Fiscal Policy and Economic Activity

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Fiscal Policy and Economic Activity

Doctoral Thesis

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Introduction

The 2007 financial crisis ended with a downturn in economic activity around the globe; thus, motivating large-scale business cycle stimulus packages. ILO (2011) estimates that the G20 economies spent $2 trillion, the equivalent of 1.4 per cent of world GDP, on fiscal stimulus. For Germany, the numbers are estimated at EUR100 billion; the equivalent of 4 per cent of German GDP (ILO, 2011). After 2010, the ongoing economic crisis in the euro area raised concerns about potential adverse consequences from budget consolidations. Until recently, however, the macroeconomic consequences of fiscal policy have been little researched, particularly for Germany. I empirically research the macroeconomic consequences of changes in governmental fiscal policy and conclude that a government's spending and revenue decisions impact economic activity. A better understanding of the macroeconomic effects of fiscal policy was urgently needed; hence, my study is of high practical relevance.

Conventionally, macroeconomic consequences of economic policy have been researched in structural vector autoregressions (SVAR). Fiscal policy SVAR models estimated for the U.S. are usually supportive for large fiscal policy effects on output. In one prominent example, the tax multiplier is estimated as -1.33, and the spending multiplier as 1.29 (Blanchard and Perotti, 2002). SVAR models require untestable identification assumptions; thus, prompting the search for natural experiments as an alternative source of identification. In a particularly influential study, Romer and Romer (2010) construct a historical account of exogenous legislated U.S. tax changes and estimate a much larger tax multiplier of around -3. Applications of the SVAR methodology to Germany have generally found rather small effects of fiscal policy on output. In Hayo and Uhl (2014a), we use a natural experiment approach, closely following Romer and Romer (2010), and find strong effects of tax changes on output. Based on our evidence, one can conjecture that the tax multiplier in Germany might be as large as -2.4. The estimated tax multipliers are much larger than alternative estimates derived in fiscal policy VAR models for Germany. Implementing this study required intensive data collection processes; Uhl (2013) contains the documentation of these efforts.

Most studies on the macroeconomic consequences of fiscal policy use aggregate nationwide data. In Hayo and Uhl (2014b), we estimate the consequences of federal tax policy actions for regional economic activity in the U.S. We find considerable variation in how regional output reacts to federal tax changes and that estimated state multipliers range between –0.2 in Utah and –3.7 in Hawaii. An econometric analysis of determinants behind these differences reveals that the size and composition of a state tax base is related to the strength of the local income reaction. These results improve our understanding of the precise transmission mechanism of fiscal policy shocks. In Uhl (2014), I estimate the consequences of U.S. state-level fiscal policies for local economic activity and conclude that state-level spending multipliers are relatively small, while tax multipliers are large. These results allow for assessing the consequences of subnational fiscal policies and provide stylized-facts on fiscal multipliers in a monetary union. It is interesting to note that estimated multipliers at the state level are comparable to estimates derived at the country level despite their different transmission mechanism. I also find that both increases in state spending and in state taxes improve out-of-state output which suggests that spillovers among states or countries are relevant.

Inference on 'fiscal multipliers' in aggregate time series requires untestable identification assumptions. Asking economic agents directly about their responses to fiscal policy is an appealing non-standard alternative. Shapiro and Slemrod (1995), and follow-up papers, ask U.S. residents about their consumption responses to various tax changes. We extend on this research by directly asking the German population about their consumption and labor supply responses to a recent 2013 payroll tax change using a representative population survey (Hayo et al., 2014, Hayo and Uhl, 2014c, and Hayo and Uhl, 2014d). About 55 per cent of the respondents indicate that they have increased spending; suggesting that tax changes in Germany have a relatively large impact on consumption and, hence, on economic activity. Based on the evidence from this representative survey, the effects of tax changes on labor supply, however, are likely small. The relative dominance of consumption responses, vis-à-vis labor supply responses, is a conclusion that is also present in the aggregate time series evidence in Hayo and Uhl (2014a). One further noteworthy implication from our representative survey is that currently low interest rates reduce incentives to save as well as incentives for labor supply.

My research is overall supportive for strong effects of fiscal policy on output. Estimates of the size of 'fiscal multipliers' provide stylized facts for economic theory, are relevant for the evaluation of business cycle stimulus packages, and inform on macroeconomic consequences of budget consolidation. Based on my research, one could conclude that business cycle stimulus packages achieve their objective of stabilizing output. Some aspects remain unaddressed, however. One that I find particularly relevant is that debt financed fiscal stimulus needs to be repaid; accordingly, overall welfare properties of activist fiscal policy remain unclear.

This dissertation is a cumulative dissertation comprised of seven individual papers. The Appendix to this summary contains a list of abstracts of the papers constituting my thesis.

Marburg, September 10th, 2014

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Uhl, Matthias, 2013, A History of Tax Legislation in the Federal Republic of Germany, MAGKS Discussion Paper 11-2013, Marburg.

Uhl, Matthias, 2014, State Fiscal Policies and Regional Economic Activity, MAGKS Discussion Paper 46-2014, Marburg.

Appendix: Abstracts

[1] Hayo, Bernd and Matthias Uhl, 2014a, The Macroeconomic Effects of Legislated Tax Changes in Germany, Oxford Economic Papers, 66, 397–418.

This paper studies the short-term macroeconomic effects of legislated tax changes in Germany using a five-variable vector autoregression (VAR) framework. Identification of the tax shock follows a recently proposed narrative approach. Based on a historical account of German tax legislation, the timing, size, and motivation of legislated tax changes are assessed and a time series of exogenous tax shocks is constructed. The VAR results indicate a substantial and statistically significant reaction of output following implementation of a tax change. In response to a one percentage point increase in the tax-to-GDP ratio, we observe a maximum output reduction of 2.4%. These results suggest that previous estimates of the effects of tax changes on output in Germany are downward biased.

[2] Uhl, Matthias, 2013, A History of Tax Legislation in the Federal Republic of Germany, MAGKS Discussion Paper 11-2013, Marburg.

This paper presents a historical account of legislated tax changes in the Federal Republic of Germany from 1964 to 2010, thus establishing a database appropriate for the macroeconometric analysis of the fiscal policy transmission mechanism. Ninety-five quantitatively important pieces of tax legislation are identified and characterized along several dimensions: Tax changes are classified as "endogenous" or "exogenous" with regard to current macroeconomic conditions, and their revenue impact and timing is reported. The evolution of tax acts is described, capturing changes in tax measures and associated revenue impacts over the whole legislative process. The exposition is also a comprehensive qualitative description of major tax changes and the motivation behind them over the last four decades.

[3] Hayo, Bernd and Matthias Uhl, 2014b, Regional Effects of Federal Tax Shocks, Southern Economic Journal, forthcoming.

This paper studies the effects of federal tax changes on U.S.-state-level income. Utilizing an exogenous tax shock series recently proposed in the literature, we find considerable variation in how federal tax changes affect regional income: estimated state income multipliers range between –0.2 in Utah and –3.7 in Hawaii. Analyzing the determinants of differences in regional tax multipliers suggests that size and composition of the state tax base help explain the observed heterogeneity in the transmission of federal tax policy.

[4] Uhl, Matthias, 2014, State Fiscal Policies and Regional Economic Activity, MAGKS Discussion Paper 46-2014, Marburg.

In this paper, I estimate a structural panel vector autoregression to study the consequences of changes in U.S. state government fiscal policies for short-term local economic activity. My main result is that the state-level spending multiplier is relatively small and the tax multiplier relatively large. After four years, the government spending multiplier is 0.6 and the tax

multiplier 2.6. This conclusion is robust across different model specifications. I also find that both state spending and state revenue shocks increase out-of-state output.

[5] Hayo, Bernd and Matthias Uhl, 2014c, Taxation and Consumption: Evidence from a Representative Survey of the German Population, MAGKS Discussion Paper 20-2014, Marburg.

Using a representative survey of the German population, this paper studies self-reported individual consumption responses to a recent payroll tax reduction. About 55 per cent of the respondents report that they spend the extra money, indicating considerable potential for tax changes to affect consumption and economic activity. Our analysis of the socio-demographic and economic covariates of consumption responses suggests, among other effects, that interest rates are related to consumption responses to tax changes, and that households with higher income have a higher propensity to consume.

[6] Hayo, Bernd and Matthias Uhl, 2014d, Taxation and Labour Supply: Evidence from a Representative Population Survey, MAGKS Discussion Paper 38-2014, Marburg.

We study the influence of taxation on labour supply using a specifically designed representative survey of the German population. First, we investigate whether taxes generally matter for the labour supply decisions of our respondents. Around 41 per cent report taking taxes into consideration, which implies that the majority of the German population appears unresponsive to taxation. Second, we look at self-reported labour supply adjustments following a recently enacted payroll tax change. Only around 12 per cent of all respondents report an actual labour supply response, but we find evidence of an income, as well as a substitution, effect of the tax change. Our conclusion is that effects of taxes on labour supply in Germany are likely small. We analyse the correlation with economic and socio-demographic variables, and find that the self-employed are relatively more sensitive to taxation and that low interest rates reduce incentives for an expansion of the labour supply.

[7] Hayo, Bernd, Florian Neumeier, and Matthias Uhl, 2014, Topics in Fiscal Policy: Evidence from a Representative Survey of the German Population, MAGKS Discussion Paper 12-2014, Marburg.

This paper provides background information and basic descriptive statistics for a representative survey of the German population conducted on our behalf by *GfK* in the first quarter of 2013. The survey addresses important topics in fiscal policy, including: 1) public preferences on the composition of fiscal expenditure; 2) public preferences on public debt; 3) the effect of tax changes on consumption and savings; and 4) the effect of tax changes on labour market activities.

The Macroeconomic Effects of Legislated
Tax Changes in Germany *

Bernd Hayo and Matthias Uhl

Abstract This paper studies the short-term macroeconomic effects of legislated tax changes in Germany using a five-variable vector autoregression (VAR) framework. Identification of the tax shock follows a recently proposed narrative approach. Based on a historical account of German tax legislation, the timing, size, and motivation of legislated tax changes are assessed and a time series of exogenous tax shocks is constructed. The VAR results indicate a substantial and statistically significant reaction of output following implementation of a tax change. In response to a one percentage point increase in the tax-to-GDP ratio, we observe a maximum output reduction of 2.4%. These results suggest that previous estimates of the effects of tax changes on output in Germany are downward biased.

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No. 11-2013

Matthias Uhl

A History of Tax Legislation in the Federal Republic of Germany

A History of Tax Legislation in the

Federal Republic of Germany

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July 22th, 2012

University of Marburg

Abstract This paper presents a historical account of legislated tax changes in the Federal Republic of Germany from 1964 to 2010, thus establishing a database appropriate for the macroeconometric analysis of the fiscal policy transmission mechanism. Ninety-five quantitatively important pieces of tax legislation are identified and characterized along several dimensions: Tax changes are classified as "endogenous" or "exogenous" with regard to current macroeconomic conditions, and their revenue impact and timing is reported. The evolution of tax acts is described, capturing changes in tax measures and associated revenue impacts over the whole legislative process. The exposition is also a comprehensive qualitative description of major tax changes and the motivation behind them over the last four decades.

1 Introduction

This paper is a historical account of quantitatively important tax legislation in the Federal Republic of Germany from 1964 to 2010. The article establishes a database for the econometric analysis of the macroeconomic transmission mechanism of tax shocks, and is also a comprehensive exposition of major tax changes and the motivation behind them over the last four decades.

Interest in the macroeconomic analysis of fiscal policy has increased in recent years, including interest in the short-term output effects of changes in taxes and government expenditures (Fatás and Mihov, 2001; Blanchard and Perotti, 2002; Mountford and Uhlig, 2009; Romer and Romer, 2010). Regrettably, much of the extant literature utilizes U.S. data, which is problematic in the event that the fiscal policy transmission mechanism is country specific. And, indeed, the literature on Germany (e.g., Höppner, 2001; Perotti, 2004; Marcellino, 2006; Heppke-Falk et al., 2006) is inconclusive as to the sign, size, and statistical significance of fiscal policy effects on output, which is in contrast to the relatively unambiguous evidence found in U.S. data. Research on tax policy effects in Germany mainly relies on the Blanchard and Perotti (2002) structural vector-autoregression (VAR) approach for identification of exogenous policy innovations. Romer and Romer (2010) suggest a narrative approach for overcoming the identification problem. Rather than constructing artificial fiscal policy shocks based on the residuals of an identified VAR process, the authors use historical information on actual tax legislation to construct exogenous measures of tax changes, allowing consistent estimation of their macroeconomic consequences. Note that Romer and Romer (2010) criticize the structural VAR approach as being potentially downward-biased and, given the inconclusive state of the extant literature, an application to Germany seems of particular importance. The database established in this paper allows applying the narrative approach to analyzing the output effects of tax shocks to the case of Germany.

Other fundamental aspects of the fiscal policy transmission mechanism remain underresearched, such as monetary-fiscal policy interactions (Muscatelli et al., 2004) and the effects of fiscal policy on financial markets (Akitoby and Stratmann, 2008; Afonso and Sousa, 2011). The narrative approach offers new perspectives on these topics. Conventional measures of tax shocks rely on official government accounts, which are available only quarterly, whereas narrative measures of tax shocks can be constructed at arbitrary frequencies. The quarterly frequency seems inadequate for modeling structural relationships in highly dynamic environments. Another concern about conventional measures is that tax changes are often anticipated prior to their implementation. The narrative approach allows tracking the evolution of tax changes over all stages of their formulation process and thereby facilitates capturing the formation of expectations on tax changes. This is useful for studying rational agents' responses to "unanticipated" tax shocks, as well as their response to announced tax changes during the legislative process before their actual implementation.

The remainder of the paper is organized as follows. Section 2 starts with a description of the narrative approach and proceeds to establish methodological principles for its application to Germany. The section gives an account of Germany's tax system and its legislative process, describes guidelines for selection and characterization of important tax legislation, and discusses principles for assessing the motivation, size, and timing of tax shocks. Section 2 also introduces the key sources used to construct this history. Section 3 contains detailed case-by-case discussion of individual tax acts. Ninety-five important pieces of tax legislation associated with 845 distinct tax measures for the period 1964 to 2010 are identified and characterized along several dimensions. Important dates of the legislative process are collected and tax changes are classified as either

"endogenous" or "exogenous" with regard to current macroeconomic conditions based on a careful and extensive reading of official government documents. Finally, estimates for the law's revenue impact are reported.

The primary objective of the paper is to transform historical information on tax legislation into a time series suitable for econometric analyses. However, independent of empirical applications, the paper provides a comprehensive overview and discussion of tax legislation in Germany, creating an opportunity to draw qualitative conclusions about important characteristics of fiscal policy. The Appendix contains summary information on the tax legislation forming the basis of the paper.

2 Methodological Principles

2.1 The Narrative Approach

Romer and Romer (2010) use the narrative approach to analyze the short-term output effects of tax changes, building on earlier work on the identification of monetary policy (Romer and Romer, 2004) and government spending shocks (Ramey and Shapiro, 1998; Ramey, 2011). The key characteristic of the narrative approach is that historical out-of-sample information is used to construct exogenous instruments suitable for making consistent inferences as to their macroeconomic consequences.

To illustrate the narrative approach, consider a standard structural model of the economy with

(1) $\quad \mathbf{A}\mathbf{y}_t = \mathbf{A}(\mathrm{L})\mathbf{y}_{t\text{-}1} + \mathbf{B}\boldsymbol{\varepsilon}_t$

at time t, t=1,...,T, where $\mathbf{y}_t$ is a K×1 vector of endogenous variables including output, tax revenues, and, potentially, other macroeconomic variables such as government expenditures and interest rates. $\mathbf{A}$ and $\mathbf{B}$ are fixed K×K matrices representing contemporaneous relations, $\mathbf{A}$(L) is a lag-polynomial, and $\boldsymbol{\varepsilon}_t$ are structural innovations. The reduced-form of Equation (1) is the VAR model in Equation (2)

(2) $\quad \mathrm{y}_t = \mathrm{A}^{\text{-}1}\mathrm{A}(\mathrm{L})\mathrm{y}_{t\text{-}1} + \mathrm{A}^{\text{-}1}\mathrm{B}\boldsymbol{\varepsilon}_t$

where the reduced-form innovations can be defined as $\mathbf{u}_t = \mathbf{A}^{\text{-}1}\mathbf{B}\boldsymbol{\varepsilon}_t$.

