggregate fiscal indicators, as above, provides the full picture for the understanding of budgetary outcomes or if a broadened perspective adds explanatory power.

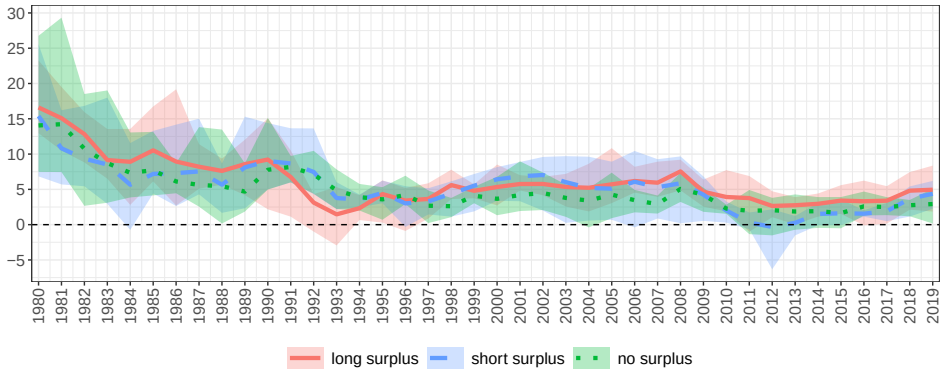
We investigate nominal growth data of major budgetary indicators for a more profound assessment of fiscal policy. Again, countries with long, short, and no surplus periods between 1980 and 2009 are considered. Evaluating nominal growth values largely avoid uncertain data on deflators and cyclical adjustment methods. For simplicity, we approximate exogenous spending by government consumption and investment expenditures. Data for social benefits represent cyclical expenditure. The selected fiscal policy indicators for the different country groups are presented in Figure 6.4.[47]

First, we analyze general government final consumption expenditures as the most substantial part of overall government spending (Figure 6.4a). Most countries departed from government consumption growth rates considerably higher than 10% in the 1970s and early 1980s. Major consolidations of public consumption expenditures started already in the 1980s, in a time with generally disadvantageous macroeconomic conditions (see below section 6.5). However, the massive downward adjustment of public consumption growth rates slowed down over the second half of the 1980s. Notably, the different country-group means for government consumption showed significant similarities from 1980 to 1990. Throughout the decade, mean values ranged within the bounds of the other country groups. With the early 1990s global recession, most countries again significantly decreased government consumption growth rates. However, during this time, the group of countries, which entered long periods of fiscal surpluses a few years later, went through comparatively stronger and faster cuts. This can be seen in Figure 6.4a by the mean values outside the two ribbons of the country groups in 1992 and 1993. Interestingly, and in contrast to what would be expected from the political economy explanation, mean government consumption growth rates were again on an upward trending path for some years when the majority of regime countries came into the long period of budgetary surplus at the end of the 1990s (Table 6.1).

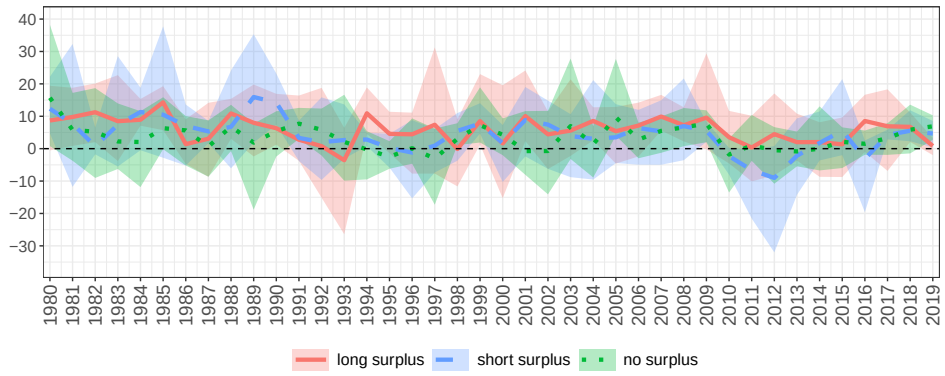
On average, the country groups of short and no surpluses also cut down consumption growth rates at the beginning of the 1990s, but less strongly. Yet government consumption growth stagnated for four years afterward in short surplus countries and even remained on a downward trend for the group of no surplus countries for another five years. The mean for government consumption growth of no surplus countries has never recovered from the downward adjustment in the 1990s. Since then, the average government consumption growth rate of the no surplus group

[47] Note, we excluded Portugal from the group of no surplus countries and Iceland from the group of short surplus countries due to a substantial amount of outliers, especially in earlier years of the analysis. Including both countries would unduly increase the ribbons of the respective group in some years, while the effect on the mean is only limited. Hence, the general conclusions would still hold with both countries included.

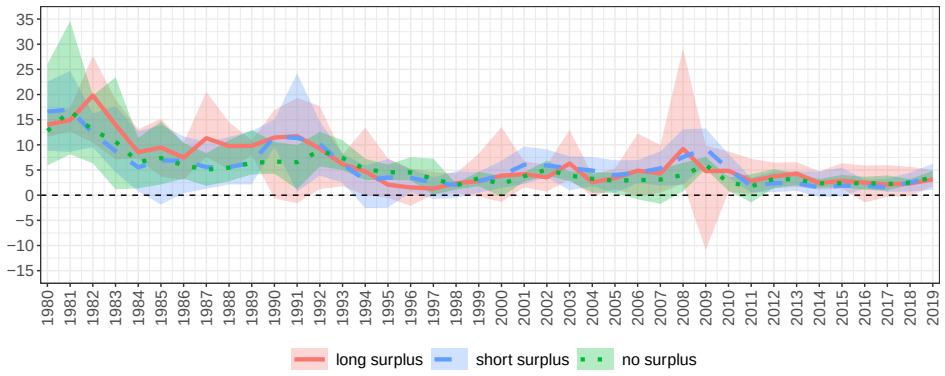
FIGURE 6.4: Selected public spending indicators, annual growth rates in %, 1980-2019



(a) General government final consumption expenditures



(b) Gross fixed capital formation by general government



(c) Social benefits

Notes: Data from OECD, Eurostat, and German Federal Statistic Office (Destatis). Ribbons display the minimum and maximum values of the groups, respectively. Long surplus countries: Australia, Canada, Denmark, Finland, New Zealand, Sweden. Short surplus countries: Japan, United Kingdom, United States, Netherlands, Spain. No surplus countries: Austria, Belgium, France, Germany, Italy. Figure 6.4b excludes the substantial 2005 and 2006 outliers for the United Kingdom.

remained below the one for the surplus regime countries. As the development in long surplus countries, average government consumption growth rates in short surplus countries were slightly upward trending from the middle of the 1990s to the beginning of the 2000s. Afterward, mean growth rates were somewhat decreasing until the global financial crisis in 2009. Consequently, the average public consumption growth rate from the surplus regime countries was the highest out of the three

groups of countries at the end of their budgetary surplus periods 2007 to 2009.

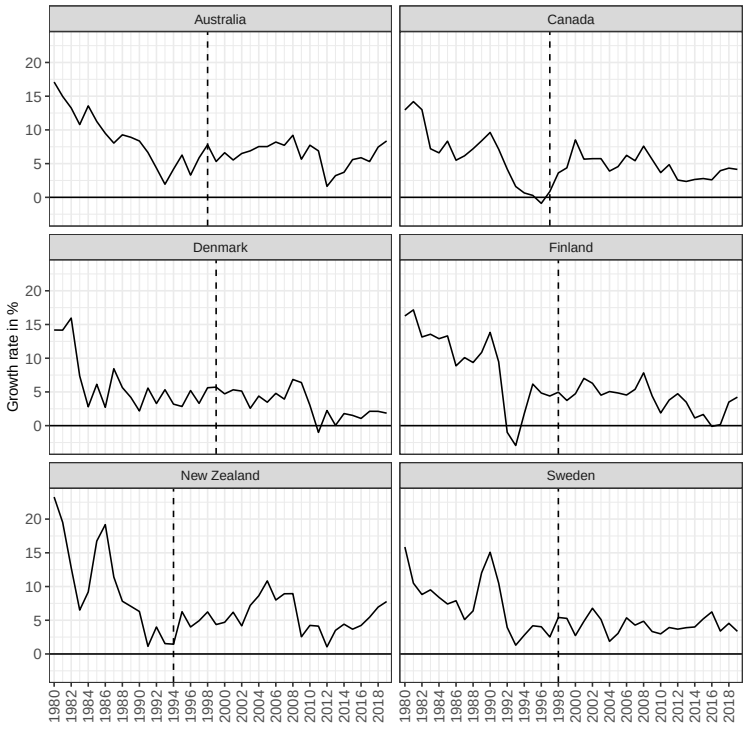
Traditionally, government gross capital formation growth is more volatile than government final consumption expenditures as it can be cut with little political costs. While essential for future economic welfare, it takes only a minor part of overall government expenditures. Nevertheless, it helps identify the fiscal policy stance as it is in direct control of the government and can therefore be considered particularly exogenous. Three realizations can be derived from looking at government investment averages for the different sub-groups.

First, relevant variations between mean values are rare and restricted to comparatively higher government investment growth rates for the group of long surplus countries. Its mean value is above the upper bound of the other two sub-groups, which is the case for the years 1994, 1997, and 2010 and 2016. Second, surplus regime countries went through a prolonged period of cuts to public investment from 1988 to 1993. During these five years, government fixed capital formation growth decreased by over 14 percentage points and was even negative in 1993. But public investment growth quickly recovered in 1994 and remained on a comparatively high level for four subsequent years during the period leading up to the long budgetary surplus. At the same time, public investment of the other country groups was stagnating with growth rates around zero and, therefore, well below the mean of the surplus regimes. Third, the long-run impact of the consolidation for regime countries in the first half of the 1990s on public investment growth is almost indistinguishable from the short or no surplus country group. For most surplus regime years, the average public investment growth rate of long surplus countries was even slightly higher than that of the other two groups.

In contrast to the implication by the political economy mechanism derived for surplus regimes that expenditure-side consolidations have long-term effects on voter preferences for lower expenditures and can lead to extensive periods of budgetary surplus, exogenous spending growth of surplus regime countries was in sum not significantly different from others over time. All countries cut public expenditures already in the 1980s, which, however, did not end in long periods of surplus. After another short and severe consolidation period at the beginning of the 1990s, public consumption and investment growth started to recover again, even before most countries entered the long period of budgetary surplus at the end of the decade. Moreover, public consumption and investment growth increased to levels very much in line, if not slightly higher, than in the two reference country groups with either short or no surplus periods.

However, the concerns are not only restricted to exogenous but also to endogenous public expenditures. Social benefits, much more than government consumption and investment spending, are driven by the business cycle. For instance, unemployment spending increases in recessionary periods while it falls in upswings. Therefore, it is expected that countries with long surplus periods, next to a generally lower growth rate over the long run, would experience more substantial declines of growth in upswings and lower increases of growth during downswings after the consolidation period compared to other countries. That was not the case. While the macroeconomic development will be discussed more extensively further below in Section 6.5, it is important to note that the business cycles of the country groups are very much synchronized since the beginning of the 2000s. Nonetheless, while average GDP growth was slightly higher over the surplus period in the regime countries than in the other country groups, the mean growth rates of social benefits did not differ significantly.

FIGURE 6.5: Growth of government final consumption expenditures, surplus regime countries, 1980-2019



Notes: OECD data. Vertical dotted lines indicate the start of the surplus regime period for each country.

The other open question concerning the political economy mechanism is whether social benefits were cut to a more considerable extent in the group of long surplus countries. Before the 2000s, all countries experienced two significant periods of decreasing social benefit growth, one in the 1980s and one in the 1990s. In each case, the decrease of social benefit growth followed an economic crisis at the beginning of the decade and accompanied an economic recovery. The group of long surplus countries decreased social benefits the most during the consolidation period in the 1990s. But the difference compared to the other groups was minor, and the mean lays within the ribbons of the other groups by the end of the consolidation in 1997. Thus, there were also no noticeable differences between the various country groups in terms of social benefit expenditures.[48]

The wide ribbons of the fiscal indicators and the findings in Section 6.3 indicate that in-group heterogeneity is pronounced among regime countries. Therefore, surplus regime countries will be individually analyzed in the next step. For simplicity, we concentrate on government consumption expenditures, given their major role in overall spending. Figure 6.5 shows the development for each country.