The key challenge is that *a priori* observed innovations in macroeconomic variables $\mathbf{u}_t$ cannot be differentiated in exogenous policy innovations $\boldsymbol{\varepsilon}_t$ and endogenous comovements. Conventional solutions to this identification problem make direct assumptions about the matrices $\mathbf{A}$ and $\mathbf{B}$, either by assuming a Cholesky-ordering of variables (Fatás and Mihov, 2001) or by following the structural VAR approach in Blanchard and Perotti (2002). Noteworthy identification assumptions of the Blanchard and Perotti (2002) approach include estimates on the automatic response of taxes to changes in output and the causal ordering between government expenditures and taxes. Rather than hypothesizing about $\mathbf{A}$ and $\mathbf{B}$ in order to recover policy innovations $\boldsymbol{\varepsilon}_t$, the narrative approach directly constructs tax innovations ΔT_t. The narrative approach respects that tax innovations are discrete decisions, formulated in political processes and implemented through tax legislation. Hence, by constructing a legislative history of tax changes, relevant tax innovations can be identified. From official government documents, such as budgetary reports and the law code, it is then possible to assess the timing and size of legislated tax reforms and thereby construct a time series of tax innovations ΔT_t for each t. Tax legislation typically consists of a multitude of distinct tax measures $\Delta T_{i,t}$, i=1,...,N_t to be implemented at time t, thus

(3) $\Delta T_t = \sum_{i=1}^{N_t} \Delta T_{i,t}, \quad t = 1, \ldots, T$

Sections 2.2 to 2.4 describe principles for identification and characterization of tax changes $\Delta T_{i,t}$.

The collection of legislated tax changes $\Delta T_{i,t}$ does not yet solve the identification problem as tax legislation may react to contemporaneous macroeconomic innovations. Romer and Romer (2010) argue that most tax legislation has a single predominant motivation, identifiable through official government documents. Tax changes may be a reaction to current macroeconomic deterioration and attempt to stimulate the business cycle or be implemented in order to finance recent expansions in government expenditure. As these innovations react to structural macroeconomic shocks, they are endogenous. However, some tax changes are implemented for reasons unrelated to contemporaneous macroeconomic conditions. Policymakers may increase taxes in consolidation efforts. Those tax changes are related only to past policy decisions and are independent of contemporaneous macroeconomic conditions. Also, some tax changes are undertaken for ideological or structural reasons. Parts of the tax system are designed to achieve social-political objectives, such as regulations related to tax allowances for children. The tax system is also regularly used to create behavioral incentives, for example, by increasing the cost of energy usage or by rewarding investment in social housing. An important category of structural tax changes involves technical adjustments in the tax code, sometimes required to comply with rulings of the constitutional court or with international law. The tax system is an important determinant of economic growth, and policymakers frequently implement tax reforms to improve the economy's structure and hence enhance conditions for long-term growth. Consolidation efforts and tax legislation motivated by structural considerations are "exogenous," and hence are valid instruments for estimating the macroeconomic consequences of tax changes. Using the superscript x to denote exogenous tax changes, after assessing the motivation of each tax measure $\Delta T_{i,t}$ one obtains a series of exogenous tax shocks for each t

(4) $\Delta T_t^x = \sum_{i=1}^{N_t^x} \Delta T_{i,t}^x$

which can be included in Equation (2) as an exogenous variable to study the macroeconomic effects of tax changes. Section 2.5 describe principles of assessing the motivation behind tax changes $\Delta T_{i,t}$.

The narrative approach has at least three advantages over the benchmark structural VAR approach of Blanchard and Perotti (2002). First, artificially constructed tax innovations in a structural VAR framework may not coincide with actual policy innovations. The narrative approach emphasizes that tax changes are implemented in a political process and, by construction, identifies true policy changes. Second, cyclical adjustment, as used in Blanchard and Perotti (2002), may be an incomplete solution to the identification problem. Cyclical adjustment usually assumes that once systematic influences of economic activity are removed, the tax series is no longer related to structural innovations in output. This is problematic in the case that noncyclical influences, such as exchange rate or stock market movements, affect output *and* taxes or induce tax policy reactions. Cyclical adjustment also assumes that policy reaction to cyclical fluctuations is approximately constant across time, an assumption not borne out by either this narrative or that of Romer and Romer (2009a), both of which find that countercyclical policies were less frequent in the 1980s and 1990s. Third, the narrative approach requires no additional assumptions such as about the causal order between expenditures and taxes (Blanchard and Perotti, 2002) and is flexible to use in other VAR applications. In fact, expanding the VAR system to study the effects of tax changes on the trade balance, exchange rates, or government expenditures (Romer and Romer, 2009b) is possible without requiring additional identification assumptions.

The narrative approach offers a useful perspective on alternative applications such as monetary-fiscal policy interactions (Muscatelli et al., 2004) and the effects of fiscal policy on financial markets (Akitoby and Stratmann, 2008; Afonso and Sousa, 2011). Conventional measures of fiscal policy often rely on changes in official government accounts, implying that they are available only quarterly, whereas the narrative approach allows constructing measures of fiscal shocks at arbitrary frequencies. The quarterly frequency is problematic when investigating highly dynamic environments. Also note that changes in budgetary figures are regularly anticipated prior to their materialization because tax measures are extensively discussed in parliament and media throughout their formulation process. Hence, rational agents may take appropriate action in response to policy innovations before the same materialize. This timing relationship makes it difficult to model structural relationships with conventional budgetary measures of tax changes.

The narrative approach also has the advantage of being able to account for the formulation of tax changes over the legislative process, and thereby facilitates capturing expectations as to tax changes. This history of tax legislation collects important dates in the legislative process that are expected to proxy for dates at which new information emerges. Three steps in the legislative process seem particularly important: (1) publication of the draft bill, (2) recommendations by the leading parliamentary committee; and (3) resolution by the mediation committee of *Bundestag* and *Bundesrat*. This history provides measures for the revenue impact of tax legislation for each of these versions of the act and thereby tracks the evolution of expectations on future tax changes over the legislative process. Note that while some changes may be partially anticipated prior to these events, concrete details on future tax changes, including revenue forecasts and details on legal provisions, only truly materialize at these stages in the legislative process.

One shortcoming of this history is the empirical focus on quantitatively important tax legislation, corresponding to the emphasis on changes in aggregate tax liabilities deemed relevant for the fiscal policy transmission mechanism by standard Keynesian models such as the IS-LM model and by the majority of modern dynamic stochastic general equilibrium models. While the congruence between quantitatively and otherwise important tax legislation is large, the history constructed here is ill-suited to study effects of purely structural changes in the tax system. In fact, even though important reforms of the corporate or value-added tax codes have often been implemented as revenue-neutral, they may have important structural effects.

2.2 Legal Context

Table 1 provides an overview of the most important tax types covered in this history. For the sake of brevity, exotic taxes, such as taxes on illuminants or decks of cards, are excluded from Table 1; however, these tax types are covered in the historical account. The range of considered taxes includes income taxes, corporate taxes, excise taxes, transfer taxes, and the value-added tax. In contrast to work dealing with the United States, social insurance is not covered here as in Germany this is financed by contributions rather than taxes, and hence is not part of the federal budget except as federal block grants to the social insurance institutions. As a consequence, changes in social insurance are not treated as tax changes and are not covered in this narrative.

Table 1 Covered tax types

Tax type	Legal foundation	Short-description
Branntweinsteuer	Branntweinmonopolgesetz (BranntwMonG)	Duty on spirits
Einkommenssteuer	Einkommenssteuergesetz (EStG)	Broad income tax
Energiesteuer	Energiesteuergesetz (EnergieStG)	Energy tax
Erbschaftssteuer	Erbschaftsteuer- und Schenkungsteuergesetz (ErbStG)	Inheritance tax
Feuerschutzsteuer	Feuerschutzsteuergesetz (FeuerschStG)	Insurance tax on fire insurance
Gewerbesteuer	Gewerbesteuergesetz (GewStG)	Local business tax
Grunderwerbssteuer	Grunderwerbsteuergesetz (GrEStG)	Land purchase tax
Grundsteuer	Grundsteuergesetz (GrStG)	Property tax
Körperschaftssteuer	Körperschaftssteuergesetz (KStG)	Corporate income tax
Kraftfahrzeugsteuer	Kraftfahrzeugsteuergesetz (KraftStG)	Automobile tax
Mineralölsteuer	Mineralölsteuergesetz (MinÖStG)	Taxes on fossil fuels
Schaumweinsteuer	Schaumwein- und Zwischenerzeugnissteuergesetz (SchaumwZwStG)	Sparkling wine tax
Solidaritätszuschlag	Solidaritätszuschlaggesetz (SolzG)	"Solidarity surcharge," an additional levy on individual and corporate income taxes
Stromsteuer	Stromsteuergesetz	Electricity tax
Tabaksteuer	Tabaksteuergesetz (TabStG)	Tobacco tax
Umsatzsteuer	Umsatzsteuergesetz (UStG)	Value-added tax
Vermögensteuer	Vermögensteuergesetz (VStG)	Wealth tax
Versicherungssteuer	Versicherungssteuergesetz (VersStG)	Insurance tax

Notes: Table reports German titles and English descriptions of tax types covered in the narrative. Insignificant types are excluded.

The inclusion of some tax measures warrants special justification. The child benefit (*Kindergeld*) is partially designed to protect the minimum income needed to raise a child and, hence, is systematically part of the tax system even though it has a social transfer component. Changes in child benefits are formally treated as tax changes and covered as such in the narrative. The German tax code historically granted investment allowances for specific investments (*Investitionszulage*), such as for investment in border regions between East and West Germany, as well as for investment in eastern Germany after reunification. As they are financed and paid directly out of accrued tax revenues, they are formally treated as taxes. Similar reasoning applies to employee savings allowances in various forms. In general, measures that are treated as tax changes in official sources are included in this history.

The detailed discussion of individual tax acts also reports important dates of the legislative process. The introduction of a draft bill in parliament marks the beginning of the legislative procedure. The draft bill is usually combined with a statement on the introduction of the bill that justifies and explains intended changes, and that provides a forecast of the law's revenue impact. Shortly after being introduced in parliament, the bill is debated in the *Bundestag*, which is the lower chamber in Germany. Formally, this step is known as the first reading. After discussion in parliament, the draft bill is passed to a specialist parliamentary committee, which for most laws is the finance committee (*Finanzausschuss*). The leading parliamentary committee passes a recommendation for potential augmentations of the original bill. This recommendation is accompanied by a report that contains useful information on the motivation of the law as well as updates on revenue forecasts. In the second reading, the law is again debated in *Bundestag* and afterward put to the vote in a third reading.

The action to be taken by the *Bundesrat*, Germany's higher chamber, depends on whether the law is a statute requiring assent (*Zustimmungsgesetz)* or a bill to which the *Bundesrat* may object. (*Einspruchsgesetz*). Consider

first statutes requiring assent. If the *Bundesrat* denies its assent, the mediation committee (*Vermittlungsausschuss*), which works as a go-between for both chambers, might be convened by the *government*, the *Bundestag*, or the *Bundesrat*. In the event the mediation committee suggests changes to the law, the bill is put to another vote in the *Bundestag*. Afterward, it is again forwarded to the *Bundesrat*. This step can be repeated a maximum of three times as the government, the *Bundestag*, and the *Bundesrat* may each call in the mediation committee once. After passing *Bundestag* and *Bundesrat*, the head of state (*Bundespräsident*) needs to sign the law and it is forwarded for publication in the *Federal Law Gazette* (*Bundesgesetzblatt*, *BGBl)*.

If the law is an *Einspruchsgesetz*, the *Bundesrat* may demand that the mediation committee be convened. The mediation committee attempts to find an acceptable compromise and only when no compromise can be found may the *Bundesrat* formally object to the law. A potential objection may be overruled by the *Bundestag* by simple majority.

2.3 Identification and Characterization of Important Tax Legislation and Tax Measures

The first step in the narrative approach is to identify relevant tax laws. The *Finanzbericht*, an annual budgetary report of the Federal Ministry of Finance, provides extensive discussion and description of tax acts beginning with the year 1964. Over the period 1964 to 2010, a total of 297 pieces of tax legislation are mentioned in this publication. Usually, however, these laws have very minor revenue effects. To make the narrative more accessible and tractable, I follow a two-fold selection mechanism to discover the more important tax legislation. In a preliminary analysis, I take from the *Finanzbericht* the total expected revenue impact of the law on an annual basis after full implementation and divide it by the GDP current at the quarter of the law's publication. In the event the total expected revenue impact exceeds 0.1 percent of GDP, the law and all its tax measures are included in the narrative. Occasionally this selection criterion is inadequate. Some tax legislation implements only few tax measures, but fails to pass the 0.1 percent threshold by a small margin. These measures often have larger revenue impacts than negligible measures included in the history simply because they are combined with important tax measures in unified legislation. A strict application of the above criterion would imply that well-defined tax shocks of considerable importance are omitted and so I make an exception in these cases. This relativization also helps avoid the situation that tax measures from omitted laws in their combined aggregate constitute a significant tax shock at any point in time. Also, the revenue forecast for the total effect of a law in the *Finanzbericht* is sometimes misleading. Tax legislation may combine permanent and temporary measures that partially offset each other. While the temporary effect of such legislation may be small, its permanent effect can be substantial. In rare cases, the prospective revenue impact of the total law given in the *Finanzbericht* fails to reflect that the law's impact increases over time because the impact of some of its measures accumulates over time. In all these cases, the tax act and all its tax measures are included in this history. This selection procedure ensures that all significant tax shocks for the period 1964 to 2010 are included and results in a total of 95 pieces of important tax legislation. In comparison, Romer and Romer (2010) identify 50 important pieces of U.S. tax legislation over the period 1945 to 2007.

For each of the important tax laws, I extensively describe the legislative process. Important dates, such as the date the bill was introduced and the date of the first reading, are included. There are two stages during the process at which the law may change: first, after the resolution of the leading parliamentary committee, and second, in the mediation committee. Primary sources for this information are the online archives of the *Bundestag*, which contain all relevant printed papers (*Bundestag Drucksachen*) published since 1976, allowing construction of the legislative history of tax acts. Note that printed papers prior to 1976 are not publicly available.

Nevertheless, I am able to determine the date of each law's publication based on the law code published in the *Federal Law Gazette*. Sometimes, the law is introduced in two identical versions by both the government as well as by the parties forming the government. In that case, the reported date of the draft is the earlier one. The date of the committee action is chosen as the date of a proposal of resolution, which is important, as sometimes the accompanying report is published the following day.

The tax laws identified as important typically change more than one piece of the tax code and, in fact, tax laws can contain as many as 50 or more distinct tax measures. The next step is identification of tax measures for each of the identified important tax laws. The *Finanzbericht* contains discussion of important tax measures as well as revenue forecasts itemized by tax measures. This history covers 845 tax measures in 95 important tax laws. These tax measures are first qualitatively described and then coded according to several dimensions. First, the date the tax measure is expected to be implementend is collected from the law code. Thus, the focus is on the date tax liabilities, rather than accrued tax revenues, are changed, as is the case with the original Romer and Romer (2010) narrative. In the event the tax measure is only temporary, the date the tax measure is expected to phase out is also presented.

Timing the tax measures is difficult in a few cases. Changes in depreciation rules typically affect tax revenues for many years after the measure has phased out because present and future depreciation is affected over the whole lifespan of an investment good. Given the focus on changes in tax liabilities, the tax shock is timed according to the range of investment goods for which the measure was relevant. Sometimes, measures have retroactive components. In such cases, the implementation date is given as the date of publication in the *Federal Law Gazette*. This is done because publication of the act marks the formal end of the legislative process, implying that tax measures become legally binding around that time. Also note that some measures required the consent of the European Commission. In such cases, it was verified that such consent has indeed been granted. However, there was little evidence that the Commission's consent was critical, so it seems warranted to base the timing of tax measures on the actual law code. Note that following Romer and Romer (2010), tax shocks are assigned to the period in which they are enacted when they are implemented before the middle of that period, and to the next period otherwise.

2.4 Measuring Revenue Impacts and the Construction of Tax Shock Series

The parliamentary rules of conduct mandate that any draft bill must be accompanied by a forecast of revenue effects. These forecasts are included in the statement on the introduction of the bill, revised in the report of the leading parliamentary committee, and summarized and potentially updated in the *Finanzbericht*. Generally, prospective revenue impacts after full implementation at an annual level (*volle Jahreswirkung*) and revenue forecasts for budgetary years are reported. Due to retroactive or temporary components, as well as in the situation where the tax measure will take time to have its full impact on actual tax revenues, the two figures may differ. The prospective revenue impact after full implementation at an annual level is my standard measure for the size of the tax shock. While revenue figures may differ across budget years, this is a single, transparent number. Also, it is the best proxy for the importance of the tax shock as the focus of this history is on changes in tax liabilities rather than in actual tax revenues. In some rare cases, the annualized prospective revenue impact after full implementation is not readily available. In those cases, revenue forecasts from budgetary years are used to construct an annualized revenue forecast after full implementation. Note that the *Finanzbericht 1968* contains information for the impact only on budgetary years. However, *Übersicht über die Steuerrechtsänderungen seit 1964,* published by the Federal Ministry of Finance, contains proxies for the effect after full implementation at an

annual level. All revenue forecasts reported in the case-by-case discussion are in billions of Euro. For the actual empirical applications, tax shocks are normalized by annual GDP.

Identifying correct revenue impacts is difficult in two situations that arise with some frequency in the narrative. Changes in depreciation rules typically have accumulating revenue impacts as they affect taxes on investment or business decisions over consecutive years. The annualized revenue impact then represents averages over all affected investment vintages. The German tax code historically had various tax benefits for home ownership, regularly offering tax deductions for eight consecutive years. In these cases, I was able to reconstruct precisely the series of steps in which tax liabilities changed.

This history supports the construction of two classes of tax shock series based on either the announcement or the implementation effect. The implementation effect measures actual innovations in tax liabilities, and best corresponds to ΔT_t in Equation (3). To construct the series, the case-by-case discussion reports the implementation date of tax measures or, in case a tax measure is temporary, the exact time span for which it is in effect. In the construction of the series, temporary tax measures are removed by an equal-sized tax shock in the opposite direction once they expire. One-time revenue effects are treated as a one-period temporary measure. Extensions of tax measures as well as retroactive components are not included, following Romer and Romer (2010). In the case-by-case discussion, the implementation effect associated with each piece of tax legislation is reported under the heading *Implementation*. Note that in order to keep the presentation manageable, the removal of temporary measures once they are phased out is not represented in the table.

An act's announcement effect is designed to capture the act's importance in a single number. Extensions are included in the announcement effect, as the announcement of an extension may be useful information. The announcement series does not reflect the timing of tax measures, which could be important because some measures are announced up to four years before their actual implementation. Also, it does not distinguish between temporary and permanent tax measures. However, the announcement effect allows tracking changes in the tax acts during the legislative process and hence is computed for all three potential versions of the law, namely, the draft and the versions following resolutions by the leading parliamentary committee and by the mediation committee. Changes in the announcement amount may then reflect "unanticipated" changes in the total amount of the legislation. The detailed case-by-case discussion reports the announcement effect at the draft and publication stages of the process, as well as potential *changes* due to suggestions of the leading parliamentary committee and the mediation committee.

Two other special complications arise. Reunification changed the GDP basis of the revenue forecast provided in official government sources around 1990. Specifically, revenue forecasts for laws discussed in the *Finanzbericht* for 1991 rely on figures for a unified Germany, while revenue forecasts reported earlier were based on West Germany only. As a consequence, the GDP measure used to standardize the tax shock is adjusted at that time. However, none of the tax legislation passed during the reunification process in 1989/1990 was quantitatively important. Also, beginning with 2001, all revenue figures are in Euro. Before that date, revenue figures are transformed into Euro using the official exchange rate 1 EUR = 1.95583 DEM.

2.5 Classifying Motivation of Tax Changes

The motivation behind tax measures is inferred from official government sources. By rules of parliamentary procedure, motivation and intent must be explained in a statement on the introduction of the bill. In the event a bill is changed during the legislative process, the leading parliamentary committee's report contains justifications and explanations of potential changes. Furthermore, protocols from discussions in the two parliamentary chambers, *Bundestag* and *Bundesrat*, are helpful in assessing motivations for tax changes. The *Finanzbericht* contains explanations and, sometimes, classifications of the motivations behind law changes. Note that prior to 1976, documents such as the draft of the bill or protocols of parliamentary debates are not publicly available. However, the *Finanzbericht* classifies motivation for all tax measures during the time span when other official documents are not available. This classification is sufficient for categorizing the tax measures.

Extending the work of Romer and Romer (2010), tax measures are assigned to one of the following categories of motivation. I consider three endogenous classes of tax changes: spending driven (SD), countercyclical policies (CC), and policies driven by a recent macroeconomic shock (MS). Tax policies introduced for countercyclical reasons with the aim of offsetting current deviations of actual from potential output are clearly endogenous. Tax changes might be enacted to finance an increase in government spending. The increase in government spending can be interpreted as a structural innovation in the spending equation; hence, this tax change is an endogenous reaction to an important contemporaneous macroeconomic shock. However, this classification seems too narrow in the case of Germany. First, policymakers sometimes react to important policy events, such as the introduction of the Euro, reunification, and completion of the European common market. Also, sometimes policymakers increase taxes in response to an economic deterioration, with the intention of offsetting reductions in tax revenues. Neither type of reaction is exactly countercyclical nor spending driven, so I have labeled the category containing them "macroeconomic shocks."

I consider two classes of exogenous tax changes, those aimed at budget consolidation (C) and those implemented for structural reasons (S). Tax measures concerned with budget consolidation are related only to past spending and tax decisions and, hence, are exogenous with regard to contemporaneous macroeconomic conditions. Other tax policies are implemented for structural reasons. Policymakers might lower taxes in an effort to stimulate investment or consumption with the objective of improving structural conditions for long-term growth. Other measures in this category are undertaken to offset structural regional disparities or to promote social equity. Moreover, tax changes sometimes are made to increase the efficiency of the tax system, to create behavioral incentives, or because the constitutional court deemed former regulations unconstitutional. Both consolidation and structural tax measures are unrelated to contemporaneous macroeconomic shocks and thus are valid instruments for estimating the macroeconomic effects of tax changes.

In most cases, tax measures can be unambiguously assigned to one of the above categories, but in a few instances, alternative interpretations of the motive behind a tax change are feasible. These alternative assignments are explicitly stated in the detailed case-by-case analysis. Sometimes, tax acts are focused on a set of centerpiece tax measures, while implementing subordinate tax changes to offset their revenue effects. These subordinate measures are deemed to have the same motivation as assigned to the centerpiece measure as all measures together form a common package. In the event that separate tax measures combined in one law have different motivations, such is accounted for in this history of important tax changes in the Federal Republic of Germany.

3 Important Tax Legislation in the Federal Republic of Germany[1]

Gesetz zur Beschleunigung des Wirtschaftswachstums (Wachstumsbeschleunigungsgesetz)[2]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/09/2009 (CC: -8.482 bn €)	11/12/2009	12/02/2009	12/04/2009
Bundesrat	**Publication**	**Implementation**	
12/18/2009	12/30/2009 (CC: -8.482 bn €)	12/30/2009 (CC: -0.05 bn €)	
		01/01/2010 (CC: -7.402 bn €)	

At the time of writing the *Wachstumsbeschleunigungsgesetz*, Germany was still in a recession as a consequence of the most recent financial crisis and, in essence, the law was a countercyclical stimulus. Noteworthy tax measures of the law were an expansion in child allowances and child benefits, changes in the corporate tax code related to loss carry over in case of takeovers, and reduction of the value-added tax rate to 7 percent on overnight stays in hotels.

The law's quantitatively most important tax measures was an increase to 7,008 € in the tax-free amount for dependent children and the increase in child benefits of 20 € (§§ 32 and 66 EStG) effective 2010. The *Finanzbericht* reported an annualized revenue impact of -4.61 bn €. The second most important tax measure had to do with changes in § 8c KStG, which limits loss carry over in case of company acquisitions implying that losses of the acquired company are not deductible. The new rules in § 8c KStG sec. 1 made loss carry over unlimited for acquisitions within concerns. Also, loss carry over was allowed insofar as it does not exceed cookie jar reserves of the acquired company. Changes in § 8c KStG sec. 1a allowed loss carry over in case of takeovers made with the intention of recapitalization. This exemption had been introduced in the *Gesetz zur verbesserten steuerlichen Berücksichtigung von Vorsorgeaufwendungen (Bürgerentlastungsgesetz Krankenversicherung)* signed July 16, 2009, however, the measure had initially been restricted to 2008 and 2009. With the *Wachstumsbeschleunigungsgesetz*, the tax exemption was made permanent. The combined prospective revenue impact after full implementation given in the *Finanzbericht* was -1.34 bn € at an annual level, expected to be implemented with the beginning of 2010. Unfortunately, the available revenue forecast does not allow distinguishing the components that were new tax measures from those that were mere extensions. To account for the law's extension, I subtract the revenue forecast for the original measure introduced by the *Bürgerentlastungsgesetz Krankenversicherung,* which leaves an implementation effect of -0.445 bn €. Note that the revenue forecast for the full measure including the extension is included in the announcement effect of the law. The most controversial measure of the law was the reduction of the value-added tax rate to 7% on overnight stays in hotels (§ 12 UStG). The measure was effective January 1, 2010 and was expected to lower revenues by -0.945 bn €.

Other measures of the law had only small revenue impacts. Changes in § 6 sec. 2 EStG eased deduction for low-value assets and were expected to change revenues by -0.4 bn € effective 2010. Restructuring of companies was eased (§ 6a GrEStG), which changed revenues by -0.2 bn € effective 2010. Changes in § 8 sec. 1 GewStG affected local business taxes on renting and leasing. The expected revenue effect was -0.08 bn € effective 2010. The inheritance tax code was changed in § 13a ErbStG and § 19 ErbStG. Changes in § 19 ErbStG included a reduction of tax rates in favor of close relatives, expected to become effective at the beginning of 2010. The prospective revenue impact was -0.37 bn €. Changes in § 13a ErbStG eased company succession. The change was retroactive for inheritances in 2009, hence; the tax shock is assigned the date of publication. Its expected revenue effect was -0.05 bn €. Changes in § 4h EStG and § 8a KStG affected the interest deduction ceiling rule that had been introduced with the *Unternehmensteuerreformgesetz 2008* signed August 14, 2008. The change in § 4h sec. 2 EStG increased exemptions from the interest deduction ceiling rule. The measure was expected to come into effect at the beginning of 2010 and was expected to change tax revenues by -0.1 bn €. Also, the *Bürgerentlastungsgesetz Krankenversicherung* had temporarily introduced a tax threshold of 3 m € initially designed to be phased out by the end of 2009. With the new rules, the threshold of 3 m € became permanent. I follow the convention of setting the implementation effect of the measure to zero, while allowing for an announcement effect of -0.06 bn €. The new § 4 h EStG sec. 1 was implemented at the beginning of the year 2010 and was expected to change tax revenues by -0.2 bn €. In essence, changes allowed for the shifting of deductible interest expenses across time. The provision also allowed deductible interest expenses from 2007 onward to be transferred across time, and hence had a retroactive component.

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[1] Recall the following abbreviations for categories of motivation: CC: countercyclical, MS: macroeconomic shock, SD: spending-driven policy, S: structural, C: consolidation. Under *Draft* and *Publication*, the announcement effect of the law at that stage of the legislative process is reported. When applicable, changes in the announcement effect after suggestions by the leading parliamentary committee and the mediation committee are given. Under *Implementation*, the implementation effects associated with the tax legislation are given.

[2] BGBl. 2009, 81, pp. 3950–3956.

Finally, changes in § 50 sec. 3 EnergieStG adjusted tax relief for bio fuels. Basically, the tax measure prolonged the time periods for which high tax reductions are granted. Initially, the tax deductions were to be reduced at the beginning of 2010, 2011, and 2012. Under new regulation, the tax reduction was to remain at the old level until the end of 2012. Hence, the measure affected revenues in several steps in 2010, 2011, and 2012, while at the beginning of 2013, the tax reductions are back on track. The *Finanzbericht* quoted a revenue impact after full implementation of -0.127 bn € as well as effects on budgets in 2010, 2011, and 2012. To identify a sequence of shocks, the effects in budgetary years are taken. This results in a tax shock of -0.052 bn € at the beginning of 2010, of -0.102 bn € (total) at the beginning of 2011, and of -0.127 bn € (total) at the beginning of 2012. However, only the first tax shock is within the time horizon of the analysis. To compute the announcement effect the maximum effect of -0.127 bn € is used. The measure was designed to affect tax liabilities at the beginning of 2010, but it required the consent of the Commission of the European Communities, which was not obtained until April 29, 2010.

The opening sentence of the statement on the bill described the law as a reaction to the real economic effects of the 2007 financial crisis. It was clearly stated that the law was designed as a countercyclical reaction to the recent deterioration in economic growth with the intention of obtaining "stable and balanced" growth. Following the statement on the bill, the law's tax measures were intended to deliver speedy stimuli for investment and consumption. Indeed, real GDP growth in the previous year was -5.2% in the third quarter and -2.2% in the fourth quarter of 2009. Although leading business cycle indicators at that time suggested a recovery, actual growth rates were still much lower than normal, hence leaving room for business cycle policies. Wolfgang Schäuble, finance minister at the time, acknowledged in his opening of the parliamentary debate that business cycle prospects were less gloomy than previously. Yet, he also spoke of "uncertainties" as to the extent and sustainability of the recovery. Mr. Schäuble acknowledged future risks for economic growth, such as higher unemployment, a credit crunch, and an increased incidence of company insolvency. Günther H. Oettinger, at that time head of state of *Baden-Württemberg*, explicitly labeled the law a business cycle policy in the final debate in the *Bundesrat*. Specifically, the largest component of the law, which was the increase in child benefits, was justified as increasing private demand. A slight complication in the classification of motivation arises because some of the tax measures—such as the reduction of taxes in case of company succession or the increase in the interest deduction ceiling rule—may have had structural motives. Still, from a careful reading of the introduction of the bill, as well as of the parliamentary debate, the primary motivation behind the tax measures was to compensate for the real economic deterioration following the financial crisis. In the speech mentioned above, Mr. Schäuble argued that changes in the taxation of inheritances and companies introduced by the bill will ease the burden of the economic crisis. The exemptions from the interest deduction ceiling rule were justified in the introduction of the bill as a relieving small and medium-sized companies from adverse consequences of the financial crisis. Changes in tax reductions for bio fuels were justified by decreased demand due to the recent economic deterioration. The single most controversial tax measure of the law was reduction of the value-added tax rate to 7% on overnight stays in hotels, which was regarded as clientele policy by the broad public. Given that observation, it may not be surprising that the government was relatively quiet on the motivation behind that part of the law. At best, the tax measure is justified on grounds of removing competitive disadvantage with other member states of the European Union. Still, here and elsewhere, I take the official government position at face value. Therefore, the general motivation of the law is also assigned to that specific tax measure.

The law did not change substantially in the legislative process. In total, the *Wachstumsbeschleunigungsgesetz* represented a tax shock of size 7.407 bn € in the first quarter of 2010.

Gesetz zur Umsetzung steuerrechtlicher Regelungen des Maßnahmenpakets "Beschäftigungssicherung durch Wachstumsstärkung"[3]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/13/2008 (CC: -4.378 bn €)	11/25/2008	12/02/2008	12/04/2008
Bundesrat	**Publication**	**Implementation**	
12/05/2008	12/29/2008 (CC: -4.378 bn €)	12/29/2008 (CC: -0.263 bn €)	
		01/01/2009 (CC: -4.115 bn €)	

At the time of writing the law, Germany was moving into a recession and in reaction to the economic deterioration following the financial crisis, the grand coalition of Social Democrats (*SPD*) and Christian Democrats (*CDU/CSU*) decided to implement a stimulus package. This law contained the tax measures of the program. Noteworthy tax measures included an increased allowance for the deduction of craftsmen expenses and a temporary reintroduction of the declining balance method of depreciation.

The quantitatively most important component of the law was reintroduction of the declining balance method of depreciation (§ 7 sec. 2 EStG) for investment made in 2009 and 2010. It can be difficult to measure the size and timing of revenue impacts of changes in

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[3] BGBl. 2008, 64, pp. 2896–2898.

depreciation rules. The *Finanzbericht* reported an annualized effect of the measure after full implementation of -2.52 bn €, which is close to the reported average effect over the five consecutive budgetary years 2009 to 2013. The figure -2.52 bn € hence seems a reasonable proxy for the annualized impact on tax liabilities. Deciding when to phase out the temporary depreciation rule seems more difficult as the tax measure will affect liabilities far past the end of 2010 as an implication of the declining balance depreciation is that depreciations will be high initially, but then fall below the linear depreciation. Hence, the revenue impact of the tax measure quickly returned to zero (or may even have turned sign) as declining depreciations undercut the linear depreciations. The way I decided to treat depreciation in this narrative is to take the range over which new investments are affected as a basis for the timing decision. This gives an annualized tax shock of -2.52 bn €, implemented at the beginning of 2009 and phased out at the end of 2010. § 52 sec. 23 expanded special depreciations in the years 2009 and 2010. The annualized impact of that measure was -0.095 bn €.