Australia adjusted its growth rate of government consumption expenditure steadily down from 1980 to 1994. Four years before recording positive budget balances, government consumption growth returned on a growing trend. Finland and Sweden had significant fiscal cuts in the crisis at the beginning of the 1990s. The growth

[48]Nominal growth rates of public expenditures represent the fiscal stance very closely given that they are in direct control of policymakers. Nonetheless, in the medium- to long-term nominal rates are not exogenous to the rate of inflation. Therefore, Appendix 6.A shows the analysis of fiscal expenditures in real terms. The main findings hold. The strong nominal adjustments in the early 1980s are weaker, but the relative development between the country groups remains intact.

rate of Finland quickly bounced back to over 5% already in the middle of the decade and stagnated there until the financial crisis. The recovery of the public consumption growth rate in Sweden was more gradual and kick-started a few years before the long surplus period. During the surplus period, public consumption growth was slightly more volatile. However, no rising or falling trend was observed. Denmark cut government consumption down at the beginning of the 1980s. Since then, the growth rate is somewhat volatile but on a stagnant trend. In the case of Denmark, it is particularly evident that no substantial and lasting exogenous changes in growth rates are visible before and during the surplus period. Contrary to what might have been expected from the political economy argumentation. Canada and New Zealand are the countries where the data favor the political economy mechanism. However, this is restricted to the period before the surplus is reached. In both cases, a period of a sharp reduction in the growth rate of public consumption expenditures ended directly in a long period of surplus. Instead of the growth rates remaining low afterward, they rose again rapidly and were relatively higher than in the other surplus countries until the financial crisis of 2009.

In sum, fiscal policies before and during the surplus period were rather heterogeneous among the regime countries. For some of these countries, significant downward adjustment happened already in the 1980s, which did not end with budgetary surpluses. Therefore, it is difficult to argue that additional discretionary expenditure cuts caused the consolidation success in the 1990s.

6.5 The importance of the macroeconomic performance for the success of consolidation

Favorable macroeconomic conditions can lead to budgetary surpluses without significant cuts to public expenditures or increases in taxation. The success of fiscal policy depends on the macroeconomic environment, as shown in Chapter 2. Thus, favorable macro conditions reduce the harmful effects of consolidation. On the contrary, unfavorable circumstances might cause adjustments to remain consolidation efforts by causing detrimental effects to overall economic welfare (Cottarelli and Jaramillo, 2012). This section sheds light on the macroeconomic performance, key indicators for the three groups of long, short, and no budgetary surplus countries show some striking features (Figure 6.6).

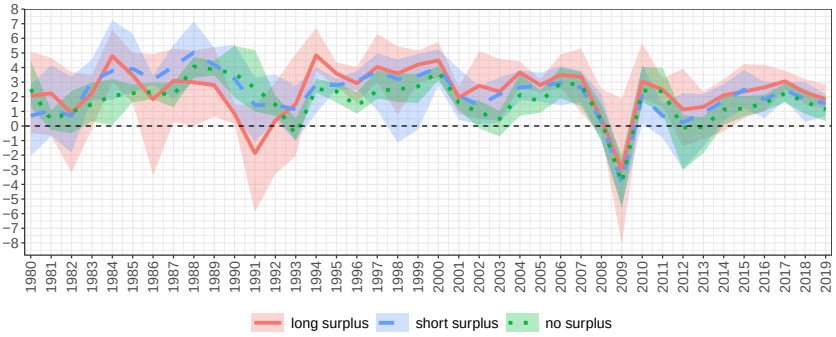
First, average business cycle developments are extremely synchronized between the country groups with respect to both real GDP growth and the unemployment rate (Figure 6.6a and 6.6b respectively).

Second, the group of surplus regime countries was especially hard hit by the global recession at the beginning of the 1990s. Average real GDP growth among the regime countries was almost -1.9% in 1991. While the crisis also hit the other countries, the impact was less pronounced, albeit the mean growth rate was higher before, and the crisis lasted longer.

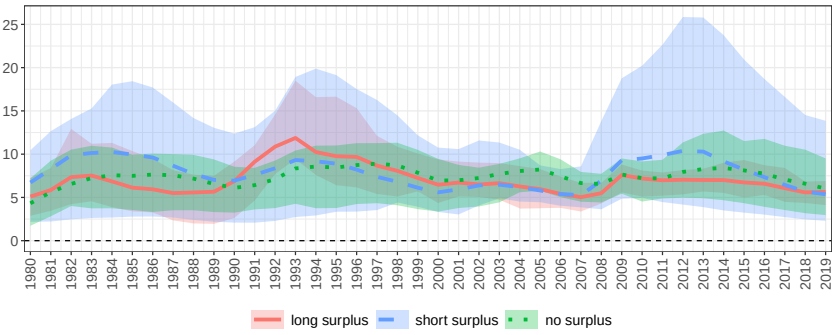
Third, there was a substantial economic boom in real GDP growth in the years before the budgetary surplus period for the regime countries. This boom in the middle of the 1990s was by no means as strong in the other country groups as it was in the surplus regime group.

Fourth, average GDP growth rates were higher for long surplus than for short or no surplus countries from the fiscal consolidation period in the mid-1990s throughout the surplus preservation period.

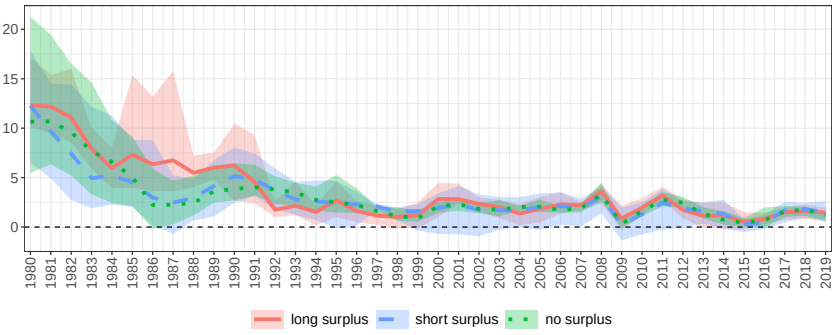
FIGURE 6.6: Selected macroeconomic indicators, 1980-2019



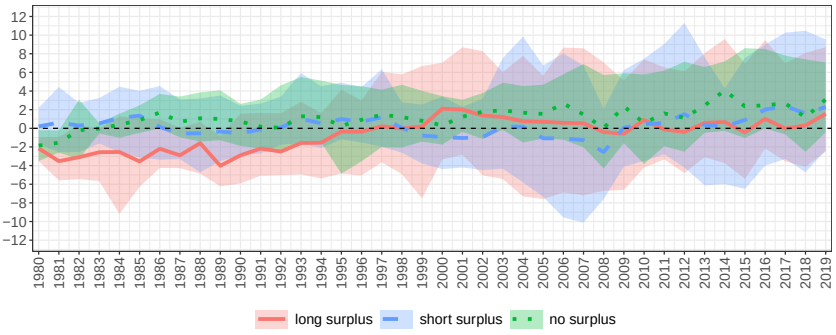
(a) Real GDP growth, in %



(b) Unemployment rate, in %



(c) CPI growth, in %



(d) Current account, in % of GDP

Notes: Data from the OECD, the World Bank, and the German Federal Statistic Office (Destatis). The consumer price index is taken from a database by Monnet and Puy (2019). Ribbons display the minimum and maximum values of the groups, respectively. Long surplus countries: Australia, Canada, Denmark, Finland, New Zealand, Sweden. Short surplus countries: Japan, United Kingdom, United States, Netherlands, Spain. No surplus countries: Austria, Belgium, France, Germany, Italy.

Fifth, and in line with the GDP developments, the unemployment rate was highest in regime countries after the crisis in 1991. Still, the falling trend was most pronounced among the different country groups in the two decades afterward.

Sixth, the monetarist shock in the 1980s hit all countries. Thus, CPI growth came down for all countries from the very high rates in the early 1980s. This fall, however, was at first more pronounced in the groups of short and no surplus countries than in the regime countries, which might explain some of the comparatively higher nominal spending growth rates described in Section 6.4 at that time. Subsequently, the inflation rates of the long surplus countries also collapsed in the crisis of the early 1990s. Since then, all countries and groups have experienced low inflation rates.

Lastly, and of particular importance, a significant difference between the countries with long surpluses compared to the other two groups of countries concerns the current account balance (Figure 6.6d). Over the entire time horizon, the average current account balance of countries with short and no surpluses fluctuates around near zero. However, for those countries with long periods of government surpluses, a clear structural break can be seen over time. Throughout the 1980s, long surplus countries recorded current account deficits of around two to four percent on average. For most of those years, the difference to the other two country-group means was significant, with the average current account deficit lower than the ribbons of other groups. The current account deficit of the long surplus countries hit a trough in 1989. From this point on, a steady increase in the current account balance kick-started and became a surplus in 1997. At the same time, the majority of regime countries also achieved a government budget surplus. Afterward, the average current account balance remained in surplus until the financial crisis.

Thus, macroeconomic conditions improved significantly for surplus regime countries in the run-up to the long surplus periods compared to the 1980s and beginning of the 1990s, especially concerning GDP growth. At the same time, budget consolidation went hand in hand with an improvement of the current account balance.

6.6 Economic policy mix in surplus regimes

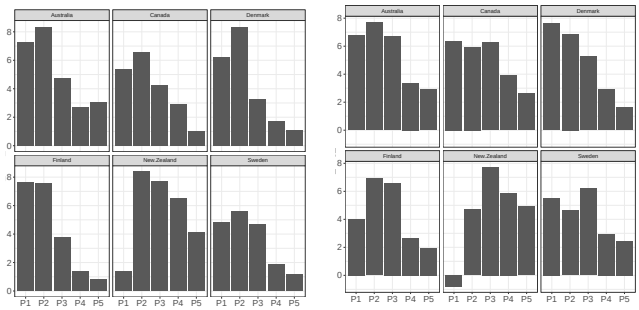
For the understanding of the macroeconomic performance, the whole economic policy mix has to be considered. Therefore, based on the approach by (Hein and Truger, 2009) this section studies the remaining macroeconomic policy instruments for the surplus regime countries, namely monetary policy, wages, and open economy conditions.

Monetary Policy

Monetary policy is an essential tool for the stabilization of the business cycle (Blanchard, 2018). Furthermore, it plays an important role for the effectiveness of fiscal policy. If monetary policy is accommodative, the consolidation of public finances is less demanding (Auerbach and Gorodnichenko, 2012).

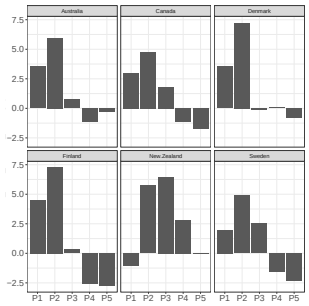
In Figure 6.7, we look at 5-year averages of the short and long-term real interest rates to evaluate monetary policy. The same 5-year windows are also used to analyze the other macroeconomic policy instruments below. The bar in the middle, $P3$, refers to the five years before surplus. $P2$ and $P1$ denote the years 6 to 10 and 11 to 15 before budgetary surplus. $P4$ (years 1 to 5) and $P5$ (6 to 10) display the surplus preservation period. Thus, the transition towards budgetary surplus is between the

FIGURE 6.7: Monetary Policy, averages for different 5-year-periods

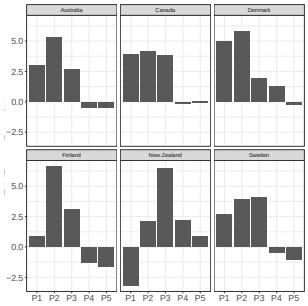


(a) Real short term interest rates, in %

(b) Real long term interest rates, in %



(c) Real short term interest rates minus real GDP growth, in pp



(d) Real long term interest rates minus real GDP growth, in pp

Data taken from the OECD. $P1$ denotes 11 to 15 years before budgetary surplus, $P2$ 6 to 10 years, $P3$ refers to the five years before. $P4$ (years 1 to 5) and $P5$ (6 to 10) display the surplus preservation period.

periods $P3$ and $P4$. Given the time overlap of the surplus periods between the countries, this implies that $P3$ covers mainly the middle of the 1990s, $P1$ the middle of the 1980s, and $P2$ the transition between the decades, which also includes the global economic crisis 1991/1992. The surplus preservation periods $P4$ and $P5$ mainly cover the 2000s. The averages of New Zealand lag 3 to 5 years behind the other cases due to the earlier budgetary surplus (1994). The short-term interest rate is the main policy instrument for central banks nowadays. Figure 6.7a shows that rates were relatively high in the 1980s and the beginning of the 1990s – partly up to 8%. Parallel with fiscal consolidation, short-term interest rates decreased significantly in all countries and continued decreasing or remained very low during the 2000s. With a one-period time lag, long-term rates developed similarly for the country sample. Average long-term interest rates remained comparatively high in subperiods $P2/P3$ and shifted to a downward trend for the later periods under investigation.