The measure in § 35a sec. 2 EStG increased allowances for craftsmen expenses from 600 € to 1,200 €. The annualized impact after full implementation was given as -1.5 bn €, expected to be implemented at the beginning of 2009. In contrast to the other tax measures, this was designed to be permanent. Also, the law introduced an exemption of new cars from the automobile tax. The measure was retroactive for all cars bought after November 5, 2008. Following the standard practice, the date of publication is given as the implementation date. Defining the lifetime of the measure is complicated by the fact that the exemption was granted for a longer time span for environmentally friendly cars. Still, the exemption was granted at a maximum until December 31, 2010, which is chosen as the phase-out date of the measure. Over the full lifetime of the measure, the expected revenue impact is -0.57 bn €. Given that the tax measure is in place for 26 months, I assign an annualized revenue impact of -0.263 bn €.

At the time of writing the law, the economic outlook was gloomy. Actual growth rates for the previous year were marginally positive in the third quarter, but turned negative in the fourth quarter of 2008. Nearly all economic observers expected a deep recession in 2009 as a consequence of the most recent financial crisis. The law was explicitly labeled as a stimulus package. Hence, the overall categorization of the law as a countercyclical policy is straightforward. Specifically, in the statement accompanying the introduction of the bill, the law was described as a response to the recent financial crisis. The temporary reintroduction of the declining balance method of depreciation was intended to stimulate investment. The expansion in special depreciations was supposed to temporarily improve business solvency and investment. The exemption of new cars from the automobile tax was designed to increase car sales, with the intention of stabilizing the business cycle. In course of the second reading in the *Bundestag*, Reinhard Schultz (SPD) of the coalition government justified the increased allowance for workmen expenses by claiming that doing so would increase private demand. In the final debate in the *Bundesrat*, the law was widely accepted as a countercyclical measure across parties, although there was some debate as to whether its range was sufficient. Taken together, classification of the law as a countercyclical policy is unambiguous.

Within the legislative process, the law was not changed substantially. The total announcement and implementation effect of the law correspond to -4.343 bn €, both in the first quarter of 2009.

Gesetz zur Förderung von Familien und haushaltsnahen Dienstleistungen (Familienleistungsgesetz - FamLeistG)[4]

Draft	1st Reading	Committee	2nd & 3rd Reading
10/16/2008 (S: -2.24 bn €)	11/13/2008	12/02/2008 (S: -0.03 bn €)	12/04/2008
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
12/05/2008	12/17/2008	12/18/2008	12/19/2008
Publication	**Implementation**		
12/29/2008 (S: -2.27 bn €)	01/01/2009 (S: -2.27 bn €)		

The primary purpose of the *Familienleistungsgesetz* was to increase child benefits and the tax-free amount for children. Note that the total amount of the law falls short of the 0.1% threshold by a small margin, but as the law consisted mainly of one quantitatively important measure, it is included in the narrative.

The most important tax measure of this law was the increase in child benefits for the first two children by 10 € and by 16 € for additional children and the increase in the tax-free amount for children from 5,808 € to 6,024 € effective 2009. The measure was expected to change tax revenue by -2.14 bn € on an annual basis. Of somewhat lesser importance were the changes in § 35 a EStG, which expanded allowances for household employment and so called Minijobs (insignificant employment). The measure was expected to change tax revenues by -0.13 bn €, effective at the beginning of 2009.

The statement on the introduction of the bill reported welfare-political reasons for the tax change. The increase in child benefits was intended to increase family income. The staggered increase in child benefits for families with more than two children is reported as being

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[4] BGBl. 2008, 64, pp. 2955–2958.

especially beneficial for households with many children. It is also reported that existing rules for household employment are too complicated and require simplification. The expansion in allowances for household employment was expected to promote family home care and to promote reconciliation of work and family life. In the opening speech in the first parliamentary reading, Mrs. Lydia Westrich (SPD) from the coalition government also reported welfare-political reasons for the increase in child benefits. She additionally justified the reform of household employment as reducing illegal employment in that area. Dr. Ursula von der Leyen (Federal Minister for Family Affairs, Senior Citizens, Women and Youth at that time) justified the increases in child benefits by referring to increases in costs of living, reporting that since the last adjustment in 2002, costs of living had changed substantially. This suggests an additional motivation, as child allowances are constitutionally required to cover the minimal living cost of children. Taken together, exogenous, structural reasons seem to have been responsible for the law change and the law is classified as being driven by structural reasons.

In the legislative process, the law was altered only modestly. The tax-free amount for children was originally designated as 6,000 € but was later increased to 6,024 €. The report by the leading parliamentary committee suggested technical reasons for this change. The total announcement and implementation effect of the law corresponded to -2.27 bn €, both in the first quarter of 2009.

Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland[5]

Draft	1st Reading	Committee	2nd & 3rd Reading
01/27/2009 (CC: -7.47 bn €)	01/30/2009	02/11/2009	02/13/2009
Bundesrat	**Publication**	**Implementation**	
02/20/2009	03/05/2009 (CC: -7.47 bn €)	(CC: 03/05/2009 -3.11 bn €)	
		(CC: 04/01/2009 -1.53 bn €)	
		(CC: 01/01/2010 -2.83 bn €)	

The law was part of the second stimulus package passed by the coalition of CDU/CSU and SPD in course of the financial crisis and contained two important tax measures concerned with adjusting the income tax tariff and temporarily extending child benefits. In addition to these tax-related aspects, the law contained expansions in government expenditures, most noteworthy among which was an investment package worth 16.9 bn €, along with a car-scrap bonus.

On the revenue side, the bill had only two quantitatively important measures. The first was a single, one-time 100 € payment in child benefits. The expected annualized revenue impact of that measure was -1.53 bn €. For the majority of beneficiaries, the one-time child benefit was expected to be paid in April and May 2009. Hence, the tax measure is treated as a tax increase in the second quarter of 2009 and a tax decrease in the third quarter of 2009. Unfortunately, it is difficult to arrive at more precise implementation dates as the child benefit is paid out in a rolling procedure. Still, the first cohort of beneficiaries receives the child benefit at the beginning of the month, and the last at the end of the month. This allows choosing April 1, 2009 as the implementation date and May 30, 2009 as the phase-out date, in the event specific dates are desirable. The second measure was a change in the income tax tariff. Specifically, the tax-free amount, as well as the tax tariff, was adjusted in two steps, one retroactive for 2009, the other effective 2010. Regrettably, the revenue forecasts do not allow directly distinguishing the effects of the first step from the second, but taking revenue effects based on budgetary years offers a solution. Accordingly, the initial shock is chosen as -3.11 bn €, and the second as -2.83 bn €. These changes were intended to be permanent.

Identifying the motivation behind the tax law is straightforward. At the time of passage, the economy was in a recession, with little sign of immediate recovery. The statement on the introduction of the bill declared it as a reaction to the financial crisis. Specifically, the temporary expansion in child benefits, as well as the reduction in income taxes, was intended to increase aggregate demand. In the parliamentary debate, finance minister Peer Steinbrück claimed that the economy was in the worst recession since creation of the Federal Republic of Germany and proposed the need for a demand stimulus.

Changes within the legislative process had no effect on the revenue impact of the law. Its announcement effect was -7.47 bn €, implemented in the second quarter of 2009 and in the first quarter of 2010.

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[5] BGBl. 2009, 11, pp. 416–433.

Gesetz zur Fortführung der Gesetzeslage 2006 bei der Entfernungspauschale[6]

Draft	1st Reading	Committee	2nd & 3rd Reading
03/03/2009 (S: -2.53 bn €)	03/05/2009	03/18/2009	03/19/2009
Bundesrat	**Publication**	**Implementation**	
04/03/2009	12/09/2008 (S: -2.53 bn €)	12/09/2008 (S: -2.53 bn €)	

The *Gesetz zur Fortführung der Gesetzeslage 2006 bei der Entfernungspauschale* reintroduced commuter tax allowances previously abolished by the *Steueränderungsgesetz 2007*. In a ruling on December 9, 2008 the constitutional court decided that the changes brought about by the *Steueränderungsgesetz 2007* were unconstitutional and in effect reintroduced the commuter tax allowance.

Prior to 2007, commuters had been allowed to reduce taxable income by 0.3 € per kilometer commuting distance. The *Steueränderungsgesetz 2007* changed that regulation by restricting deductible expenses to commuting distances longer than 20 kilometers. Changes brought about by the *Steueränderungsgesetz 2007* also removed the possibility of deducting public transport expenses if they exceeded the lump-sum allowances. As another side effect of the 2007 regulation, accident costs were no longer deductible as extraordinary financial burdens. A ruling by the constitutional court on December 9, 2008 in effect reintroduced the commuter tax allowances retroactive to the first kilometer of commuting distance since 2007. The *Gesetz zur Fortführung der Gesetzeslage 2006 bei der Entfernungspauschale* was only a matter of form in regard to the commuter tax allowance, but it also reintroduced the increased allowance for public transport and for accident costs. Unfortunately, the available proxies for the revenue impact of the measure do not allow distinguishing the effect of the reintroduction of the lump-sum allowance for commuting expenses from the allowances for public transport and accident costs. However, it is clear that most of the revenue impact derived from the change in the lump-sum allowances, which in effect was reintroduced by the constitutional court's December 9 ruling. It thus seems reasonable to time the full tax shock in accordance with that ruling and hence the tax shock -2.53 bn € is dated December 9, 2008.

It is easy to classify the motivation behind this law. In its main parts, the law followed the ruling of the constitutional court. In cases where the government deviated from the ruling of the constitutional court, it is clear that sociopolitical reasons were the driving factors. The *Gesetz zur Fortführung der Gesetzeslage 2006 bei der Entfernungspauschale* was motivated by structural reasons.

The law constitutes an exogenous tax shock of size -2.53 bn € in the first quarter of 2009.

Gesetz zur verbesserten steuerlichen Berücksichtigung von Vorsorgeaufwendungen (Bürgerentlastungsgesetz Krankenversicherung)[7]

Draft	1st Reading	Committee	2nd & 3rd Reading
02/20/2009 (S: -9.33 bn €)	03/19/2009	06/17/2009 (CC: -2.905 bn €)	06/19/2009
		06/17/2009 (S: -0.345 bn €)	
Bundesrat	**Publication**	**Implementation**	
07/10/2009	07/22/2009 (CC: -2.905 bn €)	07/22/2009 (CC: -2.655 bn €)	
	07/22/2009 (S: -9.675 bn €)	01/01/2010 (S: -9.675 bn €)	

Initially, the law was designed to expand tax allowances for health insurance and long-term care contributions in compliance with a ruling by the constitutional court requiring that such expenses should be treated as part of the minimum income needed to exist. Within the legislative process, however, the law became augmented with additional measures largely designed to accommodate the economic deterioration following the financial crisis, but unrelated to the initial intentions of the law.

Changes in § 10 EStG and related parts of the income tax code expanded allowances for contributions to health and long-term care insurance. The measure was expected to change tax revenue by -9.47 bn € on an annual level effective 2010. In comparison to this measure, changes in § 10 sec. 1 no. 1 EStG, § 32 sec. 4 sent. 2 EStG, and § 33a EStG are of minor importance, basically being necessary technical adjustments. Taken together, the measures were expected to change tax revenues by -0.205 bn € on an annual level effective 2010. Note that in contrast to the *Gesetz zur Fortführung der Gesetzeslage 2006 bei der Entfernungspauschale*, the constitutional court ruling did not seem to have immediate impact on tax revenues. Also, the revenue impacts of the ruling were less clear than in the previous case, especially as the lawmaker had considerable discretion on precisely how to implement the court's ruling. Hence, it seems warranted to base the timing of the tax measures on the law itself.

Based on the report by the leading parliamentary committee, the tax legislation was augmented by additional measures. Changes in § 20 sec. 2 UStG allowed companies with turnovers lower than 500,000 € to pay value-added taxes on actual revenues rather than on contracted sums, limited to the period July 1, 2009 to December 31, 2011. The effect of these changes was an immediate and one-time

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[6] BGBl. 2009, 20, pp. 774–776.
[7] BGBl. 2009, 43, pp. 1959–1973.

liquidity effect for small companies, to be offset once the measure expired. Hence, the measure constituted a tax shock of -1.7 bn € effective retroactively for July 2009, to be offset by an equal-sized shock in the next period. The phase-out date of the temporary measure was beyond the time horizon of the narrative. A slight complication arises because companies in East Germany had higher thresholds until the end of 2009 even before implementation of the law. So, for East German countries, the tax measure was a mere extension of existing law. The *Finanzbericht* put an estimate of -0.25 bn € on the extension. As the measure is an extension, it appears in the announcement effect of the law, but does not constitute an implementation shock. Finally, the law introduced two temporary measures reducing the corporate tax burden. § 8c KStG sec. 1a allowed loss carry over in case of acquisitions made with the intention of recapitalizing a company. Also, the *Bürgerentlastungsgesetz Krankenversicherung* temporarily raised the exemption limit in the interest rate deduction rule to 3 m €. Both tax measures were retroactive for 2008 and designed to phase-out at the end of 2009; hence, their implementation date is the date of publication. By later regulation in the *Wachstumsbeschleunigungsgesetz*, both tax measures became permanent. Their combined revenue impact was -0.955 bn €.

In the statement on the introduction of the bill, it was stated that the constitutional court had demanded that expenses for health and long-term insurance should be treated as part of the minimum income needed to exist. Given the structure of the German tax code, this had far-reaching consequences as the minimum income is not taxable. The law at hand contained the necessary adjustments in the tax code. Also, the initial set of tax measures underwent some minor adjustment due to the report of the *Finanzausschuss*. Based on the report, technical reasons seem to have been responsible for the changes. Specifically, no business cycle motivation is assigned to the minor adjustments in the initial set of tax measures. Classifying the motivation behind the new tax measures is also straightforward. The report of the leading parliamentary committee clearly stated the last financial crisis as the underlying motivation. The increase in the exemptions from the interest deduction ceiling is justified as strengthening medium-sized companies in economically difficult times. Similar reasoning is given for the changes in § 8 c KStG. In the second reading, Gabriele Frechen (SPD) from the coalition government stated that the increase in the threshold in § 20 sec. 2 UStG gave small companies a liquidity advantage in times of economic turmoil. Eduard Oswald (CDU/CSU) from the coalition government also stated that the recent financial crisis was responsible for alternation of the law within the legislative process. Taken together, the tax measures related to the deduction of health and long-term care insurance contributions are classified as motivated by structural reasons, while the other measures were countercyclical.

Within the legislative process, the law was changed substantially. While the changes made to the original part of the law were modest, it was augmented with a group of countercyclical measures.

Unternehmensteuerreformgesetz 2008[8]

Draft	1st Reading	Committee	2nd & 3rd Reading
03/27/2007 (S: -8.915 bn €)	03/30/2007	05/23/2007 (S: 0.035 bn €)	05/25/2007
Bundesrat	**Publication**	**Implementation**	
07/06/2007	08/17/2007 (S: -8.88 bn €)	08/17/2007 (S: 1.78 bn €)	
		08/18/2007 (S: -0.155 bn €)	
		01/01/2008 (S: -9.635 bn €)	
		01/01/2009 (S: -0.87 bn €)	

The law was concerned with reforming corporate and business taxation and introduced changes in the income, corporate, and local business tax code. The basic idea behind the reform can be traced back to the coalition agreement between the SPD and CDU/CSU governments. In essence, the law reduced statuary tax rates while broadening the tax base. Of interest also was the introduction of a flat rate tax on capital income beginning in 2009.

The law reduced the corporate tax rate from 25 percent to 15 percent effective 2008, which was expected to change tax revenues by -12.555 bn €. Also, the law reduced the local business tax burden starting in 2008 by changing the tax scale. This measure was expected to change tax revenue by -6.75 bn €. The law also changed other aspects of the local business tax. Changes related to the treatment of local business taxes in income taxation (§ 4 sec. 5b EStG, § 35 sec. 1 EStG) induced revenue effects of 6.18 bn € effective 2008. In essence, local business taxes were no longer deductible as business expenses. Other less important changes related to local business taxes had a net effect of 0.18 bn € effective 2008.

Changes in § 34a EStG benefited retained earnings. The expected revenue effect of the measure was a change in tax revenues of -4.045 bn € on an annual level effective 2008. Changes in § 8b sec. 10 KStG limited exemptions from corporate taxation and were expected to change tax revenues by 1.18 bn €, retroactive with 2007. The law also changed some depreciation rules. Changes in § 7 sec. 2 EStG abolished declining depreciation. This was expected to change tax revenues by 3.365 bn € on an annual basis effective 2008.

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[8] BGBl. 2007, 40, pp. 1912–1938.

Changes to § 6 sec. 2 EStG abolished the immediate write-off of low-value assets. The expected change in tax revenues was 0.745 bn € effective 2008. Finally, some rather technical aspects in § 7g EStG related to special depreciations were changed, with an expected revenue effect of -0.155 bn € effective the day after publication. Changes in § 8a KStG, § 8b sec. 10 KStG & § 8 c KStG broadened the tax base. Changes in § 8a KStG were expected to lower tax revenues by -0.475 bn € effective retroactively May 2007. As an implementation date, I hence choose the day of publication. New regulations in § 8b sec. 10 were supposed to affect tax revenues by 1.18 bn € effective retroactively for 2007. Changes in § 8c KStG were expected to change tax revenues by 1.475 bn € effective with the beginning of 2008.

Importantly, the tax law introduces an interest deduction ceiling in § 4h EStG and § 8a KStG. The tax measure was expected to change tax revenues by 1.075 bn €, to be implemented retroactive to May 2007. Accordingly, I choose the publication date as date of implementation. Of interest also was introduction of a flat rate tax on capital income beginning with 2009, which was expected to change tax revenues by -0.87 bn €. Changes in § 1 AStG were designed to complicate the shifting of tax obligations to foreign countries with potentially lower tax burdens. The measures were expected to raise 1.77 bn € at an annual level effective at the beginning of 2008. The *Finanzbericht* also reported additional tax revenues of 3.89 bn € generated by "additional measures to secure the national tax basis." It is unclear which measures of the law generated these revenues, making timing the tax measure difficult. Also, as argued by Romer and Romer (2009a), revenue forecasts for such components are extremely unreliable, either because the data basis for revenue forecasts is scarce or because the government may have a systematic incentive to misestimate such figures. The most sensible approach seems to omit the tax shock of 3.89 bn € from the analysis.

In the statement of the introduction of the bill, it was stated that statuary tax rates in Germany were high compared to other countries, but at the same time, loopholes hindered the effectiveness of the tax system. As a solution, the statement on the introduction of the bill proposed a reduction in statutory tax rates accompanied by broadening the tax base. The proposal for a corporate tax reform had originally been raised in the coalition agreement between SPD and CDU/CSU. It had been proposed that a corporate tax reform should be implemented that strengthens international competitiveness and broadens the tax base. According to the statement on the introduction of the bill, one consequence of the tax law would have been an increase in investment, inducing higher consumption and economic growth. Also, the statement on the introduction of the bill claimed that the interest deduction ceiling not only broadens the tax base, but also strengthens the equity of companies by reducing incentives to borrow capital. In addition, the tax law is claimed to contribute to bureaucratic neutrality and to go some way toward reducing the variance in local business tax revenues. In the final debate in the *Bundesrat*, then finance minister Peer Steinbrück (SPD) restated several of these objectives: the tax law was supposed to strengthen international competitiveness, broaden the tax base, reduce the variance of local revenues, and, finally, increase bureaucratic neutrality. It is clear that the primary motivation behind the tax law was structural.

Within the legislative process, the law experienced some technical alternations, none of which, however, were related to a change in motivation. In total, the law corresponded to an exogenous announcement effect of -8.88 bn €, to be implemented at various dates in 2007, 2008, and 2009.

Gesetz zur steuerlichen Förderung von Wachstum und Beschäftigung[9]

Draft	1st Reading	Committee	2nd & 3rd Reading
01/19/2006 (S: -5.57 bn €)	02/16/2006	03/15/2006	03/17/2006
Bundesrat	**Publication**	**Implementation**	
04/07/2006	05/05/2006 (S: -5.57 bn €)	05/05/2006 (S: -4.09 bn €)	
		07/01/2006 (S: -1.23 bn €)	

The law's main measures were temporary extensions of depreciation allowances and allowances for the wage component of household renovation expenditures.

The act expanded depreciation allowances for all investment made in 2006 and 2007. The annualized expected revenue impact was quoted as -2.41 bn €. Allowances for the wage component of home-care and household renovation expenditures were permanently increased effective retroactively for the tax assessment period 2006. The combined expected annualized revenue impact of both measures was given as -1.22 bn €. The law also introduced allowances for child-care expenses, changing tax revenue by -0.46 bn € retroactive for 2006. Finally, in § 20 UStG, the law changed thresholds for paying the value-added tax on realized revenues rather than on liabilities. In the old Laender, the threshold was permanently raised to 250.000 € starting July 2006. In the new Laender, the increased threshold of 500.000 € was extended three years to the end of 2009. The revenue impact of those measures was a change in the timing of revenues. The *Finanzbericht* reported a budgetary effect of the permanent increase in the threshold of -1.23 bn € in 2006 as well as of -0.25 bn € for

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[9] BGBl. 2006, 22, pp. 1091–1094.

the extension in 2007. The implementation effect of just the extension is set to zero. The permanent increase in the threshold for West Germany is treated as a one-time levy to be offset by an equally sized shock in the next period.

The statement on the introduction of the bill left it somewhat open whether the law was a response to recent deteriorations in output or whether it was intended to change potential output growth. Specifically, the opening statement on the bill reported that the law's measures were intended to increase growth in economically difficult times. However, in the first quarter of 2006, the economy was growing by an annual rate of 2.85%, whereas growth had more sluggish in 2004 and 2005. Also, unemployment had been high in 2005, but the rates had already started to decline. Based on standard business cycle forecasts, there was little evidence for an approaching recession. This was also acknowledged by the government and indicated by Mr. Glos, Minister of Economic Affairs at that time, in the parliamentary debate. This macroeconomic background made countercyclical measures unnecessary, strengthening the interpretation that the measures were designed to change potential growth. Also, high unemployment rates at that time seemed to be more structural than cyclical. Note further that countercyclical reasons were given very little weight in the parliamentary debate accompanying the law. Still, given the somewhat indefinite categorization of motivation, a case-by-case study of the motivation behind these tax measures seems warranted.

The extensions of the depreciation allowances were intended to increase investment and were limited to two years. Mr. Steinbrück, Federal Minister of Finance at that time, justified the temporary nature of the measure on grounds that another, broader reform would replace these allowances in 2008. Hence, the temporary nature of these measures per se does not indicate a countercyclical motive. Mr. Glos reported that the measure was intended to increase investment and to have a favorable impact on economic activity. The statement on the bill reported that the measure will foster growth, which fits the structural interpretation. Still, as an alternative interpretation, the measure may have been designed as a response to a temporary reduction in investment, and hence may be countercyclical. The increases in the thresholds in § 20 UStG were justified in the statement of the bill on ground that they provide small companies with liquidity advantages. Mr. Steinbrück, however, reported that the measure may help companies to survive the currently harsh conditions, so an alternative countercyclical motivation is possible. The increased allowances for renovation expenditures are justified by Mr. Glos as reducing moonlighting in that area, inducing me to choose structural reasons as the primary motivation for this measure. However, Mr. Steinbrück reported that the measure was intended to create new jobs quickly, which may be interpreted as an offsetting measure. Still, it seems much more likely that this was a structural response to permanently high unemployment. The motivation behind two measures was unambiguous. In the statement on the introduction of the bill, the increased allowances for childcare were justified on grounds that it improved reconciliation of work and family. The increases in allowances for home care have quantitatively negligible effects and received little attention in the parliamentary debate. It was, however, stated that the measure may help to reduce the notoriously high level of moonlighting in that area. Taken together, the primary motivation of the law appeared to be structural. As discussed above, for some of the measures, an alternative interpretation is possible, albeit improbable.

Within the legislative process, the law was subject to only technical alternations, none of which had significant revenue impacts. In total, the law corresponded to a tax reduction of -5.57 bn € to be implemented at various dates in 2006 and 2007.

Haushaltsbegleitgesetz 2006[10]

Draft	1st Reading	Committee	2nd & 3rd Reading
02/24/2006 (SD: 7.648 bn €)	03/28/2006	05/17/2006 (S: -0.34 bn €)	05/19/2006
02/24/2006 (C: 16.887 bn €)			

Bundesrat	Publication	Implementation
06/16/2006	06/30/2006 (SD: 7.648 bn €)	01/01/2007 (SD: 7.648 bn €)
	06/30/2006 (C: 16.547 bn €)	01/01/2007 (C: 16.547 bn €)

The *Haushaltsbegleitgesetz 2006* contained both tax and expenditure measures intended to help consolidate the budget. Parts of the additional revenues were also used to finance a reduction in social insurance contribution rates.

The law's most important measure was an increase in the value-added tax rate to 19 percent effective 2007. The measure constituted a permanent tax increase worth 22.945 bn € on an annual basis. The law also raised the insurance tax rate to 19 percent, with an expected annualized tax impact of 1.59 bn € effective 2007. Somewhat less important and of a rather technical nature were the changes in § 24 Sec. 1 UStG related to tax benefits for the agricultural sector, which was expected to change tax revenues by -0.34 bn € effective 2007.

The motivation behind the law was clearly stated in the statement on the introduction of the bill. Tax revenue was running short of expenditures and, hence, a substantial increase in taxes was needed. One-third of the additional revenue in value-added taxes, however, was earmarked to finance a reduction in social insurance contribution rates. As such, the *Haushaltsbegleitgesetz 2006* aimed at reducing

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[10] BGBl. 2006, 30, pp. 1402–1406.

the burden on labor income by an increase in indirect taxes. Given that, formally, social insurance is not part of taxes, it seems advisable to treat social insurance expenditures as spending and, accordingly, that part of the law was spending-driven. Changes in § 24 Sec. 1 UStG were intended to compensate for the increase in the value-added tax rate and, other than that, received little attention in the official documents or in parliamentary debate. Following the usual practice, the measure is assigned the same motivation as the primary law, although an alternative structural interpretation may be possible.

Within the legislative process, the law was augmented by the measure in § 24 Sec. 1 UStG related to value-added taxes on the agricultural sector. Taken together, the law increased tax revenues by 24.195 bn € effective 2007.

Steueränderungsgesetz 2007[11]

Draft	1st Reading	Committee	2nd & 3rd Reading
05/18/2006 (C: 4.389 bn €)	05/19/2006	06/29/2006	06/29/2006
Bundesrat	**Publication**	**Implementation**	
07/07/2006	07/24/2006 (C: 4.389 bn €)	01/01/2007 (C: 3.841 bn €)	
		01/01/2008 (C: 0.014 bn €)	
		01/01/2009 (C: 0.534 bn €)	

The law combined a diversity of tax measures, most of them associated with only minor revenue effects. Of most interest is the reduction in the lump-sum tax break for commuters, a measure later ruled unconstitutional.

Under new regulation, the commuter tax allowance only became applicable for the 21st kilometer of commuting distance. The measure changed tax revenues by 2.53 bn € on an annual basis, effective beginning in 2007. Later, the measure was ruled unconstitutional; see the discussion under *Gesetz zur Fortführung der Gesetzeslage 2006 bei der Entfernungspauschale*. Also of importance was the increased income tax rate of 45 percent on income above 250.000 € effective 2007, which was expected to raise 1.3 bn €. A temporary reduction in taxes on profits for the tax assessment period 2007 induced a revenue change of -1.05 bn €. Other tax measures were of limited importance in terms of their revenue impacts. The change in § 4 Sec. 5 EStG limited allowances for home offices, with an expected revenue impact of 0.3 bn € effective 2007. Also, allowances for saving were reduced. The expected revenue impact was 0.75 bn € effective 2007. Another measure involved the limitation of child allowances for children under 25 years, changing revenues by 0.534 bn € effective 2009. Changes in the *Bergmannprämiengesetz* altered tax benefits for miners in two steps effective with 2007 and 2008. Based on the *Finanzbericht*, the first change is associated with an expected revenue impact of 0.011 bn €, the latter with an expected revenue impact of 0.014 bn €.

The statement on the introduction of the bill reported consolidation motives as justification for the changes. Further stated motives were related to simplification of the tax code or ideology, for example, the increased tax rate for the top income bracket. The law is not related to contemporaneous macroeconomic shocks; rather, the question is whether the law was a reaction to an inherited budget deficit or more structurally motivated. In the parliamentary debates, there was a clear emphasis on budget consolidation, with little or no discussion of alternative motives. Accordingly, the law is classified as being driven by a consolidation motive.

Gesetz zur Abschaffung der Eigenheimzulage[12]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/29/2005 (C: 5.893 bn €)	12/01/2005	12/14/2005	12/15/2005
Bundesrat	**Publication**	**Implementation**	
12/21/2005	12/30/2005 (C: 5.893 bn €)	01/01/2006 (C: 0.737 bn €)	
		01/01/2007 (C: 0.737 bn €)	
		01/01/2008 (C: 0.737 bn €)	
		01/01/2009 (C: 0.737 bn €)	
		01/01/2010 (C: 0.737 bn €)	

The law abolished home owner benefits, with the presumable motive of budget consolidation.

Home owner benefits were abolished for all owner-occupied dwellings built or bought after 2006. Previously, home owner benefits were paid for a total of eight consecutive years beginning with completion or acquisition of the dwelling. This is one example of a tax change affecting revenue in a series of steps. Unlike most depreciation rules, however, I am able to fully recover the sequence of shocks in this case. The fact that home owner benefits had been paid for eight consecutive years implies that eight cohorts of home owners obtained benefits in one assessment period, all having acquired their home in different years. In 2006, home owner benefits were no longer paid for

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[11] BGBl. 2006, 35, pp. 1652–1658.
[12] BGBl. 2005, 76, p. 3680.

newly acquired homes, implying that only those seven cohorts that had acquired homes between 1999 and 2005 obtained benefits. In 2007, those who had acquired their homes in 1999 no longer received the benefit, leaving six cohorts. Continuing in this fashion implies that in 2012 only those who had acquired homes in 2005 still received the benefit. The full revenue impact for each cohort over the eight years is given in the *Finanzbericht* as 5.893 bn €, which, distributed over eight years, gives a series of revenue shocks in 2006, 2007, … , 2013, each worth 0.737 bn €.

Identyfing the motivation behind the tax measure is straightforward. The statement on the introduction of the bill reported that consolidation motives are the primary reason for the change. In the parliamentary debate, the measure received relatively little attention and no other motives were mentioned. Hence, budget consolidation was the motive for this tax measure.

Within the legislative process, the law did not experience any noteworthy alternations. In total, the tax law had a volume of 5.893 bn € distributed over the years 2006 to 2013.

Gesetz zur Beschränkung der Verlustverrechnung im Zusammenhang mit Steuerstundungsmodellen[13]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/29/2005 (C: 2.135 bn €)	12/01/2005	12/14/2005	12/15/2005
Bundesrat	**Publication**	**Implementation**	
12/21/2005	12/30/2005 (C: 2.135 bn €)	12/30/2005 (C: 2.135 bn €)	

The law does not pass the 0.1% threshold; however, as it consisted of only one tax measure and that measure changed tax revenue by 0.09% of GDP it seems important enough to be included here. In essence, the law is concerned with closing loopholes in the income tax code.

Changes in § 15b EStG removed the possibility of discounting losses based on tax-shelter schemes. The measure was expected to raise revenues by 2.125 bn € on an annual basis and was effective retroactively to November 10, 2005. Accordingly, the date of publication is chosen as the implementation date.

As stated in the statement on the introduction of the bill, the motivation behind the tax measure was to increase tax justice and the efficiency of the tax system, as well as to raise additional revenue. In the parliamentary debates, the measure received relatively little attention and did not appear to be driven by any current macroeconomic distortions. Rather, the measure was regularly discussed in the context of consolidation motives. Hence, the law's motivation was consolidation.

Within the legislative process, the law did not experience any noteworthy alternations. The law had a volume of 2.135 bn € in the first quarter of 2006.