In order to evaluate monetary policy with regard to the business cycle, we analyze the averages of interest-rate-growth differentials in Figure 6.7c and 6.7d. Positive values indicate contractionary and negative values expansionary monetary policy. Generally, the difference between short-term interest rates and real GDP followed a concave development between 1970 and today in all six countries, with a peak at the beginning of the 1990s. Hence, monetary policy was very restrictive at the end of the 1980s and the beginning of the 1990s. Again, the subperiods of New Zealand lag behind the overall trends, given that its surplus entry date is earlier.

Nonetheless, monetary policy in New Zealand during the fiscal consolidation period, $P3$, was still restrictive. In contrast, it turned very accommodative in the other countries, given that the differentials were significantly decreasing from subperiod $P2$ to $P3$. During the subperiod $P3$, monetary policy in Australia, Denmark, and

Finland became very expansionary, as can be seen by the immense change in the average interest-GDP differentials. For Canada and Sweden, the pace of the downward adjustment of average rates from *P*2 on was less slow but ended as expansionary as in other countries in the last subperiod. Importantly, after the downward adjustment, monetary policy remained very expansionary in all economies under analysis and thus stabilized economic activity over the budgetary surplus period – that holds for both short-term and long-term real interest rates. Therefore, all surplus regimes experienced monetary policy support.

Wages

Generally, wages should grow in line with inflation to not be destabilizing. However, in small open economies, wage moderation can be expansionary if the respective country is more profit-led (Hein and Truger, 2009). The transmission works via the trade channel. Lower wages lead to increasing net exports due to improved price competitiveness. This effect is higher in magnitude than the lower domestic demand the initial wage moderation causes. Onaran and Galanis (2014) find Australia and Canada to be profit-led. There is contradicting evidence for Denmark (Onaran and Obst, 2016). Finland is found to be wage-led (Onaran and Obst, 2016).

Wage developments of surplus regime countries are summarized in Figure 6.8. Due to the higher inflation rates and targets at the time, wages generally grew on a comparatively high trend in the first subperiods, whereas all six economies experienced low wage growth during the consolidation years *P*3. Thereby wage policy contributed to low inflation (Figure 6.6c) and higher exports (Figure 6.11e). In Finland, nominal unit labor costs even declined during *P*3, so that wages triggered deflationary pressures. In comparison, strong disinflationary wage developments were recorded by Canada and Sweden. In Canada, the average nominal unit labor cost growth decreased by around five percentage points between subperiods *P*2 and *P*3. Australia registered an almost six percentage points change. In parallel, wage repression led to significant declines in the wage share for all economies. In Australia, Canada, and Denmark, unit labor cost growth recovered slightly over the budget surplus period, while growth rates continued to be low for Finland, New Zealand, and Sweden.

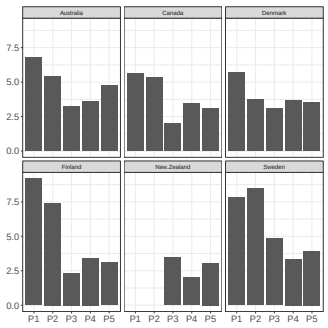
Overall, wage policies were restrictive from the end of the 1980s. Given that all six countries are relatively small and open, the disinflationary wage policies stabilized the business cycle via the export channel, and thereby supported budgetary consolidation.

External sector

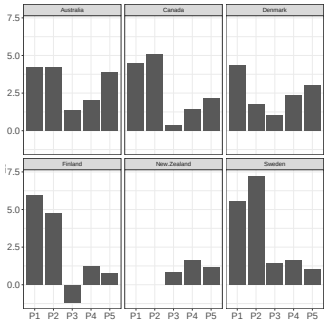
Wage developments improved international competitiveness during the consolidation success period, but what about the nominal and real exchange rate? Positive changes in the exchange rate signal an appreciation of the currency, and negative values suggest a depreciation.

The Australian exchange rate depreciated at the end of the 1980s and slightly appreciated in the subsequent periods, including the consolidation period. During the 2000s, the exchange rate first depreciated and appreciated again in *P*5. The Swedish and Canadian exchange rates experienced a significant depreciation shock during the 1991 crisis. The depreciation boosted export growth significantly, which stabilized both economies (compare Figure 6.11e). International competitiveness further improved in Sweden and Canada during the beginning of the 2000s. Only in the

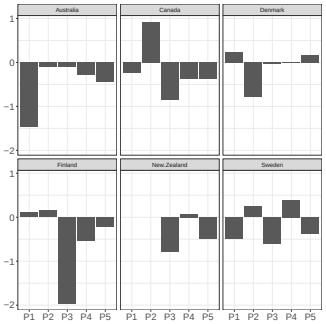
FIGURE 6.8: Wage policy, averages for different 5-year-periods



(a) Nominal compensation per employee, annual growth in %



(b) Nominal unit labor costs, annual growth in %



(c) Adjusted wage share, in % of GDP, factor costs, pp change over period

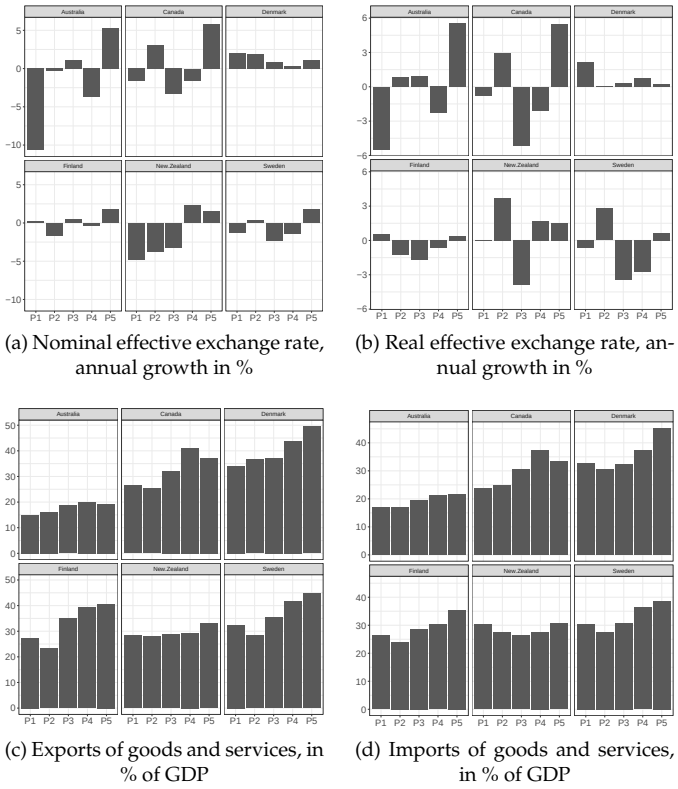
Data for nominal compensation and the adjusted wage share is retrieved from Ameco. Unit labor costs are taken from the OECD. $P1$ denotes 11 to 15 years before budgetary surplus, $P2$ 6 to 10 years, $P3$ refers to the five years before. $P4$ (years 1 to 5) and $P5$ (6 to 10) display the surplus preservation period.

second half of the century, and with more strongly increasing domestic demand and imports, did the exchange rate start appreciating again. Finnish nominal exchange rates were quite volatile between the different subperiods with appreciation in $P1$, $P3$, as well as $P5$ and depreciation in the interim. With the deflationary pressure in $P2$ and $P3$, the real exchange rate depreciated, which significantly stimulated exports for the Finnish economy and supported overall GDP growth.

The change of the real exchange rate of New Zealand was mostly positive over the subperiods. However, in $P3$, it also depreciated massively. Nominally, the exchange rate of New Zealand was already depreciating since the middle of the 1980s. The depreciation helped to improve exports slightly. However, New Zealand ran further current account deficits and recorded no substantial stabilization effect via the external balance. Denmark kept its nominal exchange rate relatively stable, between around 1 and 2%. Thus, Denmark is the only country that did not experience nominal or real depreciation over the time sample.

The external sector became increasingly important, as can be seen by the export and import ratios (Figures 6.9c and 6.9d). For instance, although it was less pronounced in New Zealand, the Swedish export ratio jumped by seven, the Canadian by eight, and the Finnish by as much as 13 percentage points between $P2$ and $P3$. Generally, export ratios kept on increasing up to the financial crisis in 2009.

FIGURE 6.9: Open economy considerations, averages for different 5-year-periods



(a) Nominal effective exchange rate, annual growth in %

(b) Real effective exchange rate, annual growth in %

(c) Exports of goods and services, in % of GDP

(d) Imports of goods and services, in % of GDP

Data from Ameco and the IMF (real effective exchange rate). *P*1 denotes 11 to 15 years before budgetary surplus, *P*2 6 to 10 years, *P*3 refers to the five years before. *P*4 (years 1 to 5) and *P*5 (6 to 10) display the surplus preservation period.

6.7 Comparative political economy: Growth and surplus regimes

The previous sections in this chapter provided a critical review of the political economy explanation from a more economically rooted perspective. In the following, we try to develop a critique based on the modern comparative political economy literature.

Given the focus on institutions and national histories, the concept of fiscal regimes is generally rooted in the comparative political economy literature and thus related to the varieties of capitalism (VoC) approach (Hall and Soskice, 2001). However, the surplus regime countries are very different regarding their national institutional equilibria. The three Scandinavian countries of Denmark, Finland, and Sweden are typically considered to be coordinated market economies (CMEs), while Australia, Canada, and New Zealand are classified as liberal market economies (LMEs) (Höpner, 2009). Thus, it remains an open question how surplus regimes are connected to national strategies.

Baccaro and Pontusson (2016) introduce macroeconomic insights to the comparative political economy literature. Like the VoC literature, this approach concentrates on cross-national diversity. But, the basis for their national growth models is "the relative importance of different components of aggregate demand – in the first instance, household consumption and exports – and relations among components of aggregate demand" (Baccaro and Pontusson, 2016, p. 176).

Based on the growth model perspective of Baccaro and Pontusson (2016), we apply the framework of Behringer and van Treeck (2019, p. 312) and examine the growth models of surplus regime countries through the lens of the financial balances equation, which combines the GDP equations for expenditure and income in the national accounts:

Current account = Household balance + Corporate balance + Government balance,

where the financial balance of each sector is the difference between its income and expenditure. This analysis helps to shed light on other national factors which might explain long periods of public surplus. The joint analysis of the financial balances allows to directly evaluate the link to net exports of goods and services.