Gesetz zur Förderung der Steuerehrlichkeit[14]

Draft	1st Reading	Committee	2nd & 3rd Reading
07/01/2003 (S: ? bn €)	07/03/2003	10/15/2003	10/17/2003
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/07/2003	12/16/2003	12/19/2003	12/19/2003
Publication	**Implementation**		
12/29/2003 (S: ? bn €)	01/01/2004 (S: 1.4 bn €)		

The law allowed taxpayers who had engaged in tax fraud in the past to declare their hidden income and pay a reduced tax rate of 25% on evaded income. In return, the taxpayers would no longer need to fear punishment for the past tax evasion. Such declarations were allowed only temporarily for 2004. The tax measure hence constitutes a tax shock at the beginning of 2004, offset at the beginning of 2005. The annualized revenue impact of the law was given as 5 bn €. Yet, it is clear from the debate accompanying the law that the original estimate of 5 bn € was overly optimistic. Accordingly, the revenue forecast used to assess the announcement effect of the law is set to zero. The true revenue impact was later reported as only 1.4 bn €. For the implementation series, the actual amount of 1.4 bn € is taken.

It is clear that contemporaneous macroeconomic shocks were not the driving force behind this law; indeed, the statement on the introduction of the bill reported concerns about tax justice as primary reason. This is also the primary motive mentioned in the parliamentary debates. Accordingly, the law is classified as structural.

In total, the law corresponds to a shock of 1.4 bn € at the first quarter of 2004.

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[13] BGBl. 2005, 76, pp. 3683–3684.
[14] BGBl. 2003, 66, pp. 2928–2932.

Haushaltsbegleitgesetz 2004[15]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/15/2003 (C: 14.332 bn €)	09/09/2003	10/15/2003 (C: -0.165 bn €)	10/17/2003
08/15/2003 (CC: -15.05 bn €)			
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/07/2003	12/16/2003 (C: -6.982 bn €)	12/19/2003	12/19/2003
	12/16/2003 (CC: 6.61 bn €)		
Publication	**Implementation**		
12/31/2003 (C: 7.185 bn €)	01/01/2004 (C: 4.976 bn €)		
12/31/2003 (CC: -8.440 bn €)	01/01/2004 (CC: -8.44 bn €)		
	01/01/2005 (C: 0.316 bn €)		
	01/01/2006 (C: 0.316 bn €)		
	01/01/2007 (C: 0.316 bn €)		
	01/01/2008 (C: 0.316 bn €)		
	01/01/2009 (C: 0.316 bn €)		
	01/01/2010 (C: 0.316 bn €)		

The *Haushaltsbegleitgesetz 2004* does not qualify as important according to the requirement of an announced tax impact of at least 0.1% of GDP; however, it contained both sizeable tax increases and tax decreases, partially offsetting each other. Also, the quantitatively most important tax decreases were only temporary, whereas the tax increases were permanent. Thus, it seems justified to include the law in the narrative. Noteworthy measures included partial implementation of the income tax tariff 2005 as early as 2004, as well as reductions in home owner benefits.

Parts of the income tax tariff for 2005 that had been implemented by the *Gesetz zur Senkung der Steuersätze und zur Reform der Unternehmensbesteuerung (Steuersenkungsgesetz - StSenkG)* were put into effect ahead of schedule in 2004. Specifically, tax-free amounts and tax rates had to be adjusted in 2004 rather than in 2005. The measure was expected to change revenue by -8.93 bn € effective 2004. By former regulation in the *Zweites Gesetz zur Familienförderung*, the general household allowance was designed to be abolished in 2005. Under the new regulation, the household allowance was abolished in 2004, generating revenue of 0.49 bn € temporarily for 2004. Note that the original measures had an exogenous motivation, while the shift in timing was clearly endogenously motivated. The corresponding implementation effects of the original measures are set to zero, as otherwise it would appear that there was an exogenous tax shock in 2005, which is clearly not the case. This treatment is similar to the treatment of extensions and, indeed, the tax shocks in 2005 can be seen as an extension of the endogenous temporary tax shock implemented by the law at hand. See also the discussion under *Zweites Gesetz zur Familienförderung*, and *Gesetz zur Senkung der Steuersätze und zur Reform der Unternehmensbesteuerung (Steuersenkungsgesetz - StSenkG).*

Changes in § 9 EigZulG reduced tax allowances for home ownership. The new rules were applicable at the beginning of 2004. As the *Eigenheimzulage* is paid for a total of eight consecutive years, the tax measure implies a series of steps in tax changes (see the discussion on the *Gesetz zur Abschaffung der Eigenheimzulage*). The impact over a cohort of eight years is given as 2.525 bn € in the *Finanzbericht*, distributed over a series of eight tax shocks, resulting in a sequence of shocks at the beginning of 2004, 2005, 2006, 2007, 2008, 2009, and 2010, each worth 0.316 bn €. The *Haushaltsbegleitgesetz 2004* also changed depreciation rules, with an expected revenue impact of 2.495 bn € effective 2004. In § 9a EStG, the standard deduction for tax allowable expenses was reduced to 920 €. The annualized expected revenue impact is 0.39 bn €, effective with the beginning of 2004. The law also reduced tax allowances for commuting expenses, which was expected to raise 1.11 bn € effective in 2004. The law contained several other tax measures, all of which were associated with only very minor revenue impacts, sometimes as small as 2 m €. Coding of these measures matches that of the discussed measures, but for the sake of brevity, detailed discussion is omitted.

At the time of the law's passage, the economy had had only sluggish growth for almost three consecutive years, yet, at the same time, the budget was perceived to have a high structural deficit. Reflecting this state of affairs, the statement on the introduction of the bill suggests that the law was intended to consolidate the budget, while providing a business cycle stimulus. Sorting the actual tax measures between these two motivations is straightforward as the only countercyclical measures of the law were the partial shift of the income tax tariff from 2005 to 2004, and the related shift in the timing of abolishing the general household allowance. This was also clearly stated by Mr. Eichel, Federal Minister of Finance, in the first reading of the law. Shifting abolishment of the household allowance to 2004 was clearly justified in the opening statement on the bill as related to the shift in the income tax tariff; hence, the measure is given a countercyclical motivation. Other measures, when mentioned in the parliamentary debate, were unambiguously associated with consolidation motives.

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[15] BGBl. 2003, 68, pp. 3076–3092.

Accordingly, the changes related to the income tax tariff and to the general household allowance are treated as a countercyclical measure. All other measures are treated as driven by consolidation motives.

Within the legislative process, the law was substantially altered in the mediation committee. Most importantly, the committee suggested reducing rather than abolishing home owner benefits. Also, it suggested only partial implementation of the income tax tariff for 2005 in 2004.

Gesetz zur Neuordnung der einkommensteuerrechtlichen Behandlung von Altersvorsorgeaufwendungen[16]

Draft	**1st Reading**	**Committee**	**2nd & 3rd Reading**
12/09/2003 (S: -3.68 bn €)	12/12/2003	04/28/2004 (S: -1.215 bn €)	04/29/2004
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
05/14/2004	05/26/2004	05/28/2004	06/11/2004
Publication	**Implementation**		
07/09/2004 (S: -4.895 bn €)	01/01/2005 (S: 0.27 bn €)		
	01/01/2006 (S: -1.38 bn €)		
	01/01/2007 (S: -0.985 bn €)		
	01/01/2008 (S: -1.005 bn €)		
	01/01/2009 (S: -0.9 bn €)		
	01/01/2010 (S: -0.895 bn €)		

The law was concerned with reforming the tax treatment of retirement provisions, in essence expanding tax benefits, thus resulting in lower revenue. The primary motive behind the changes was demands by the constitutional court. Formally, the law does not meet the threshold of an announced revenue impact of 0.1 percent of GDP. However, its budgetary effects increased substantially over the years, warranting coverage of it here. The step-wise increase in tax allowances for retirement savings is not adequately reflected in the full implementation effect given in the *Finanzbericht*.

The quantitatively most important measures of the law were related to allowances for retirement savings. In essence, the law expanded allowances for retirement savings in a series of annual steps beginning in 2005. The revenue forecast in our official sources does not allow quantifying the effects of each step individually. However, the given budgetary effects for the years 2005 to 2010 are a good proxy for the revenue effects. Accordingly, the measure implemented a shock of -0.925 bn € in 2005, of -1.38 bn € in 2006, of -0.985 bn € in 2007, of -1.005 bn € in 2008, of -0.9 bn € in 2009, and of -0.895 bn € in 2010. Additionally, income from life annuities such as provided by the statutory pension insurance system was made subject to income taxation, resulting in 50 percent of newly allotted pensions being taxed in 2005. This number is designed to increase in annual steps until it reaches 100 percent in 2040. Strictly speaking, the measure introduced a series of revenue shocks until 2040. However, except for the change in 2005, the step-wise changes seem minor. The tax measure is hence coded as a permanent shock of 1.5 bn € in 2005. The law contained several other measures of minor importance. First, the law exempted contributions to certain pension schemes from taxation. This changed revenues by -0.28 bn € effective 2005. The standard income deduction for pensioners' expenses was reduced effective at the beginning of 2005, thereby changing revenues by 0.22 bn €. The law contained other measures of a technical nature that changed tax revenues by -0.245 bn € at the beginning of 2005.

The constitutional court had demanded reform of the tax treatment of retirement provisions. Specifically, the quantitatively important parts of the law are designed to meet this demand by the constitutional court. The parliamentary debate did not actually mention any other motives, although a somewhat stronger emphasis was put on the social-political aspects of the reform. The law was motivated by structural objectives.

Within the legislative process, the law was altered in technical detail due to suggestions by the leading parliamentary committee. No change in the primary motivation was evident. In total, the law corresponds to an exogenous shock of -4.895 € to be implemented at various dates between 2005 and 2010.

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[16] BGBl. 2004, 33, pp. 1427–1447.

Gesetz zur Änderung des Tabaksteuergesetzes und anderer Verbrauchsteuergesetze[17]

Draft	1st Reading	Committee	2nd & 3rd Reading
07/01/2003 (C: 2.508 bn €)	07/03/2003	10/15/2003	10/17/2003
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/07/2003	12/16/2003 (C: ? bn €)	12/19/2003	12/19/2003
Publication	**Implementation**		
12/29/2003 (C: 2.508 bn €)	03/01/2004 (C: 0.836 bn €)		
	12/01/2004 (C: 0.836 bn €)		
	09/01/2005 (C: 0.836 bn €)		

The law increased tobacco taxes in three equal-sized steps, effective March 2004, December 2004, and September 2005. The total annualized revenue impact of the law was given as 2.508 bn €, which, distributed equally over the three steps, produced an effect of 0.836 bn € per step.

In the statement on the introduction of the bill it was stated that the additional revenues should be use to finance a block grant to the social insurance institutions. However, there is no evidence whether the block grant was related to changes in social insurance spending or to social insurance contribution rates. Rather, the financial burden was merely shifted from the social insurance institutions to the general government. Following this interpretation, the law was not spending driven, but related to general budgetary concerns. In the parliamentary debate, the law received little to no attention. The motivation behind the law was consolidation.

The law was altered during the legislative process, especially in the mediation committee, which suggested changes to the timing and the size of the tax rate change. Unfortunately, the available database does not allow constructing the revenue effect of the changes within the legislative process. Taken together, the law corresponded to an exogenous shock of 2.508 bn € to be implemented in three steps in 2004 and 2005.

Gesetz zur Änderung steuerrechtlicher Vorschriften und zur Errichtung eines Fonds "Aufbauhilfe" (Flutopfersolidaritätsgesetz)[18]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/26/2002 (SD: 7.097 bn €)	08/29/2002	09/10/2002	09/12/2002
Bundesrat	**Publication**	**Implementation**	
09/13/2002	09/20/2002 (SD: 7.097 bn €)	01/01/2003 (SD: 1.187 bn €)	

In August 2008, some parts of Germany were affected by a huge flood that caused devastating damages. This law temporarily raised taxes in order to pay for alleviating the consequences of the flood.

The law delayed an already proposed tax cut for 2003 to 2004, raising 6.45 bn €. Originally, the tax cut was proposed in the *Gesetz zur Senkung der Steuersätze und zur Reform der Unternehmensbesteuerung (Steuersenkungsgesetz - StSenkG)*. While the shift in timing was endogenous, the original measure had been exogenous. Or, in different words, the measure is a temporary endogenous tax shock exactly offsetting the permanent exogenous tax shock in 2003. As no tax change in 2003 actually occured, the implementation effect of the temporary measure is set to zero. Also, while tax revenue did indeed change in 2004, it is no longer clear that the timing of the measure was exogenous. Accordingly, the implementation effect of the original measure from the *Steuersenkungsgesetz* is set to zero as well. Originally, the general household allowances were designed to be reduced in 2003 due to regulations of the *Zweites Gesetz zur Familienförderung*. This was shifted to 2004, affecting revenues by -0.405 bn €. For reasons similar to those just mentioned, the implementation effect of both measures is set to zero. The same logic applies to technical changes in the income tax code originally implemented by the *Steuersenkungsgesetz*, affecting revenues by -0.135 bn €. The tax rate on corporate income was increased by 1.5% for 2003, raising 1.187 bn € on an annual level.

In the statement on the introduction of the bill, it was stated that the flood had caused large damages and additional funds were needed to finance help and compensation. Specifically, the additional funds were supposed to be used as loans to affected people as well as for repairs to infrastructure. In fact, tax revenues were explicitly earmarked for expenditures related to the flood. The law was spending driven.

Within the legislative process, the law did not experience any substantial alternations. In total, the law raised 7.097 bn € at the beginning of 2003.

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[17] BGBl. 2003, 66, pp. 2924–2927.
[18] BGBl. 2002, 67, pp. 3651–3653.

Zweites Gesetz für moderne Dienstleistungen am Arbeitsmarkt[19]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/05/2002	11/07/2002	11/13/2002 (S: -0.96 bn €)	11/15/2002
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/29/2002	12/17/2002 (S: -0.615 bn €)	12/19/2002	12/20/2002
Publication	**Implementation**		
12/30/2002 (S: -1.575 bn €)	01/01/2003 (S: -0.96 bn €)		
	04/01/2003 (S: -0.615 bn €)		

The law does not qualify as important according to the 0.1% threshold, but it had two well-defined measures related to insignificant and household employment that changed revenues by -1.46 bn €. In total, the law had an announcement effect of 0.07% of GDP. It hence seems warranted to include it here. In addition ot the tax measures, the law contained a multitude of regulatory changes related to employment.

The law's quantitatively most important measure was the introduction, in § 35a Sec. 2 EStG, of allowances for the wage component of household services. The measure was expected to change tax revenues by -0.85 bn €, effective 2003. Related measures in § 35a Sec. 1 EStG were expected to change tax revenues by -0.11 bn € effective 2003. The law further changed regulations on insignificant employment in § 40a Sec. 2 EStG, with an expected revenue impact of -0.615 bn € effective April 1, 2003. All measures were permanent.

None of the measures discussed here were included in the original draft of the bill; the changes were introduced by the leading parliamentary committee and later adjusted and expanded by the mediation committee. The leading parliamentary committee's report stated that the changes in § 35a Sec. 2 EStG were designed to fight moonlighting in the area of household employment, as well as to give incentives for creating employment opportunities in private households. The changes in § 40a EStG had been described as rather technical in the statement on the introduction of the bill; however, they were substantially expanded in the mediation committee. Judging from the debate in the *Bundesrat*, it appears that the changes in § 40a EStG were associated with a fight against moonlighting as well as with creating employment opportunities. In general, the tax measures were part of a larger reform project concerned with restructuring employment regulations. Hence, classifying the law as structural seems warranted.

Disentangling the revenue changes between the mediation committee and parliamentary committee is difficult in this case; hence, the pragmatic decision was made to apportion the changes in § 35a EStG to the parliamentary committee, and the changes in § 40a EStG to the *Vermittlungsausschuss*. This apportionment reflects the body mainly responsibility for the respective changes. Taken together, the law represents a tax shock of -1.575 bn € in January and April 2003.

Gesetz zum Abbau von Steuervergünstigungen und Ausnahmeregelungen (Steuervergünstigungsabbaugesetz - StVergAbG)[20]

Draft	1st Reading	Committee	2nd & 3rd Reading
28/11/2002 (C: 19.078 bn €)	01/16/2003	02/19/2003 (C: -1.407 bn €)	02/21/2003
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
03/14/2003	04/10/2003 (C: -13.77 bn €)	04/11/2003	04/11/2003
Publication	**Implementation**		
05/20/2003 (C: 3.9 bn €)	05/20/2003 (C: 4.4 bn €)		
	01/01/2006 (C: -0.5 bn €)		

In 2000, Germany switched from the tax credit method to "50 percent taxation" (*Halbeinkünfteverfahren*). Under the tax credit method, retained corporate income had been taxed at a rate of 40 percent, potentially reduced to 30 percent in case income was distributed. Taxes paid on distributed earnings were then credited at the individual level. Under the new regulation, the individual was no longer granted a tax credit, but instead had to pay taxes on only 50 percent of income derived from corporations. As a consequence of the transition from the tax credit method to "50 percent taxation," there was no longer any reduction of the tax rate on distributed income, thereby discriminating against retained earnings and hence requiring a transition rule. Indeed, corporations had been allowed to reduce their corporate tax burden in the transition period by up to one-sixth of distributed profits, provided they had sufficient allowances from the time period of the tax credit method. However, due to the changes to § 37 sec. 2a KStG, corporations were not allowed to reduce their corporate tax burden for distributed profits between November 4, 2003 and the end of 2005. The measure shifts the timing of revenues, but not necessarily the total tax burden, over the whole transition period. By later legislation in the *Gesetz über steuerliche Begleitmaßnahmen zur Einführung der*

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[19] BGBl. 2002, 87, pp. 4621–4636.
[20] BGBl. 2003, 19, pp. 660–667.