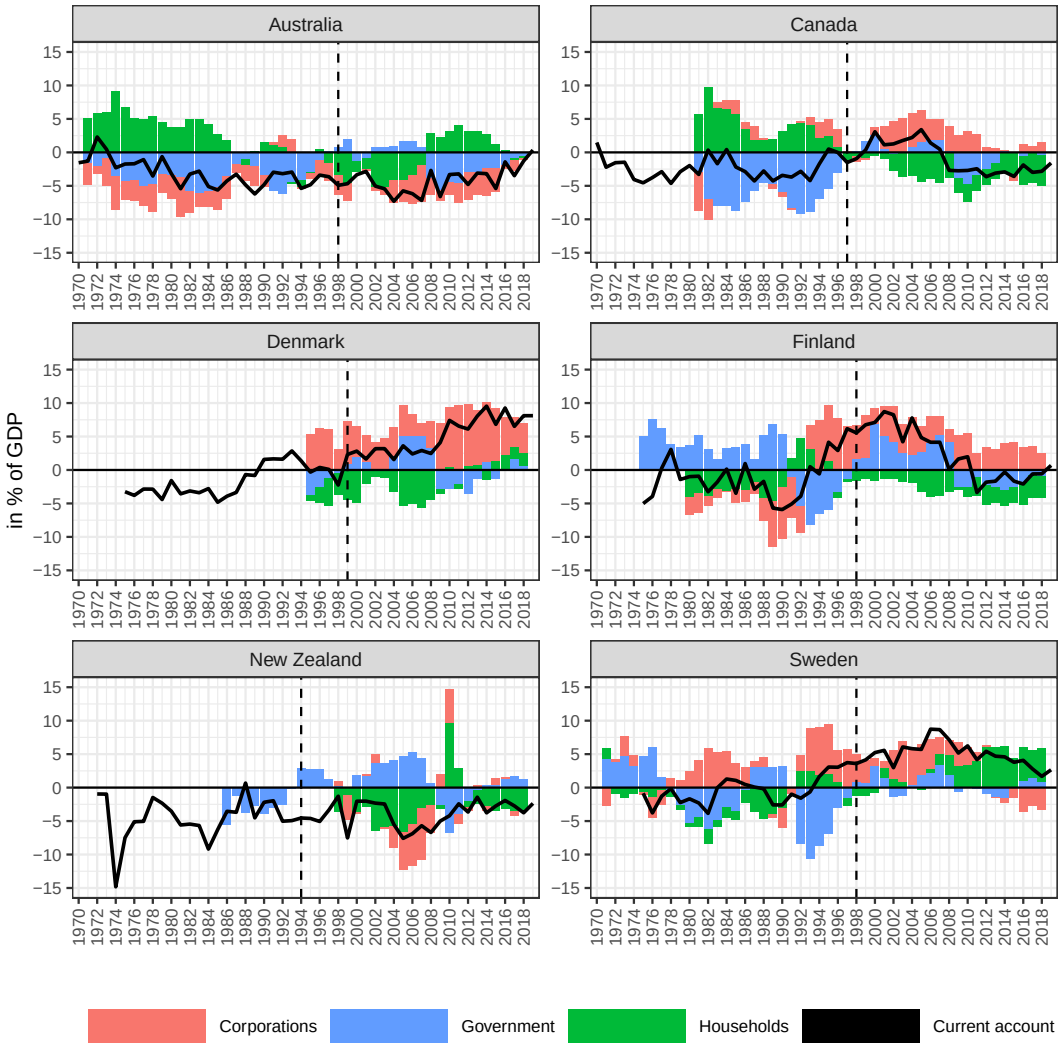
The central lesson from the financial balance perspective for this paper is that fiscal surpluses do not necessarily ensure macroeconomic stability. Instead, they are compatible with current account surpluses or deficits, which are widely seen as an indicator of macroeconomic instability (Behringer and van Treeck, 2019). Government surpluses generally imply over-indebtedness of other countries or the domestic private sector.

Figure 6.10 shows data on the development of financial balances over time for the surplus regime countries. The fiscal consolidation and surplus period of Australia is matched by constant current account deficits and increasing private sector indebtedness. At first, the private balance was driven by increasing household deficits over the 1990s and early 2000s. Later, during the public surplus period, the household sector started deleveraging, while the corporate sector deficit became more substantial and filled the gap. Unfortunately, there is missing data on the private financial balances in the case of New Zealand up to 1998. However, with the minor exception of the year 1988, the current account of New Zealand has been constantly in deficit since 1970. Over the first half of the 1990s, the current account deteriorated while the public balance improved, signaling a substantial private sector deficit. Throughout the 2000s, the household sector of New Zealand recorded significant deficits. From 2004 until 2008, the corporate sector also contributed largely to current account deficits. Thus, the growth model of New Zealand was strongly debt-led during the budgetary surplus period, with exceptionally high current account deficits from the mid-2000s to the financial crisis. Therefore, in both LMEs, the fiscal surpluses went along with debt-led growth.

However, the Canadian current account improved massively from -4.2% of GDP in 1993 to 3.1% in 2000 and remained in surplus well above 1% until the financial crisis. Since 2009, Canada is again, as it traditionally does, running current account deficits of 2.7% of GDP on average. It is no surprise that the improvement in the current account balance in 1994 coincides with the implementation of the North American Free Trade Agreement (NAFTA) between Canada, Mexico, and the United States. NAFTA led to a significant push in exports for the Canadian economy (see also the export growth contributions below). Looking at the trend, the household sector dissaved from the beginning of the 1980s. The surplus of the household sector switched to a deficit in parallel with the government balance changing to surpluses. Strong export-led growth, paired with household sector dissaving, allowed public deficits in Canada to dissolve.

The CMEs Denmark, Finland, and Sweden recorded substantial current account surpluses in the period with positive public balances. In some years, Finland and Sweden had current account surpluses larger than 8% of GDP. Sweden was particularly hard hit by the 1991 economic crisis. In the wake of that crisis, Sweden was able

FIGURE 6.10: Sectoral financial balances and current account balance, surplus regime countries, OECD data, 1970-2019



Vertical dotted lines indicate the start of the surplus regime period for each country.

to shift the composition of exports towards services via a strong push to the information and communications technology (ICT) sector. Erixon (2015) concludes that the favorable economic development of Sweden from the mid-1990s to the financial crisis was export-, profit- and technology-led. Due to the rearrangement of the industrial composition and flexible exchange rates (see Section 6.6), Sweden benefited substantially from the international upswing. Furthermore, he finds that the consolidation measures in the middle of the 1990s only delayed the Swedish recovery.

Finland benefited from a significant push to the ICT sector in the 1990s, too (Vartiainen, 2011), which supported an increase in the role of the foreign sector. Importantly, Finland already ran public surpluses in the 1970s and 1980s. While the current account was more or less balanced during those periods, the public surplus was matched by household and corporate sector deficits. The state sector had to react with deficit-spending to the deep recession at the beginning of the 1990s, which followed the financial market liberalization of the 1980s and an overheating economy (Vartiainen, 2011). Thus, the private sector balance turned at the same time. While the household sector slowly started dissaving again from the mid-1990s, the corporate sector kept a substantial surplus of 5% of GDP on average up to the financial crisis. Only the export-led growth dynamics and significant current account surplus, peaking at 8.7% in 2001, allowed favorable public finances.

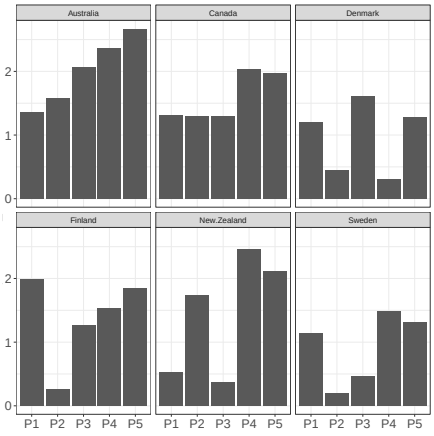
The case of Denmark is more balanced. While the current account was in surplus but on a decreasing trend in the mid-1990s, it improved again by 4.5 percentage points in the year when the budgetary balance turned into a surplus. The private sector was more or less balanced during the consolidation period, with noticeable private consumption spending (see below) and corporate investment.

How do the developments of the financial balances translate into the specific demand structures of the surplus regime countries? Figure 6.11 shows average growth contributions of domestic demand and its components as well as the external balance for the same 5-year subperiods as above in Section 6.6.

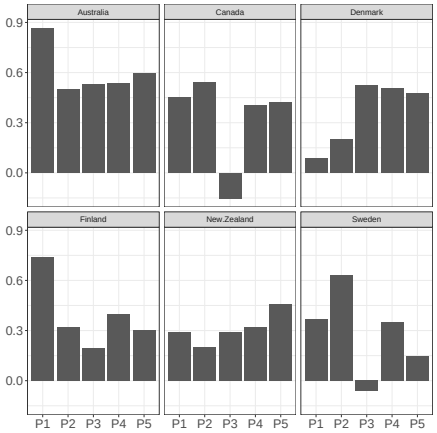
In line with the current account development, the external balance improved its contribution to GDP growth in Canada, Finland, and Sweden from $P2$ to $P3$. While imports of goods and services increased in these countries, exports increased much more strongly. For these countries, the development of the external balance displayed the counterpart to the decline in the contribution of public sector contributions, which happened simultaneously. In Canada and Sweden, the contribution of public consumption expenditures to GDP was even negative, signaling a massive retrenchment effort. Interestingly, the other three countries saw their contribution to public consumption expenditures increase somewhat in subperiod $P3$.

Private demand contributions did not undergo such structural similar developments between the countries under investigation as in the public sectors. Private consumption expenditure contributions were steadily increasing over time in Australia; in Canada, they remained stable at 1.3% in the first three subperiods and grew to about 2% in the later ones, and Denmark experienced more volatility with comparatively high contribution rates between 1.2% and 1.6% in $P1$ / $P3$ / $P5$. Thus, during the consolidation period, Denmark realized a significant growth contribution by private consumption as well as investment. In line with the sharp drop in average GDP growth in Finland in $P2$, private consumption expenditures crashed. The same holds for investment in Finland. In subsequent years both demand components recovered steadily. In any case, aggregate investment was relatively low during the unfavorable macroeconomic period of $P2$. However, in Canada, New Zealand, and Sweden, investment remained very low in the following period before it increased again during the 2000s.

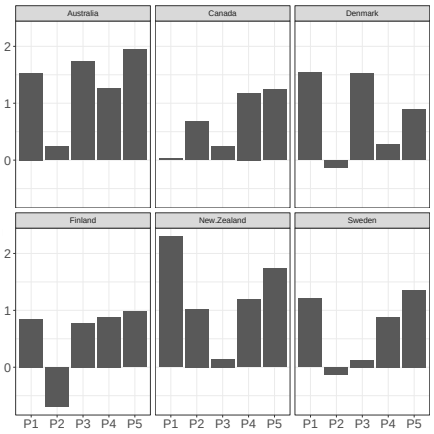
FIGURE 6.11: Contributions of domestic demand components and the external balance to real GDP growth, in % of GDP of the preceding year, averages for different periods



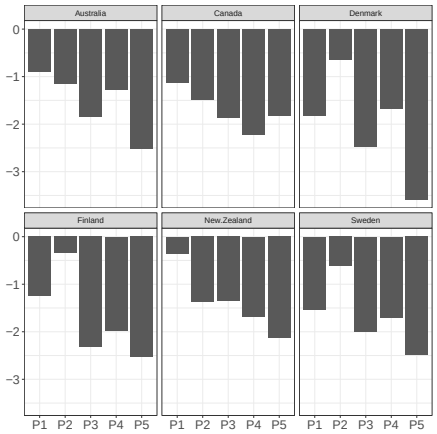
(a) Private consumption expenditures



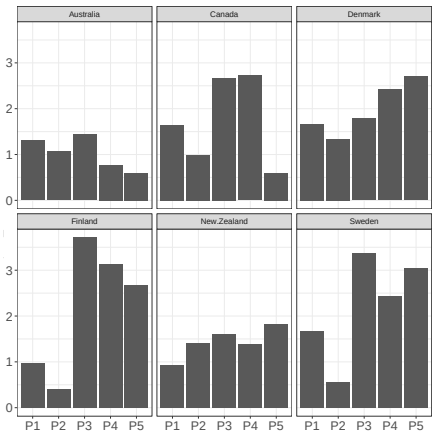
(b) Public consumption expenditures



(c) Gross fixed capital formation



(d) Imports of goods and services



(e) Exports of goods and services

Data from the Ameco database by the European Commission. *P*1 denotes 11 to 15 years before budgetary surplus, *P*2 6 to 10 years, *P*3 refers to the five years before. *P*4 (years 1 to 5) and *P*5 (6 to 10) display the surplus preservation period.

It comes as little surprise that the growth models between the fiscal surplus regime countries vary substantially given their different national institutions. However, the traditional lines of debt-led and export-led growth between the LMEs and CMEs respectively, are clearly visible.

6.8 Conclusion

The public choice theory of the deficit bias is the main theoretical background for the implementation of fiscal rules. In previous chapters of this dissertation, we provided economic arguments which question the strict limitation of public deficits. Recently, the deficit bias theory came under pressure also from a modern comparative political economy perspective.

Haffert (2019) argues that long periods of budgetary surpluses do not align with the theory of deficit bias. There are, however, various cases among OECD countries. These long surplus cases ignited a debate in the political economy literature. The core of the political economy explanation is that a consolidation of public finances might induce changing political preferences. Expenditure-based consolidations have higher fiscal path-dependencies because they reorder the political landscape by making the state more residual and shifting voter behavior.

A critical reappraisal of the empirical evidence provided by the proponents of the political economy explanation weakens some of their claims. It is striking that fiscal policies, apart from the headline budgetary figures, show the least structural commonalities among the surplus regimes compared to other policy instruments, where similarities are more pronounced. At the same time, the overall development of public expenditure was not significantly different compared to other country groups. For all surplus regimes, monetary policy was strongly expansionary during the consolidation period. Next to a generally favorable macroeconomic environment, the consolidation effort was more successful than previous consolidation periods in the 1980s. A development many industrial countries went through at the same time. However, the states with long budgetary surpluses are relatively small open economies where significant increases in exports drove economic growth, providing a favorable macroeconomic environment.

The analysis in this chapter shows that the comparative political economy explanation may underestimate important factors to explain long periods of budgetary surplus. Consolidations might well reshuffle political preferences and have long-lasting effects on voters' and politicians' priorities. However, macroeconomic conditions and other economic policy instruments play a substantial role for surplus periods. This chapter provides a broader perspective to understand the fiscal and macroeconomic developments in countries with long surplus periods.

In addition, applying a sectoral balances perspective ala Baccaro and Pontusson (2016) as well as Behringer and van Treeck (2019) on the surplus regimes reveals that a positive public balance tends to be aligned with the over-indebtedness of either the foreign or the private sector. Given their respective debt-led or export-led economic growth models, liberal market economies and coordinated market economies were able to run persistent budgetary surpluses. Both these growth strategies are not sustainable, given that they cause macroeconomic instability. Periods of long budgetary surplus lead to sectoral balance configurations that are difficult to maintain. This, in turn, questions the persistence assumption of the fiscal surplus regimes.

In light of the institutional complementarity idea by the VoC literature (Höpner, 2005), domestic demand and export strategies are also not exogenous factors for

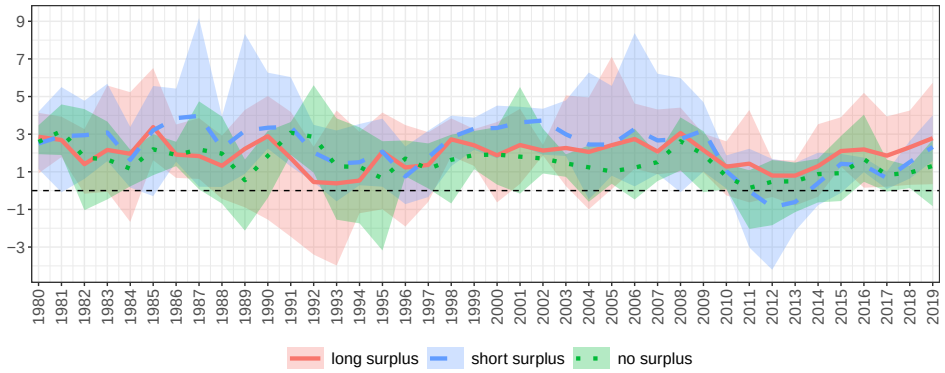
the configuration of a surplus regime. Instead, the strategic interactions between the policy areas might form the domestic equilibrium. Following this discussion, the institutional hierarchy of the policy configuration in surplus regimes remains an open question. Future research should also put emphasis on investigating the degree of openness as an important determinant of surplus regimes.

6.A Appendix: Growth rates of fiscal expenditures in real terms

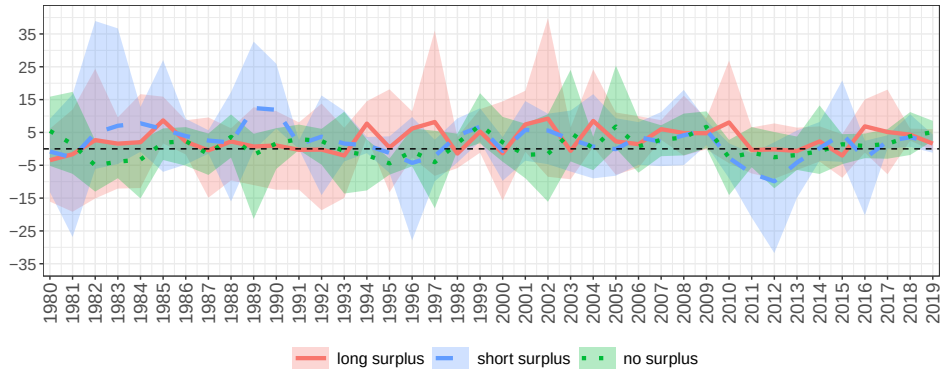
This appendix shows data on fiscal expenditures in real terms as compared to the nominal growth rates provided in Section 6.4. In the main text, we opted for nominal growth rates of public expenditures as indicators for the fiscal stance. They have the advantage to display government action very closely, given that they are in direct control of policymakers. However, in the medium to long-term, nominal growth rates are not exogenous to the inflation rate. This holds especially when price adjustments are as severe as during the monetarist shock of the 1980s. Thus, Figure 6.12 replicates Figure 6.4 in real terms, and Figure 6.13 shows real government final consumption growth rates for the surplus regime countries compared to the nominal version in Figure 6.5.

The main findings do not change. As a result, the strong nominal adjustments in the early 1980s are weaker for most countries, but the relative development between the country groups remains intact.

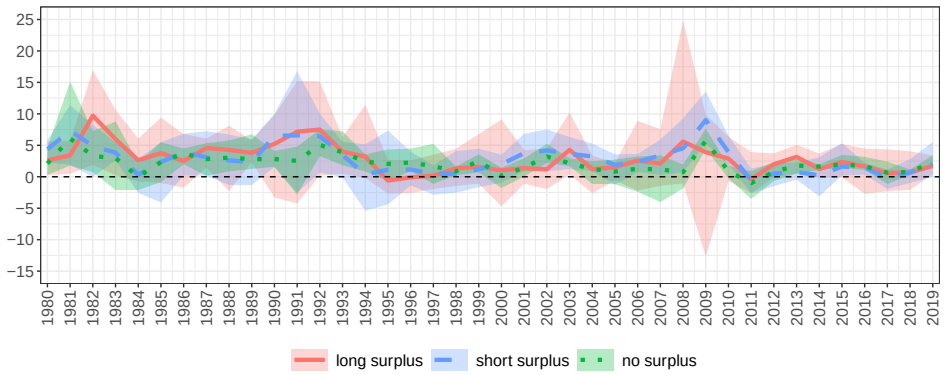
FIGURE 6.12: Selected public spending indicators in real terms, annual growth rates in %, 1980-2019



(a) Real general government final consumption expenditures



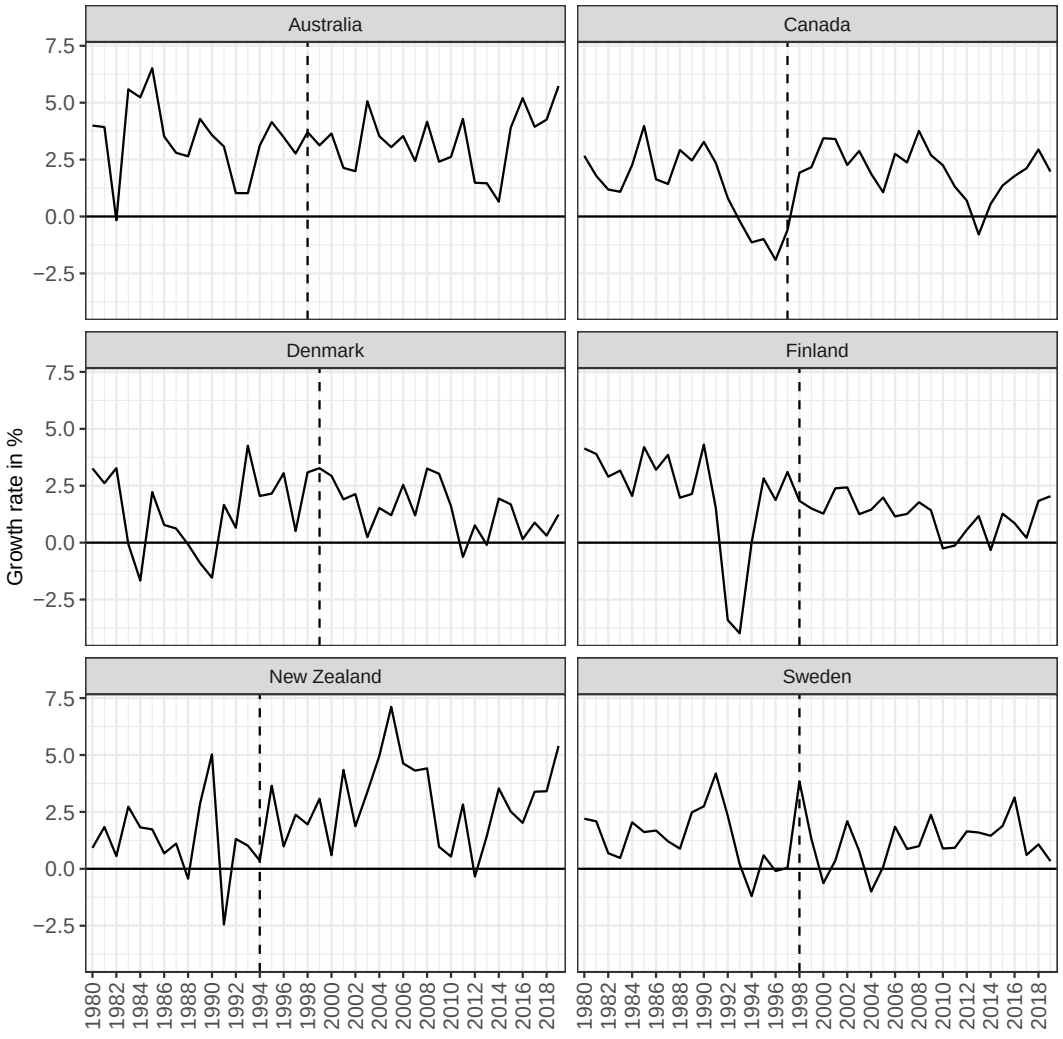
(b) Real gross fixed capital formation by general government



(c) Real social benefits

Notes: Data from OECD, Eurostat, and German Federal Statistic Office (Destatis). Ribbons display the minimum and maximum values of the groups, respectively. In the cases where there was no data of the deflator for gross fixed capital formation by the general government, we used the GDP deflator for price adjustment. For the price adjustment of social benefits, we used the CPI, as provided in the database by Monnet and Puy (2019). Long surplus countries: Australia, Canada, Denmark, Finland, New Zealand, Sweden. Short surplus countries: Japan, United Kingdom, United States, Netherlands, Spain. No surplus countries: Austria, Belgium, France, Germany, Italy. Figure 6.12b excludes the substantial 2005 and 2006 outliers for the United Kingdom.

FIGURE 6.13: Growth of real government final consumption expenditures, surplus regime countries, 1980-2019



Notes: OECD data. Vertical dotted lines indicate the start of the surplus regime period for each country.

Chapter 7

Conclusion

Against the background of recent empirical findings in the literature highlighting the importance of active discretionary fiscal policy and decisive historical experiences with rules-based frameworks, this dissertation tackles three vital points for evaluating fiscal rules. The overall results are the following.

First, the empirical estimation of the effectiveness of fiscal policy is of crucial importance. In line with the general fiscal multiplier literature, we find that expansionary (contractionary) discretionary fiscal changes have a significantly positive (negative) effect on the business cycle. Generally, the estimated effects seem to be stronger in recessionary periods than in normal times and for spending compared to revenue measures. In particular, we analyzed the macroeconomic effects of social security contributions and benefits. These components of fiscal policy are insufficiently researched compared to government consumption and investment as well as taxes. Expansionary social security changes can have a positive short-to-medium-term impact on GDP, right in the middle of the range of multipliers in the literature for other fiscal measures. Given the size of the social security system and its frequent and substantial legislative changes, they are likely as relevant for macroeconomic dynamics as are those to the tax system and general government spending. While short-term effects of fiscal policy are broadly researched, the long-term effects have attracted less attention and remain controversial. However, they are more critical for the general welfare and long-run development of public finances. We estimate the long-run effects of fiscal measures and find a strong case for hysteresis effects.