Europäischen Gesellschaft und zur Änderung weiterer steuerrechtlicher Vorschriften, the total remaining allowances from the tax credit period as of December 2006 were to be distributed equally over the time remaining until the end of 2017.

The *Finanzbericht* gave a budgetary effect of 2 bn € for the measure in 2004 and 2005, which gives a good idea of the annualized impact related to the shift in timing. As the measure is retroactive, I choose the date of publication as the implementation date. The total budgetary effect of the measure is given as 5.5 bn € in the *Finanzbericht*, which leads to lower tax revenues in the period 2006 to 2017 of the same size. I have no information on the timing over the years 2006 to 2017, so I decided to distribute it equally over the 11-year period. This is in accord with the later regulation that allowances should be equally distributed over the remaining part of the transition period. This gives a shock of -0.5 bn € in 2006, to be offset by an equal-size shock outside the time horizon of this narrative.

The law also changed the technical regulation of fiscal unities in § 14 KStG. The measure was expected to raise 0.1 bn €, retroactive for 2003. The law further abolished certain regulations in § 14 sec. 2 KStG that had allowed companies jointly holding a subsidiary to form a fiscal unity. The measure was expected to change revenues by 1.2 bn €. The measure was retroactive for 2003; hence, the date of publication is chosen as the implementation date. Changes in § 15 sec. 4 EStG were designed to limit loss offsetting in silent partnerships. Specifically, these losses now could only offset earnings from the same source of the previous year or of later years. The measure was expected to raise 0.3 bn € on an annual basis effective 2003. Changes in the general tax code were concerned with increasing transparency in matters of transfer pricing. Specifically, § 90 sec. 3 AO required companies to document explicitly how transfer prices were constructed, thus allowing tax offices to approve (or not) the appropriateness of transfer prices. The measure was expected to raise 0.6 bn € on an annual basis effective at the beginning of 2003. The law also amended the international tax relations law (*Außensteuergesetz*). Sections 7 to 14 AStG were concerned with the taxation of income derived from foreign subsidiaries. Previously, such income was to some degree taxable in Germany in the circumstance that the foreign taxes paid were "low." Under the new regulation, double tax treaties no longer generally excluded income derived from foreign subsidiaries. The measure was expected to raise 0.1 bn € on an annual basis, effective 2003. Given its retroactive nature, the measure was timed at the date of publication. Changes in § 8a GewStG were intended to close loopholes for local business taxes. Some municipalities had very low local business tax rates, which lowered total local business tax revenues, especially in larger municipalities. The new § 8a GewStG mandated that operating profits of subsidiary companies are added to the operating profits of the holding body in the event the local business tax rates of subsidiary companies are "low." The measure was expected to raise 0.1 bn € effective 2003.

Based on the statement on the introduction of the bill, the law intended to generate more revenue by closing loopholes and result in a more efficient and just tax system. Specifically, it was argued that the tax system had too many exemptions and put too much emphasis on creating behavioral incentives, leading to an overly complex tax system. The statement on the introduction of the bill claimed that this has damaged transparency and equity of the tax system, leading to resentment about the tax system, and to misallocations. It was also stated that an overly complex tax system imposes high bureaucratic costs. Given this background, the law was designed to close loopholes and simplify the tax system. It was also noted that the law was designed to create additional revenue. The only difficulty arising in classifying the motivation behind this law is whether the primary objective was to increase revenues or, instead, to restructure the tax system. Mr. Eichel, Finance Minister at that time, reported in the parliamentary debate that the general budget had a structural deficit and that additional revenues were needed. Based on the parliamentary debate, the law seems best categorized as driven by consolidation, yet an alternative motivation may have been structural.

The law changed substantially throughout the legislative process, but no alternation in motivation is evident. In fact, most of the original content of the law did not survive the mediation committee.

Gesetz zur Fortentwicklung der ökologischen Steuerreform[21]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/05/2002 (S: 1.62 bn €)	11/07/2002	11/13/2002	11/14/2002
Bundesrat	**Vermittlungsausschuss**	**Bundesrat**	**Bundestag**
11/29/2002	12/06/2002	12/20/2002	12/20/2002
Publication	**Implementation**		
12/30/2002 (S: 1.62 bn €)	01/01/2003 (S: 1.45 bn €)		
	01/01/2007 (S: 0.2 bn €)		

The law does not qualify as important according to the 0.1% threshold. However, it consisted largely of one important tax measure generating 1 bn € in additional revenue, which is large enough to warrant the law's inclusion in the narrative.

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[21] BGBl. 2002, 87, pp. 4602–4606.

The law's quantitatively most important measure was the increase in tax rates on gas and fuel, generating 1.02 bn € effective 2003. The law also extended tax benefits for greenhouses until the end of 2004, which changed revenues by -0.03 bn € effective with the beginning of 2003. As usual, the effect of the extension does not show up in the implementation volume of the tax law. Tax benefits for manufacturing and agriculture were reduced. This raised 0.38 bn € beginning in 2003. Finally, the law reduced tax benefits for the use of nighttime-produced electricity, effective 2003, lowering tax revenues by 0.05 bn €. These tax benefits were fully abolished at the beginning of 2007, generating additional 0.2 bn € in revenues.

The law was part of the so-called ecological tax reform, started with the *Gesetz zum Einstieg in die ökologische Steuerreform* and later continued in the *Gesetz zur Fortführung der ökologischen Steuerreform*. Besides creating behavioral incentives for economical consumption of scarce resources, the program was intended to reduce labor costs by lowering social insurance contributions and hence improving structural aspects of the economy. Speficially, reductions in labor cost were expected to increase employment. And, indeed, the first law of the program was closely related to reductions in social insurance contribution rates, financed by block grants from the government. However, revenues from the ecological tax reform were not explicitly earmarked. There is also evidence that later increases in taxes on petroleum and electricity were driven by general consolidation motives, providing evidence that other measures of the program were not necessarily spending driven. Indeed, the law at hand largely focused on reforming tax benefits, with no reference to any specific changes in social insurance contribution rates. Specifically, the statement on the introduction of the bill reported that the original program contained exemptions for certain companies, with the intention of giving them more time to adjust to increased energy taxes. The law at hand removed these exemptions. Ecological motives dominated the parliamentary debate. The law at hand reforms energy taxes oriented toward inducing incentives for ecological behavior and therefore is structural.

Within the legislative process, the law did not experience any significant alternations.

Zweites Gesetz zur Familienförderung[22]

Draft	1st Reading	Committee	2nd & 3rd Reading
05/29/2001 (S: -2.374 bn €)	06/01/2001	07/04/2001	07/06/2001
Bundesrat	**Publication**	**Implementation**	
07/13/2001	08/21/2001 (S: -2.374 bn €)	01/01/2002 (S: -3.047 bn €)	

The law was primarily concerned with expanding child benefits, off set by a set of financing measures.

Child benefits were increased effective 2002, changing revenues by -3.042 bn €. Tax-free limits and tax allowances related to children in § 32 Sec. 6 EStG and § 33 c EStG were changed, together affecting tax revenues by -0.795 bn € effective 2002. On the financing side, the general household allowance (§ 32 Sec. 7 EStG) was reduced in three steps, one each at the beginning of 2002, 2003, and 2005. The budgetary figures enable assigning a effect to each step. Revenues changed by 0.255 bn € in 2002, by 0.369 bn € in 2003, and by 0.304 bn € in 2005. This measure was reformed substantially by later regulation. The *Flutopfersolidaritätsgesetz* moved the step in 2003 to 2004, and the *Haushaltsbegleitgesetz 2004* implemented the 2005 step in 2004. As discussed in detail in the sections covering those laws, the motiviations for the shift in timing was endogenous and, accordingly, the implementation effect of the measures is set to zero. There were further adjustments in allowances, raising revenues by 0.535 bn € in 2002.

Parts of the law were designed to comply with demands by the constitutional court to change how educational cost are accounted for. The general expansion in tax benefits for children also seems related to rulings of the constitutional court, as pointed out in the parliamentary debate. In the statement on the introduction of the bill, it was argued that general demographic developments require additional efforts in family promotion. Of course, the usual social-political justifications were also given. Changes on the financing side of the law were in some cases justified by structural reasons related to employment and distribution policies. In any case, financing measures seem closely related to the expansions in family benefits and hence are assigned the same motivation as the main law. Reading the parliamentary debate does not change these basic interpretations. The law was driven by structural motives.

Within the legislative process, the law was not been changed substantially.

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[22] BGBl. 2001, 42, pp. 2074–2080.

Gesetz zur Bekämpfung von Steuerverkürzungen bei der Umsatzsteuer und zur Änderung anderer Steuergesetze (Steuerverkürzungsbekämpfungsgesetz - StVBG)[23]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/17/2001 (S: ? bn €)	09/25/2001	11/20/2001	11/27/2001
Bundesrat	**Publication**	**Implementation**	
11/30/2001	12/27/2001 (S: ? bn €)	01/01/2002 (S: ? bn €)	

The law's main objective was to reduce value-added tax fraud and, especially, missing trader intra-community fraud by introducing new supervisory powers and making organized value-added tax fraud a statutory crime. Also, companies knowing of missing trader intra-community fraud were made liable for missing value-added taxes and newly founded companies were subjected to additional supervision. As is often the case with such changes, the revenue forecast given in the official sources is highly suspicious. Still, the *Finanzbericht* reports an annualized impact of 2.5 bn €, which, as in the *Gesetz zur Förderung der Steuerehrlichkeit*, is set to zero. Most measures of the law are implemented at the beginning of 2002 and the implementation date is chosen accordingly.

The statement on the introduction of the bill explicitly mentioned organized value-added tax fraud as the law's primary motivation. It was also mentioned that the value-added tax rate is an important revenue source and needs to be protected from fraud, which was also supposed to be in the interest of honest companies. In the parliamentary debate, the government followed the same line of reasoning. Given the emphasis on making the tax system more efficient and just, the law is categorized as structural.

Within the legislative process, the law was altered due to suggestions by the leading parliamentary committee. These changes were not associated with changes in the revenue forecast or in motivation.

Gesetz zur Finanzierung der Terrorbekämpfung[24]

Draft	1st Reading	Committee	2nd & 3rd Reading
10/09/2001 (SD: 2.09 bn €)	10/12/2001	11/07/2001 (SD: -0.02 bn €)	11/09/2001
Bundesrat	**Publication**	**Implementation**	
11/30/2001	12/14/2001 (SD: 2.07 bn €)	01/01/2002 (SD: 1.525 bn €)	
		01/01/2003 (SD: 0.545 bn €)	

The law increased the insurance tax and the tobacco tax. Additional revenue was supposed to finance expenditures related to combating international terrorism. The prospective revenue impact of the law amounts to around 0.07 percent of GDP, not enough to pass the 0.1 percent of GDP threshold, but as it consisted of only a few well-defined shocks, including it seems justified.

The general insurance tax rate was increased from 15 to 16 percent and the fire insurance tax rate from 10 to 11 percent, thereby generating 0.525 bn € in additional revenues on an annual basis effective at the beginning of 2002. The law increases the tobacco tax in two steps, the first at the beginning of 2002 and the second in 2003. Deriving a revenue forecast for each step individually is complicated by the fact that the *Finanzbericht* reported only the combined revenue impact. Based on the figures for budgetary years, I arrive at a revenue forecast of 1 bn € for the first step and 0.545 bn € for the second step.

In the statement on the introduction of the bill it was clearly stated that additional funds for combating international terrorism were needed after 9/11. In the parliamentary debate, it was mentioned that an additional 3 billion would be spent on army, police, and international development aid. The increase in taxes introduced by this law were specifically designed to finance these additional expenditures. One problem with this interpretation is that policymakers regularly find noble reasons for tax increases, with the intention of deceiving the general public as to their true purpose. This was exactly the argument brought forward by the opposition in the parliamentary debate, during which it was asserted that tax increases were really needed to cover budget deficits. In assessing the primary motivation of the law, I follow the government's official line.

The increase in the tobacco tax was originally designed to be implemented in only one step. However, the leading parliamentary committee suggested increasing the tax in two steps, while leaving other parts of the law broadly unchanged. Taken together, the law corresponds to a tax change of 2.025 bn € in 2002 and 2003.

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[23] BGBl. 2001, 74, pp. 3922–3925.
[24] BGBl. 2001, 66, pp. 3436–3437.

Gesetz zur Reform der gesetzlichen Rentenversicherung und zur Förderung eines kapitalgedeckten Altersvorsorgevermögens (Altersvermögensgesetz - AVmG)[25]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/14/2000 (S. -10.099 bn €)	11/16/2000	01/24/2001 (S: -0.46 bn €)	01/26/2001
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
02/16/2001	05/09/2001 (S: -0.143 bn €)	05/11/2001	05/11/2001

Publication	Implementation
06/29/2001 (S: -10.702 bn €)	06/29/2001 (S: -0.076 bn €)
	01/01/2002 (S: -3.062 bn €)
	01/01/2004 (S: -2.538 bn €)
	01/01/2006 (S: -2.442 bn €)
	01/01/2008 (S: -2.548 bn €)

The law was part of a large effort to reform Germany's pension system and introduced the so-called *Riester-Rente*, which is a scheme granting direct transfers for retirement savings.

The law's main measure was the step-wise introduction of tax benefits for private savings for old-age provisions. Basically, the new regulations allowed deducting—up to a certain limit—expenses for old-age provisions from the tax base. The government also pays a special surcharge on specific savings for old-age provisions. The measure was implemented in four steps at the beginning of 2002, 2004, 2006, and 2008. The reported budgetary effects in the *Finanzbericht* allow computing a series of tax shocks. This gives a shock of -2.153 bn € in 2002, -2.538 bn € in 2004, -2.442 bn € in 2006, and -2.584 bn € in 2008.

The law also had other, rather technical measures. In some specific cases, the law allowed using savings benefited by the government surcharge for buying homes. The revenue effect of that measure was -0.143 bn € effective 2002. Extant regulations had allowed companies to deduct certain expenses for pension funds once the beneficiary passed the age of 30. This threshold was reduced to 28, in effect allowing for larger deduction of business expenses. The measure applies to all new cases beginning with 2001; hence, given the retroactive nature, the date of publication is chosen as the implementation date. My sources report an annualized revenue impact of -0.076 bn €. The law exempted from income taxation employer contributions to pension funds, thereby changing revenues by -0.256 bn € effective 2002. Beginning in 2002, employees were granted the right to demand that their employer invest part of their earnings in company pension schemes. This had an annualized impact of -0.199 bn € on tax revenues. The law also allowed reclassifying book reserve arrangements for pensions as pension funds, which was likely to affect tax revenues by -0.204 bn € after full implementation. In the official revenue forecast it was assumed that making retirement savings more attractive would result in a substitution away from conventional forms of savings, thereby generating an additional loss in taxes on capital profits. The revenue effect was given as -0.107 bn € after full implementation. The latter two measures are effective 2002.

Identifying the motivation behind the law is straightforward. Policymakers were concerned about the sustainability of the public pension system and hence wanted to strengthen private retirement savings. This was also intended to help stabilize social insurance contribution rates, which otherwise would need to rise in order to finance higher pensions. The law is concerned with providing tax incentives for private pension schemes. It is clear that the motivation was structural.

Within the legislative process, the law was augmented by additional tax measures due to suggestions by the leading parliamentary committee and the *Vermittlungsausschuss*. No change in motivation was evident.