Second, the finding that discretionary fiscal policy can effectively stabilize the business cycle should translate into the design of fiscal rules. Therefore, drawing on the historical experience with fiscal rules, we evaluate the effect of different types of fiscal constraints on the cyclical behavior of fiscal policy. Depending on their design, fiscal rules can increase the destabilizing procyclical behavior of fiscal policy reactions, especially in an economic downturn. This can be particularly harmful in light of the empirical findings for regime-dependent macroeconomic effects on output both in the short- and long-run. Expenditure rules perform comparably better concerning the stabilization objective than other types of fiscal constraints.

Third, fiscal rules are mainly justified by the theory of deficit bias and, therefore, by political economy arguments. While the former two findings raise doubts for a strict limitation of fiscal policy from an economic point of view, recently, there have also been substantial concerns about the deficit bias theory in the comparative political economy literature. It is argued that the deficit bias theory fails to explain long-lasting periods of budgetary surplus and that the latter are better understood through the lenses of fiscal regimes. The discussion on surplus regimes is of high importance as it relativizes the theory on deficit bias. With its concentration on national institutional factors, fiscal regimes are generally related to the varieties of capitalism (VoC) approach. But, the surplus regime countries are very different regarding their

national institutions. By combining a growth model perspective, which considers the relative importance of different sectors of the economy (private, government, and external sector) for aggregate demand, to the concept of the surplus regime, we show that a positive public balance tends to be aligned with the over-indebtedness of the foreign or private sector. Given their respective debt-led or export-led growth models, liberal and coordinated market economies were able to run persistent budgetary surpluses. However, both growth strategies are not sustainable, given that they cause macroeconomic instability. This instability, in turn, questions the persistence assumption of the fiscal surplus regimes. When the economy is in recession, fiscal targets will inevitably have to be set lower.

In light of the institutional complementarity idea by the VoC literature, domestic demand and export strategies are also not exogenous factors for the configuration of a surplus regime. Instead, the strategic interactions between the policy areas might form the domestic equilibrium. Following this discussion, the institutional hierarchy of the policy configuration in surplus regimes remains an open question. However, to answer these detailed questions requires detailed case studies of the individual surplus regimes.

Further limitations of the thesis have to be mentioned. The analysis on the effectiveness of fiscal policy and the cyclical orientation of discretionary changes concentrate on the German and European sample. Effect sizes for multipliers still differ significantly between studies, especially concerning revenue-side measures. Therefore, reconciling the different estimates is a promising avenue of research.

The overall objective of this dissertation is to provide answers for a better understanding of the macroeconomic dynamics of rules-based and discretionary fiscal measures. A promising future research agenda could be on the relaxation of the stark dichotomy of rules-based versus discretionary fiscal policy. The strengthening of the role of the state might also be matched by improving automatic stabilizers. Given the above-described findings on the discretionary effects of social security contributions and benefits, an exciting question beyond the scope of this work is whether an expansion of social safety nets might be an effective measure to decrease business cycle fluctuations generally.

Lastly, taking into account the new macroeconomic environment, with interest rates lower than GDP growth, raises the question of a more fundamental overhaul of rules-based frameworks. A critical appraisal of the different proposals to reform national and supranational fiscal rules has, however, also to be left for future researchers.

Given that some questions remain open, this dissertation cannot say with certainty what should happen to fiscal policy rules in Germany or Europe. Still, an obvious conclusion from the results is that the importance of fiscal policy has been underestimated in the past and that too much focus on consolidation and strict rules is harmful. This means that the rules need some relaxation. In light of our findings, it becomes clear that there needs to be a return to greater fiscal discretion in the spectrum between rules and discretionary measures.

Bibliography

Abadie, A., S. Athey, G. W. Imbens, and J. Wooldridge (2017). When Should You Adjust Standard Errors for Clustering? In: *NBER Working Paper* No 24003.

Agnello, L. and J. Cimadomo (2009). Discretionary fiscal policies over the cycle. New evidence based on the ESCB disaggregated approach. In: *ECB Working Paper Series* No. 1118.

Alesina, A. and S. Ardagna (2010). Large changes in fiscal policy: Taxes versus spending. In: *Tax policy and the economy* 24 (1), pp. 35–68.

Alesina, A. and A. Drazen (1991). Why are Stabilizations Delayed? In: *The American Economic Review* 81 (5), pp. 1170–1188.

Anderson, B. and J. J. Minarik (2006). Design Choices for Fiscal Policy Rules. In: *OECD Journal on Budgeting* 5 (4), pp. 159–208.

Angrist, J. D. and J.-S. Pischke (2009). Mostly harmless econometrics: An empiricist's companion. Princeton: Princeton University Press.

Arellano, M. and O. Bover (1995). Another look at the instrumental variable estimation of error-components models. In: *Journal of Econometrics* 68 (1), pp. 29 –51.

Auclert, A. (2019). Monetary Policy and the Redistribution Channel. In: *American Economic Review* 109 (6), pp. 2333–2367.

Auerbach, A. J. and Y. Gorodnichenko (2012). Measuring the Output Responses to Fiscal Policy. In: *American Economic Journal: Economic Policy* 4 (2), pp. 1–27.

Autor, D., D. Dorn, G. Hanson, and K. Majlesi (2020). Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure. In: *American Economic Review* 110 (10), pp. 3139–83.

Baccaro, L. and J. Pontusson (2016). Rethinking Comparative Political Economy: The Growth Model Perspective. In: *Politics & Society* 44 (2), pp. 175–207.

Balassone, F., M. Francese, and S. Zotteri (2010). Cyclical asymmetry in fiscal variables in the EU. In: *Empirica* 37 (4), pp. 381–402.

Bardt, H., S. Dullien, M. Hüther, and K. Rietzler (Mar. 2020). For a sound fiscal policy: Enabling public investment. In: *IMK Report* Nr. 152e.

Batini, N., G. Callegari, and G. Melina (2012). Successful Austerity in the United States, Europe and Japan. In: *IMF Working Paper* WP/12/190.

Baum, A., M. Poplawski-Ribeiro, and A. Weber (2012). Fiscal Multipliers and the State of the Economy. In: *IMF Working Paper* WP/12/286.

Baum, C. F., A. Nichols, and M. E. Schaffer (2011). Evaluating one-way and two-way cluster–robust covariance matrix estimates. German Stata Users' Group Meetings 2011. URL: https://ideas.repec.org/p/boc/dsug11/02.html.

Baum, C. F., M. E. Schaffer, and S. Stillman (2002). IVREG2: Stata module for extended instrumental variables/2SLS and GMM estimation. Statistical Software Components, Boston College Department of Economics. URL: https://ideas.repec.org/c/boc/bocode/s425401.html.

Baxter Marianne; King, R. G. (1993). Fiscal policy in general equilibrium. In: *American Economic Review* 83 (3), pp. 315–334.

Behringer, J. and T. van Treeck (2019). Income Distribution and Growth Models: A Sectoral Balances Approach. In: *Politics & Society* 47 (3), pp. 303–332.

Bénétrix, A. S. and P. R. Lane (2013). Fiscal cyclicality and EMU. In: *Journal of International Money and Finance* 34, pp. 164 –176.

Blanchard, O., A. Leandro, and J. Zettelmeyer (2020). Redesigning the EU Fiscal Rules: From Rules to Standards. In: *Economic Policy. 72nd Economic Policy Panel Meeting* 22-23 October 2020, supported by the Federal Ministry of Finance, Germany.

Blanchard, O. and R. Perotti (2002). An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output. In: *Quarterly Journal of Economics* 117 (4), pp. 1329–1368.

Blanchard, O. (2018). Should We Reject the Natural Rate Hypothesis? In: *Journal of Economic Perspectives* 32 (1), pp. 97–120.

— (2019). Public Debt and Low Interest Rates. In: *American Economic Review* 109 (4), pp. 1197–1229.

Blanchard, O. J. and D. Leigh (2013). Growth Forecast Errors and Fiscal Multipliers. In: *American Economic Review* 103 (3), pp. 117–20.

Bohn, H. (1998). The Behavior of U.S. Public Debt and Deficits. In: *The Quarterly Journal of Economics* 113 (3), pp. 949–963.

Bom, P. R. and J. E. Ligthart (2014). What have we learned from three decades of research on the productivity of public capital? In: *Journal of Economic Surveys* 28 (5), pp. 889–916.

Born, B., G. J. Müller, and J. Pfeifer (2020). Does Austerity Pay Off? In: *The Review of Economics and Statistics* 102 (2), pp. 323–338.

Bova, E., N. Carcenac, and M Guerguil (2014). Fiscal Rules and the Procyclicality of Fiscal Policy in the Developing World. In: *IMF Working Paper* WP/14/122.

Braun, H. (2021). Das ist der Plan für Deutschland nach Corona. In: Handelsblatt, 26.01.2021.

Brennan, G. and J. M. Buchanan (1988). The Reason of rules: Constitutional political economy. Repr. Cambridge: Cambridge University Press.

Buchanan, J. M. and R. E. Wagner (1977). Democracy in Deficit: The Political Legacy of Lord Keynes. New York: Academic Press.

Budina, N., T. Kinda, A. Schaechter, and A. Weber (2012). Fiscal Rules at a Glance: Country Details from a New Dataset. In: *IMF Working Paper* WP/12/273.

Bundesministerium für Arbeit und Soziales (2011). *Gesetzestexte zur Sozialgeschichte 1881 –2010*. Tech. rep. URL: https://www.bmas.de/SharedDocs/Downloads/DE/PDF-Publikationen/k704-anlage-gesetze.pdf?__blob=publicationFile&v=2.

Caldara, D. and C. Kamps (2008). What are the effects of fiscal policy shocks? A VAR-based comparative analysis. In: *European Central Bank Working Paper Series* No. 877.

— (2017). The Analytics of SVARs: A Unified Framework to Measure Fiscal Multipliers. In: *Review of Economic Studies* 84 (3), pp. 1015–1040.

Calmfors, L. and S. Wren-Lewis (2011). What should fiscal councils do? In: *Economic Policy* 26 (68), pp. 649–695.

Cameron, A. C. and D. L. Miller (2015). A Practitioner's Guide to Cluster-Robust Inference. In: *Journal of Human Resources* 50 (2), pp. 317–372.

Candelon, B., J. Muysken, and R. Vermeulen (2009). Fiscal policy and monetary integration in Europe: an update. In: *Oxford Economic Papers* 62 (2), pp. 323–349.

Carnot, N. and F. de Castro (2015). The Discretionary Fiscal Effort: an Assessment of Fiscal Policy and its Output Effect. In: *European Economy Economic Papers* No. 543.

Checherita-Westphal, C. and V. Žd'árek (2017). Fiscal reaction function and fiscal fatigue: evidence for the euro area. In: *ECB Working Paper Series* No 2036.

Christiano, L., M. Eichenbaum, and S. Rebelo (2011). When Is the Government Spending Multiplier Large? In: *Journal of Political Economy* 119 (1), pp. 78–121.

Cimadomo, J. (2016). Real-time data and fisal policy analysis: A survey of the literature. In: *Journal of Economic Surveys* 30 (2), pp. 302–326.

Claeys, G., Z. Darvas, and Á. Leandro (2016). A proposal to revive the European Fiscal Framework. In: *Bruegel Policy Contribution* No. 13490.

Cloyne, J. (2013). Discretionary Tax Changes and the Macroeconomy: New Narrative Evidence from the United Kingdom. In: *American Economic Review* 103 (4), pp. 1507–1528.

Combes, J.-L., A. Minea, and M. Sow (2017). Is fiscal policy always counter- (pro-) cyclical? The role of public debt and fiscal rules. In: *Economic Modelling* 65 (C), pp. 138–146.

Corsetti, G., K. Kuester, A. Meier, and G. J. Müller (2013). Sovereign risk, fiscal policy, and macroeconomic stability. In: *The Economic Journal* 123 (566), F99–F132.

Cottarelli, C. and L. Jaramillo (2012). Walking Hand in Hand: Fiscal Policy and Growth in Advanced Economies. In: *IMF Working Paper* WP/12/137.

DeLong, J. B., L. H. Summers, M. Feldstein, and V. A. Ramey (2012). Fiscal Policy in a Depressed Economy [with Comments and Discussion]. In: *Brookings Papers on Economic Activity*, pp. 233–297.

Dovern, J. and N. Jannsen (2017). Systematic errors in growth expectations over the business cycle. In: *International Journal of Forecasting* 33 (4), pp. 760–769.

Dullien, S., C. Paetz, A. Watt, and S. Watzka (2020). Proposals for a reform of the EU's fiscal rules and economic governance. In: *IMK Report* 159e.

Dullien, S. and D. Schwarzer (2009). Bringing Macroeconomics into the EU Budget Debate: Why and How? In: *JCMS: Journal of Common Market Studies* 47 (1), pp. 153–174.

Eggertsson, G. B. (2011). What fiscal policy is effective at zero interest rates? In: *NBER Macroeconomics Annual* 25 (1), pp. 59–112.

Elsässer, L., S. Hense, and A. Schäfer (2017). „Dem Deutschen Volke"? Die ungleiche Responsivität des Bundestags. In: *Zeitschrift für Politikwissenschaft* 27 (2), pp. 161–180.

Erixon, L. (2015). Can fiscal austerity be expansionary in present-day Europe? The lessons from Sweden. In: *Review of Keynesian Economics* 3 (4), pp. 567–601.

Euopean Commission (2013). Report on public finances in EMU. In: *European Economy* 4/2013.

European Commission (2012). European Economic Forecast. In: *European Economy* 7/2012.

European Fiscal Board (2018). Annual Report 2018. Brussels. In:

Fatás, A. and I. Mihov (2006). The macroeconomic effects of fiscal rules in the U.S. states. In: *Journal of Public Economics* 90 (1-2), pp. 101–117.

Fatas, A. and I. Mihov (2009). The Euro and Fiscal Policy. In: *NBER Working Paper Series* No. 14722.

Fatás, A. and L. H. Summers (2018). The permanent effects of fiscal consolidations. In: *Journal of International Economics* 112, pp. 238–250.

Fatas, A. (2000). Do business cycles cast long shadows? Short-run persistence and economic growth. In: *Journal of Economic Growth* 5 (2), pp. 147–162.

Favero, C. A. and M. Marcellino (2005). Modelling and Forecasting Fiscal Variables for the Euro Area. In: *Oxford Bulletin of Economics and Statistics* 67 (Supplement), pp. 755–783.

Fazzari, S. M., J. Morley, and I Panovska (2012). State dependent effects of fiscal policy. In: *Australian School of Business Research Paper* No. 2012 ECON 27.

Fetzer, T. (2019). Did Austerity Cause Brexit? In: *American Economic Review* 109 (11), pp. 3849–3886.

Forschungsportal der Deutschen Rentenversicherung (2014). Kenngrößen und Bemessungswerte der Deutschen Rentenversicherung Rvz11.

Frankel, J., C. Vegh, and G. Vuletin (2013). On graduation from fiscal procyclicality. In: *Journal of Development Economics* 100 (1), pp. 32–47.

Frankel, J. (2011). Over-optimism in forecasts by official budget agencies and its implications. In: *Oxford Review of Economic Policy* 27 (4), pp. 536–562.

Furman, J. (2016). The new view of fiscal policy and its application. In: *Delivery for Conference: Global Implications of Europe´s Redesign* Octiber 5, 2016. New York.

Galí, J., J. López-Salido, and J. Vallés (2007). Understanding the Effects of Government Spending on Consumption. In: *Journal of the European Economic Association* 5 (1), pp. 227–270.

Galí, J. and R. Perotti (2003). Fiscal policy and monetary integration in Europe. In: *Economic Policy* 18 (37), pp. 533–572.

Galofré-Vilà, G., C. M. Meissner, M. McKee, and D. Stuckler (2020). Austerity and the rise of the Nazi party. In: *Journal of Economic History* forthcoming.

Gechert, S. (2015). What fiscal policy is most effective? A meta-regression analysis. In: *Oxford Economic Papers* 67 (3), pp. 553–580.

Gechert, S., G. Horn, and C. Paetz (2019). Long-term Effects of Fiscal Stimulus and Austerity in Europe. In: *Oxford Bulletin of Economics and Statistics* 81 (3), pp. 647–666.

Gechert, S., C. Paetz, and P. Villanueva (2020a). *A Narrative Account of Legislated Social Security Changes for Germany.* Tech. rep. Companion Paper to: The Macroeconomic Effects of Social Security Contributions and Benefits. Journal of Monetary Economics Supplementary Data S2. URL: https://ars.els-cdn.com/content/image/1-s2.0-S0304393220300416-mmc2.pdf.

— (2020b). The Macroeconomic Effects of Social Security Contributions and Benefits. In: *Journal of Monetary Economics* 117 (C), pp. 571–584.

Gechert, S. and A. Rannenberg (2018). Which fiscal multipliers are regime-dependent? A meta-regression analysis. In: *Journal of Economic Surveys* 32 (4), pp. 1160–1182.

Gechert, S., K. Rietzler, and S. Tober (2016). The European Commission's new NAIRU: Does it deliver? In: *Applied Economics Letters* 23 (1), pp. 6–10.

German Statutory Pension Insurance (2011). *Rentenversicherung in Zeitreihen*. Tech. rep.

Girouard, N. and C. André (2005). Measuring Cyclically-adjusted Budget Balances for OECD Countries. In: *OECD Economics Department Working Papers* No. 434.

Golinelli, R. and S. Momigliano (2008). The cyclical response of fiscal policies in the Euro area. Why do results of empirical research differ so strongly? In: *Banca D'Italia. Temi di discussione.* No. 654.

Gonçalvez, S. and L. Kilian (2004). Bootstrapping autoregressions with conditional heteroskedasticity of unknown form. In: *Journal of Econometrics* 123 (1), pp. 89–120.

Górnicka, L., C. Kamps, G. Koester, and N. Leiner-Killinger (2020). Learning about fiscal multipliers during the European sovereign debt crisis: evidence from a quasi-natural experiment. In: *Economic Policy* forthcoming.

Guerguil, M., P. Mandon, and R. Tapsoba (2017). Flexible fiscal rules and countercyclical fiscal policy. In: *Journal of Macroeconomics* 52 (C), pp. 189–220.

Guiso, L., H. Herrera, M. Morelli, and T. Sonno (2017). Demand and supply of populism. In: *Centre for Economic Policy Research* DP 11871.

Haffert, L. and P. Mehrtens (2015). From Austerity to Expansion? Consolidation, Budget Surpluses, and the Decline of Fiscal Capacity. In: *Politics & Society* 43 (1), pp. 119–148.

Haffert, L. (2019). Permanent budget surpluses as a fiscal regime. In: *Socio-Economic Review* 17 (4), pp. 1043–1063.

Hall, P. A. and D. Soskice (2001). Varieties of Capitalism: The Institutional Foundations of Comparative Advantage. Oxford University Press.

Hallerberg, M., R. Strauch, and J. von Hagen (2007). The design of fiscal rules and forms of governance in European Union countries. In: *European Journal of Political Economy* 23 (2), pp. 338 –359.

Harris, N. and L. Matyas (2004). A Comparative Analysis of Different IV and GMM Estimators of Dynamic Panel Data Models. In: *International Statistical Review* 72 (3), pp. 397–408.

Havik, K., K. Mc Morrow, F. Orlandi, C. Planas, R. Raciborski, W. Röger, A. Rossi, A. Thum-Thysen, V. Vandermeulen, et al. (2014). The production function methodology for calculating potential growth rates & output gaps. In: *European Economy - Economic Papers* No. 535.

Hayo, B. and M. Uhl (2014). The macroeconomic effects of legislated tax changes in Germany. In: *Oxford Economic Papers* 66 (2), pp. 397–418.

Hebous, S. (2011). The effects of discretionary fiscal policy on macroeconomic aggregates: a reappraisal. In: *Journal of Economic Surveys* 25 (4), pp. 674–707.

Heimberger, P. and J. Kapeller (2017). The performativity of potential output: procyclicality and path dependency in coordinating European fiscal policies. In: *Review of International Political Economy* 24 (5), pp. 904–928.

Hein, E. and A. Truger (2009). How to Fight (or Not to Fight) a Slowdown. In: *Challenge* 52 (3), pp. 52–75.

Hermes, G., L. Vorwerk, and T. Beckers (Oct. 2020). Die Schuldenbremse des Bundes und die Möglichkeit der Kreditfinanzierung von Investitionen – Rechtslage, ökonomische Beurteilung und Handlungsempfehlungen. In: *IMK Study* No. 20.

Hillje, J. (2018). Rückkehr zu den politisch Verlassenen: Gespräche in rechtspopulistischen Hochburgen in Deutschland. In: *Theorie und Praxis der sozialen Arbeit : TUP* 69 (3), pp. 198–207.

Höpner, M. (2009). "Spielarten des Kapitalismus" als Schule der vergleichenden Staatstätigkeitsforschung. In: *Zeitschrift für Vergleichende Politikwissenschaft* 3 (2), pp. 303–327.

Horn, G. A. (2020). Gegensteuern: Für eine neue Wirtschaftspolitik gegen Rechts. 1. Auflage.

House, C., C. Proebsting, and L. Tesar (2019). Austerity in the aftermath of the great recession. In: *Journal of Monetary Economics (forthcoming)*.

Höpner, M. (May 2005). Epilogue to 'Explaining institutional complementarity': What have we learnt? Complementarity, coherence and institutional change. In: *Socio-Economic Review* 3 (2), pp. 383–388.

Huart, F. (2012). Is Fiscal Policy Procyclical in the Euro Area? In: *German Economic Review* 14 (1), pp. 73–88.

Hüther, M. and J. Südekum (2020). Die Schuldenbremse – eine falsche Fiskalregel am falschen Platz. In: *Perspektiven der Wirtschaftspolitik* 20 (4), pp. 284–291.

Im, K., M. Pesaran, and Y. Shin (2003). Testing for Unit Roots in Heterogeneous Panels. In: *Journal of Econometrics* 115 (1), pp. 5–74.

Imbeau, L. M. (2005). Deficits and surpluses in federated states: A review of the Public Choice empirical literature. In: *Journal of public finance and public choice* 22 (3), pp. 123–145.

International Monetary Fund (2010). World Economic Outlook: Recovery, Risk, and Rebalancing. In: *International Monetary Fund*.

— (2016). IMF Fiscal Rule Dataset. In: *Fiscal Affairs Department* updated on December 2016. URL: https://www.imf.org/external/datamapper/fiscalrules/FAD-FiscalRulesDataset.xlsx.

— (2020). Fiscal Monitor. Policies for the Recovery. In: *October*.

Jaimovich, D. and U. Panizza (2007). Procyclicality or reverse causality? In: *Inter-American Development Bank Working Paper* No. 599.

Jappelli, T. and L. Pistaferri (2014). Fiscal Policy and MPC Heterogeneity. In: *American Economic Journal: Macroeconomics* 6 (4), pp. 107–136.

Jonung, L. and M. Larch (2006). Improving fiscal policy in the EU: the case for independent forecasts. In: *Economic Policy* 21 (47), pp. 492–534.

Jordà, Ò. (2005). Estimation and Inference of Impulse Responses by Local Projections. In: *American Economic Review* 95 (1), pp. 161–182.

Kaminsky, G. L., C. M. Reinhart, and C. A. Vegh (2004). When it Rains, it Pours: Procyclical Capital Flows and Macroeconomic Policies. In: *NBER Working Paper Series* No. 10780.

Kaplan, G. and G. L. Violante (2014). A Model of the Consumption Response to Fiscal Stimulus Payments. In: *Econometrica* 82 (4), pp. 1199–1239.

Kastrop, C., G. Meister-Scheufelen, and M. Sudhof, eds. (2010). Die neuen Schuldenregeln im Grundgesetz. Zur Fortentwicklung der bundesstaatlichen Finanzbeziehungen. 1. Aufl. Vol. 219. Berlin: BWV Berliner Wiss.-Verl., Schriften zur öffentlichen Verwaltung und öffentlichen Wirtschaft.

Kopits, G. and S. Symansky (1998). Fiscal Policy Rules. In: *IMF Occasional Paper 162*.

Kumhof, M. and D. Laxton (2007). A Party without a Hangover? On the Effects of U.S. Government Deficits. In: *IMF Working Paper* WP/07/202.

Laeven, L. and F. Valencia (2012). Systemic banking crises database: An update. In: *IMF working paper 12/163*.

Lane, P. R. (2003). Business Cycles and Macroeconomic Policy in Emerging Market Economies. In: *International Finance* 6 (1), pp. 89–108.

Lerner, A. P. (1943). Functional Finance and the Federal Debt. In: *The Series of Republished Articles on Economics VII* Readings in Fiscal Policy, pp. 469–478.

Levin, A., C. Lin, and C. Chu (2002). Unit Root Tests in Panel Data: Asymptotic and Finite Sample Properties. In: *Journal of Econometrics* 108 (1), pp. 1–24.

Logeay, C. and S. Tober (2006). Hysteresis and the NAIRU in the Euro Area. In: *Scottish Journal of Political Economy* 53 (4), pp. 409–429.

Lütkepohl, H. (2006). New Introduction to Multiple Time Series Analysis. Berlin u. a.: Springer.

Marx, P. and C. Nguyen (May 2016). Are the Unemployed Less Politically Involved? A Comparative Study of Internal Political Efficacy. In: *European Sociological Review* 32 (5), pp. 634–648.

Mertens, K. and M. O. Ravn (2010). Measuring the Impact of Fiscal Policy in the Face of Anticipation: A Structural VAR Approach. In: *Economic Journal* 120 (544), pp. 393–413.

— (2013). The Dynamic Effects of Personal and Corporate Income Tax Changes in the United States. In: *American Economic Review* 103 (4), pp. 1212–1247.

— (2014). A Reconciliation of SVAR and Narrative Estimates of Tax Multipliers. In: *Journal of Monetary Economics* 68 (S), S1–S19.

Mineshima, A., M. Poplaw-ski-Ribeiro, and A. Weber (2014). Size of fiscal multipliers. In: ed. by C. Cottarelli, P. Gerson, and A. Senhadji. Cambridge, MA: MIT Press. Chap. Post-crisis fiscal policy, pp. 315–372.

Monnet, E. and M. D. Puy (2019). One Ring to Rule Them All? New Evidence on World Cycles. International Monetary Fund.

Musgrave, R. A. (1959). The Theory of Public Finance. A Study in Political Economy. In: *New York (MacGraw Hill)*.

Nickell, S. (1981). Biases in dynamic models with fixed effects. In: *Econometrica* 49 (6), pp. 1417–1426.

Norris, P. and R. Inglehart (2019). Cultural Backlash: Trump, Brexit, and Authoritarian Populism. Cambridge University Press.

Onaran, O. and T. Obst (2016). Wage-led growth in the EU15 member-states: the effects of income distribution on growth, investment, trade balance and inflation. In: *Cambridge Journal of Economics* 40 (6), pp. 1517–1551.

Onaran, z. and G. Galanis (2014). Income Distribution and Growth: A Global Model. In: *Environment and Planning A: Economy and Space* 46 (10), pp. 2489–2513.

Paetz, C. (Nov. 2020). Fiscal Rules in Good Times and Bad. In: *IMK Working Paper* (No. 206).

Paetz, C., K. Rietzler, and A. Truger (2016). The federal budget debt brake since 2011: The real test is yet to come. In: *IMK Report* (117e).

Parker, J. A., N. S. Souleles, D. S. Johnson, and R. McClelland (2013). Consumer Spending and the Economic Stimulus Payments of 2008. In: *American Economic Review* 103 (6), pp. 2530–53.

Perotti, R. and M. Gavin (1997). Fiscal Policy in Latin America. In: *NBER Macroeconomics Annual* 12, pp. 11–72.

Perotti, R. (1999). Fiscal Policy In Good Times And Bad. In: *The Quarterly Journal of Economics* 114 (4), pp. 1399–1436.

— (2012). The "Austerity Myth": gain without pain? In: *NBER Working Paper Series* No. 17571.

Persson, T. and L. E. O. Svensson (1989). Why a Stubborn Conservative would Run a Deficit: Policy with Time- Inconsistent Preferences. In: *The Quarterly Journal of Economics* 104 (2), p. 325.

Pierson, P. (2001). From Expansion to Austerity: The New Politics of Taxing and Spending. In: *In: A. Levin/ Marc K. Landy/M. Shapiro (eds.), Seeking the Center: Politics and Policy-making in the New Century*, pp. 54–80.

Portes, J. (2015). Commentary: The goverment's fiscal strategy. In: *National Institute Economic Review* 233 (1), F4–F9.

Portes, J. and S. Wren-Lewis (2015). Issues in the design of fiscal policy. In: *The Manchester School* 83 (S3), pp. 56–86.

Prante, F. J., A. Bramucci, and A. Truger (2020). Decades of Tight Fiscal Policy Have Left the Health Care System in Italy Ill-Prepared to Fight the COVID-19 Outbreak. In: *Inter economics* 55 (3), pp. 147–152.

Price, R., T.-T. Dang, and Y. Guillemette (2014). New Tax and Expenditure Elasticity Estimates for EU Budget Surveillance. In: *OECD Economics Department Working Papers* No. 1174.

Proaño, C. R., J. C. Peña, and T. Saalfeld (2019). *Inequality, macroeconomic performance and political polarization: An empirical analysis*. BERG Working Paper Series 149. Bamberg University, Bamberg Economic Research Group.

Ramey, V. A. (2019). Ten Years After the Financial Crisis: What Have We Learned from the Renaissance in Fiscal Research? In: *Journal of Economic Perspectives* 33 (2), pp. 89–114.

Ramey, V. A. (June 2020). The Macroeconomic Consequences of Infrastructure Investment. In: *Economic Analysis and Infrastructure Investment*. NBER Chapters. National Bureau of Economic Research, Inc.

Ramey, V. A. (2011). Identifying Government Spending Shocks: It's All in the Timing. In: *Quarterly Journal of Economics* 126 (1), pp. 1–50.

Ramey, V. A. and S. Zubairy (2018). Government Spending Multipliers in Good Times and in Bad: Evidence from US Historical Data. In: *Journal of Political Economy* 126 (2), pp. 850–901.

Rietzler, K. and A. Truger (2019). Is the "Debt Brake" behind Germany's successful fiscal consolidation?A comparative analysis of the "structural" consolidation of the government subsector budgets from 1991 to 2017. In: *Revue de l'OFCE* Supp. 2 (HS), pp. 11–30.

Rodrik, D. (2018). Populism and the economics of globalization. In: *Journal of International Business Policy* 1 (1), pp. 12–33.

Rogoff, K. (2012). Austerity and debt realism. In: *Project Syndicate* Jun 1, 2012 (latest download September 9, 2012). URL: https://www.project-syndicate.org/commentary/austerity-and-debt-realism?barrier=accesspaylog.

Romer, C. D. and D. H. Romer (2010). The macroeconomic effects of tax changes: Estimates based on a new measure of fiscal shocks. In: *American Economic Review* 100 (3), pp. 763–801.

— (2016). Transfer Payments and the Macroeconomy: The Effects of Social Security Benefit Increases, 1952-1991. In: *American Economic Journal: Macroeconomics* 8 (4), pp. 1–42.

Sachverständigenrat (2007). Staatsverschuldung wirksam begrenzen. In: *Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, Wiesbaden*.

Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2020). Corona-Krise gemeinsam bewältigen, Resilienz und Wachstum stärken. In: *Jahresgutachten 2020/2021*. Wiesbaden.

Schaechter, A., T. Kinda, N. Budina, and A. Weber (2012). Fiscal Rules in Response to the Crisis - Toward the "Next-Generation" Rules. A New Dataset. In: *IMF Working Paper* WP/12/187.

Schäuble, W. (Oct. 2010). A plan to tackle Europe's debt mountain. In: *Europe's World* October 1, 2010. URL: http://europesworld.org/2010/10/01/a-plan-to-tackle-europes-debt-mountain/.

Schick, A. (2010). Post-Crisis Fiscal Rules: Stabilising Public Finance while Responding to Economic Aftershocks. In: *OECD Journal on Budgeting* 10 (2), pp. 1–18.

Skidelsky, R. (2020). Keynes: die erneute Rückkehr des Meisters. In: *Wirtschaftsdienst* 100 (10), pp. 763–766.

Steffen, J. (2019). *Die wesentlichen Änderungen in der Arbeitslosen-, Renten-, Kranken- und Pflegeversicherung sowie bei der Sozialhilfe (HLU) und der Grundsicherung für Arbeitsuchende - von den siebziger Jahren bis heute*. Tech. rep. [2019/12/19]. URL: http://www.portal-sozialpolitik.de/uploads/sopo/pdf/Sozialpolitische-Chronik.pdf.

Stiglitz, J. E. (2013). The price of inequality. 1st ed. New York and London: W.W. Norton & Company.

Stock, J. H. and M. W. Watson (2018). Identification and Estimation of Dynamic Causal Effects in Macroeconomics Using External Instruments. In: *Economic Journal* 128 (610), pp. 917–948.

Sturn, S. (2014). Macroeconomic policy in recessions and unemployment hysteresis. In: *Applied Economics Letters* 21 (13), pp. 914–917.

Talvi, E. and C. Végh (2000). Tax Base Variability and Procyclical Fiscal Policy. In: *NBER Working Paper Series* No. 7499.

Treeck, T. van (2009). The political economy debate on 'financialization' – a macroeconomic perspective. In: *Review of International Political Economy* 16 (5), pp. 907–944.

Trichet, J.-C. (2010). Stimulate no more – it is now time for all to tighten. In: *Financial Times* Jul. URL: http://www.ft.com/cms/s/0/1b3ae97e-95c6-11df-b5ad-00144feab49a.html.

Truger, A. and H. Will (2012). Eine Finanzpolitik im Interesse der nächsten Generationen. Schuldenbremse weiterentwickeln: Konjunkturpolitische Handlungsfähigkeit und öffentliche Investitionen stärken. In: *IMK Study* 24.

Truger, A. (2015). The Fiscal Compact, Cyclical Adjustment and the Remaining Leeway for Expansionary Fiscal Policies in the Euro Area. In: *Panoeconomicus* 62 (2), pp. 157–175.

— (2019). Deutsche Schuldenbremse: kein gutes Vorbild für Europa. In: *Wirtschaftsdienst (Hamburg, Germany : 1949)* 99 (6), pp. 374–375.

— (2020). Reforming EU Fiscal Rules: More Leeway, Investment Orientation and Democratic Coordination. In: *Intereconomics* 55, pp. 277–281.

Uhl, M. (2013). *A History of Tax Legislation in the Federal Republic of Germany*. MAGKS Papers on Economics 201311. Philipps-Universität Marburg, Faculty of Business Administration and Economics, Department of Economics.

van Treeck, T. (2014). Did Inequality Cause the U.S. Financial Crisis? In: *Journal of Economic Surveys* 28 (3), pp. 421–448.

Vartiainen, J. (2011). The Finnish Model of Economic and Social Policy – From Cold War Primitive Accumulation to Generational Conflicts? In: *The Nordic Varieties of Capitalism*. Ed. by Lars Mjøset. Vol. 28. Comparative social research. Emerald Group Publishing Limited, pp. 53–87.

Vehrkamp, R. and K. Wegschaider (2017). Populäre Wahlen: Mobilisierung und Gegenmobilisierung der sozialen Milieus bei der Bundestagswahl 2017. 1st ed. Gütersloh: Bertelsmann Stiftung.

Wilcox, D. (1989). Social Security Benefits, Consumption Expenditures, and the Life Cycle Hypothesis. In: *Journal of Political Economy* 97 (2), pp. 288–304.

Woodford, M. (2011). Simple analytics of the government expenditure multiplier. In: *American Economic Journal: Macroeconomics* 3 (1), pp. 1–35.

Wren-Lewis, S. (2014). Why we need our fiscal policy instrument back. In: *Social Europe* November 24, 2014 (latest download September 9, 2020). URL: http://www.social-europe.eu/2014/11/fiscal-policy/.

Wyplosz, C. (2011). Fiscal Rules: Theoretical Issues and Historical Experiences. In: *In: Fiscal Policy after the Financial Crisis (2013), Alesina, A. und Giavazzi, F*. Ed. by N. B. of Economic Research.

DOI: 10.17185/duepublico/77057
URN: urn:nbn:de:hbz:465-20230421-135759-4