Gesetz zur Fortführung der ökologischen Steuerreform[26]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/27/1999 (C: 10.635 bn €)	09/09/1999	11/09/1999	11/11/1999
Bundesrat	**Publication**	**Implementation**	
11/26/1999	12/22/1999 (C: 10.635 bn €)	01/01/2000 (C: 2.659 bn €)	
		01/01/2001 (C: 2.659 bn €)	
		01/01/2002 (C: 2.659 bn €)	
		01/01/2003 (C: 2.659 bn €)	

The law increased the petroleum tax, as well as the electricity tax, in a series of steps at the beginning of 2000, 2001, 2002, and 2003. The *Finanzbericht* reported a revenue effect of 2.659 bn € for the first step. As taxes are increased in equally-sized steps, this is a good proxy

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[25] BGBl. 2001, 31, pp. 1310–1343.
[26] BGBl. 1999, 56, pp. 2432–2440.

for the revenue impact of the following steps. Also note that the series of shocks constructed thereby is similar to the budgetary figures given in the *Finanzbericht* for the years 2000 to 2003.

The law is part of the ecological tax reform, a centerpiece of the political program of the Social-Democratric and Green Party coalition government. The program started with the *Gesetz zum Einstieg in die ökologische Steuerreform*, which raised taxes on energy consumption to finance reductions in social insurance contribution rates. The program combined the intention of creating incentives for ecological behavior with an effort at reducing labor cost and hence stimulating employment. The present law further increased taxes on energy consumption, generating up to 0.52 percent of GDP in revenues. In the statement on the introduction of the bill, it was stated that additional revenues are to be used to finance a block grant to the government pension program, thereby financing future reductions in social insurance contribution rates. And, indeed, the draft of the *Gesetz zur Reform der gesetzlichen Rentenversicherung und zur Förderung eines kapitalgedeckten Altersvorsorgevermögens (Altersvermögensgesetz - AVmG)* contains a large reform of the pension system, leading to lower social insurance contribution rates in the long run financed partially by larger government grants. Still, the opposition argued that the additional revenues generated by the law at hand were much larger than the increase in government grants, and hence were used to finance general deficits. Additional revenues were not earmarked, nor is it clear that the additional revenues generated are directly linked to changes in social insurance contribution rates. In any case, the tax shocks were not directly related to immediate reductions in contribution rates; rather, the argument was that additional block grants avoid future increases. I thus classify the law as being driven by consolidation motives.

Within the legislative process, the core of the law remained broadly unchanged. No change in the revenue impact or in motivation is evident.

Gesetz zur Familienförderung[27]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/27/1999 (S: -2.817 bn €)	09/09/1999	11/09/1999 (S: -0.460 bn €)	11/12/1999
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/26/1999	12/15/1999 (S: -0.087 bn €)	12/16/1999	12/17/1999
Publication	**Implementation**		
12/28/1999 (S: -3.364 bn €)	12/28/1999 (S: -0.547 bn €)		
	01/01/2000 (S: -2.817 bn €)		

The law was concerned with reforming tax benefits related to the cost of raising children. Basically, it raised child benefits and introduced allowances for child-care costs. The primary motivation was a November 10, 1998 ruling by the constitutional court.

Direct transfer payment of child benefits was increased from 250 DEM to 270 DEM per month effective 2000. The measure was expected to change revenues by -1.943 bn € on an annual basis. The law introduced an allowance for child-care costs of 1,512 DEM per child and parent effective with 2000, thereby changing tax revenues by -0.971 bn € on an annual basis. An additional allowance for handicapped children changed revenues by -0.01 bn €. The introduction of allowances for child-care costs was a substitute for previous measures, thereby affecting tax revenues by 0.107 bn € per annum. Finally, the law changed tax allowances for children retroactive for the years 1983 to 1995. This produced a one-time revenue effect of -0.547 bn €.

Identifying the motivation of this legislation is straightforward. In the statement on the introduction of the bill, it is clearly stated that the reform was needed to comply with demands of the constitutional court. In the parliamentary debate, the law was relatively uncontroversial. In addition to references to the aforementioned ruling by the constitutional court, social and family political reasons were mentioned. It was clear that the motivation for the law was structural.

Within the legislative process, the law was supplemented with the retroactive tax allowances for children as discussed above. No alteration in motivation was evident.

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[27] BGBl. 1999, 58, pp. 2552–2560.

Gesetz zur Bereinigung von steuerlichen Vorschriften (Steuerbereinigungsgesetz 1999 - StBereinG 1999)[28]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/27/1998 (S: -0.843 bn €)	09/24/1998	11/10/1998 (S: -0.35 bn €)	11/12/1998
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/26/1998	12/15/1998 (S: -0.534 bn €)	12/16/1998	12/17/1998
Publication	**Implementation**		
12/29/1999 (S: -1.727 bn €)	12/29/1999 (S: -1.195 bn €)		
	01/01/2000 (S: -0.532 bn €)		

The law contained a series of rather technical changes made with the general intention of increasing the efficiency of the tax system. It fails to qualify as important according to the 0.1 percent of GDP threshold, yet is included in the narrative because some of its measures represent well-defined tax shocks of considerable importance.

Tax exemptions on income derived from part-time activity as a coach, educator, carer, and other related occupations were expanded. The measure came into effect at the beginning of 2000 and was expected to change revenues by -0.378 bn €. Changes in § 4 Sec. 2 EStG allowed changing balance sheets retroactively, affecting revenues by -0.048 bn € on an annual basis. The measure was retroactive; hence the date of publication is chosen as the implementation date. Section 4 Sec. 4a EStG limits interest cost deductions in case withdrawals exceed profits and deposits. The law at hand changed technical aspects of the regulation, thereby lowering tax revenues by -0.305 bn €. The measure was retroactive. Changes in § 39a EStG allowed using tax-free amounts for more than one occupation. This induced a one-time revenue effect of -0.153 bn € in 2000. Section 50a Sec. 7 EStG was removed. This section had allowed the tax office to require certain employees to take part in the system of tax deduction with limited tax liability. The removal was retrospective and changed revenues by -0.097 bn €. Under new regulation, 5 instead of 15 percent of dividends obtained from shares in foreign corporations are subject to corporate taxation. The measure was retroactive for 1999 and changed revenues by -0.767 bn €. Finally, the law implemented technical changes related to interest on tax liabilities, generating 0.021 bn € in revenues. The measure was retroactive. Also note that the law contained adjustments to the *Investitionszulagengesetz 1999* that had been demanded by the European Commission. Prospective effects on tax revenues, however, were small and as our sources do not allow establishing precisely how revenues were affected and hence make it difficult to time the tax shock, the measure is omitted.

According to the statement on the introduction of the bill, the law was concerned with reforming technical aspects of the tax code. It was an attempt to close tax loopholes, simplify the tax code, and comply with recent EU regulations. In the parliamentary debate, no specific macroeconomic shocks were mentioned. Taken together, the law had a structural motivation.

Within the legislative process, the law was supplemented with additional tax measures. No change in the primary motivation was evident.

Gesetz zur Senkung der Steuersätze und zur Reform der Unternehmensbesteuerung (Steuersenkungsgesetz - StSenkG)[29]

Draft	1st Reading	Committee	2nd & 3rd Reading
02/14/2000 (S: -36.833 bn €)	02/18/2000	05/16/2000 (S: -0.412 bn €)	05/18/2000
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
06/09/2000	07/04/2000 (S: -5.438 bn €)	07/06/2000	07/14/2000
Publication	**Implementation**		
26/10/2000 (S: -42.683 bn €)	01/01/2001 (S: -13.935 bn €)		
	01/01/2002 (S: -4.627 bn €)		
	01/01/2005 (S: -8.444 bn €)		

The law implemented one of the most extensive tax reforms in the history of the Federal Republic of Germany. The law substantially reduced the income and corporate tax burden, financed partially by broadening the tax base. Also of considerable interest was the substitution of the existing corporate tax imputation system by a 50 percent income taxation rule.

The *Steuersenkungsgesetz* considerably reduced the corporate tax burden. Before the tax reform, the corporate tax rate had been 40 percent on retained profits and 30 percent on distributed profits. Under the new regulation, the corporate tax rate was uniformly set to 25 percent effective 2001. The prospective annualized revenue impact of these changes was -8.153 bn €. The law instituted a switch from the existing corporate tax imputation system to a 50 percent income taxation rule. Under the tax imputation system, corporate taxes had been considered only a downpayment that was later credited at the individual level. The 50 percent income taxation rule specified that only 50

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[28] BGBl. 1999, 59, pp. 2601–2623.
[29] BGBl. 2000, 46, pp. 1433–1466.

percent of dividends and certain taxable profits from trading corporate shares were subject to income taxation at the individual level. The prospected revenue impact of the changes was 2.549 bn €. Timing of the measure is complicated by the fact that the transition was smoothed across 2001 and 2002, a process that involved some very technical details of the taxation process. Still, the 50 percent taxation rule was partially applicable in 2001, leading me to choose this date as the implementation date. The law introduced extensive transition rules for the change from the tax imputation system to the 50 percent taxation rule. The primary reason for the necessity of such transition rules lay in the fact that under former regulation, taxes paid by corporations on retained profits were allowed to be deducted partially at later stages once profits were distributed. Indeed, the corporate tax rate on retained earnings had been 40 percent, whereas it had been 30 percent on distributed profits. Under the new system, where taxation was final, there was no place for the deduction of formerly paid taxes, implying that transition rules were required to protect tax credits earned by paying corporate taxes on retained earnings previously. The law specified rules under which corporations were allowed to reduce their corporate tax obligations. The transition period is very long-term oriented; hence, for practical reasons, no phase-out date is specified. The measure was implemented in 2001, leading to changes in revenues of -2.104 bn €.

The capital return tax was reduced from 25 to 20 percent, inducing a revenue change of -0.059 bn €. Technical changes in the taxation of fiscal unities induced revenue effects of -0.054 bn € effective 2001. Beginning with 2002, profits derived by corporations from selling shares of domestic corporations were no longer taxed, inducing a revenue change of -2.168 bn €. In the income tax code, the participation threshold for the taxation of profits derived from selling shares of corporations was decreased from 10 to 1 percent, in effect changing revenues by 0.128 bn € effective 2002. So-called speculation gains were also subject to the newly established 50 percent taxation rule, changing revenues by -0.593 bn € effective 2002. The law further specified the way local business taxes were to be deducted from income tax obligations, leading to changes in revenues of -2.431 bn € in 2001. The tax-free amount related to the sale of sole traders and partnerships was increased from 60,000 to 100,000 DEM effective 2001, leading to a change in revenue of -0.256 bn €. Technical changes related to the taxation of partnerships induced revenue effects of 0.041 bn € effective 2001. Stricter depreciation rules generated 8.718 bn € effective 2001.

Of considerable importance were changes in the income tax tariff. The income tax tariff that had originally been designed to be implemented 2002 in the *Steuerentlastungsgesetz 1999/2000/2002* was introduced 2001, thereby changing revenues by -14.234 bn € in 2001. Note that the implementation effect in the *Steuerentlastungsgesetz 1999/2000/2002* is set to zero; accordingly, the measure is treated as a permanent measure in 2001 and subsumed under the *Steuersenkungsgesetz*. Next, the income tax tariff was reformed in two steps, one in 2003, leading to revenue changes of -6.89 bn €, and one in 2005, inducing changes of -17.374 bn €. The step in 2003 was later endogenously shifted to 2004 by the *Flutopfersolidaritätsgesetz*. As the shift in timing was endogenous, it seems warranted to remove the tax shock and, accordingly, its implementation effect is set to zero. The step for 2005 was later partially brought forward to 2004. Again, the motivation behind the change in timing was endogenous. To remove the proportion of the tax shock for which timing is endogenous, the revenue forecast from the *Haushaltsbegleitgesetz 2004* is subtracted from the implementation effect of the law at hand, leaving an effect of -8.444 bn €. Technical changes in the income tax code, effective 2003, induced revenue changes of 0.143 bn €. However, the measure was later endogenously shifted to 2004 by the *Flutopfersolidaritätsgesetz*. As before, the implementation effect is set to zero.

The statement on the introduction of the bill postulated that the law will promote growth and employment by reducing the tax burden. It was explicitly stated that the law pushes the economy onto a different growth path. The reduction in the corporate tax rate and the top income tax rate was intended to improve Germany's international attractiveness and its competitiveness. More generally, tax reductions in income and corporate taxes were supposed to stimulate consumption, employment, and investment. An important part of the tax reform is the transition from a corporate tax imputation system to a 50 percent income taxation rule. The reform was partially driven by considerations of tax harmonization in the European Union. Indeed, the tax imputation system was problematic because foreign investors were often unable to reclaim corporate taxes in their home countries. As such, the tax imputation system may have violated EU regulation. The statement on the introduction of the bill reported that the imputation system had been very complex and associated with high bureaucratic costs. It was also mentioned that the 50 percent income taxation rule is less prone to tax evasion. The parliamentary debate accompanying the tax legislation was extensive, but basically followed the same line of reasoning. Specifically, no macroeconomic shocks were mentioned in the debate. Taken together, it is evident that the *Steuersenkungsgesetz* was driven by structural motives.

Gesetz zur Ergänzung des Steuersenkungsgesetzes (Steuersenkungsergänzungsgesetz – StSenkErgG)[30]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/18/2000 (S: -3.49 bn €)	10/12/2000	11/08/2000	11/10/2000
Bundesrat	**Publication**	**Implementation**	
12/01/2000	12/23/2000 (S: -3.49 bn €)	01/01/2001 (S: -1.079 bn €)	
		01/01/2005 (S: -2.411 bn €)	

The compromise between the government and the opposition that had been made during the legislative process of the *Steuersenkungsgesetz* stipulated two additional tax measures. The marginal top income tax rate was reduced by an additional point to 42 percent in 2005, leading to additional revenue effects of -2.411 bn €. Sales of businesses received a reduced tax rate once in the lifetime of an entrepreneur, inducing revenue changes of -1.079 bn €.

In principle, the law has the same motivation as the *Steuersenkungsgesetz* as it was part of that reform program. In the statement on the introduction of the bill, it was stated that the changes are specifically designed to promote medium-sized companies. In the parliamentary debate, this supplementation of the *Steuersenkungsgesetz* was always justified as being beneficial to mainly medium-sized companies. Accordingly, the law was motivated by structural objectives.

Within the legislative process, the law was not changed substantially. Taken together, the law adds a tax shock of -3.49 bn € implemented at 2001 and 2005.

Steueränderungsgesetz 1998[31]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/09/1998 (S: -1.504 bn €)	11/13/1998	12/08/1998	12/10/1998
Bundesrat	**Publication**	**Implementation**	
12/18/1998	12/23/1998 (S: -1.504 bn €)	01/01/1999 (S: -1.504 bn €)	

The law was originally introduced as part of the *Steuerentlastungsgesetz 1999/2000/2002*, but later became a separate law. Accordingly, the dates of the introduction of the bill, as well as of the first reading of the law, are taken from the *Steuerentlastungsgesetz 1999/2000/2002*. The law's regulations are essentially identical in form to those in the original draft of that law. Accordingly, no relevant changes in the prospective revenue impact of the measure occurred over the legislative history of the law.

The German tax code allows companies to form book reserves for pensions, thereby reducing profits and the tax burden. At the beginning of November 1998, new guidelines on how to calculate pension liabilities accounting for the increase in life expectancy were published. Accordingly, book reserves were allowed to be considerably higher, leading to reduced tax liabilities over a transition period. By law, companies need to build up the larger book reserves over a three-year period. The annualized revenue impact was given as -1.504 bn € in the *Finanzbericht*, effective 1999 and phased-out at the end of 2001.

The law was originally part of the *Steuerentlastungsgesetz 1999/2000/2002*, so it receives the same motivation as that law. From the report of the leading parliamentary committee and the discussion in parliament, it is also clear that the law was concerned with a necessary technical adjustment due to increased life expectancy. Hence, the motivation behind the law was structural in nature.

Steuerentlastungsgesetz 1999[32]

Draft	1st Reading	Comittee	2nd & 3rd Reading
11/09/1998 (S: -3.633 bn €)	11/13/1998	12/02/1998	12/04/1998
Bundesrat	**Publication**	**Implementation**	
12/18/1998	12/23/1998 (S: -3.633 bn €)	01/01/1999 (S: -3.633 bn €)	

The law was originally introduced as part of the *Steuerentlastungsgesetz 1999/2000/2002*, but was later introduced as a separate law. Accordingly, the dates of the introduction of the bill, as well as of the first reading of the law, are taken from the *Steuerentlastungsgesetz 1999/2000/2002*. The law's regulations are essentially identical in form to those in the original draft of that law. Accordingly, no relevant changes in the prospective revenue impact of the measure occurred over the legislative history of the law.

The law increased child benefits from 220 DEM to 230 DEM, thereby changing revenues by -2.965 bn € effective 1999. Also, the starting income tax rate was reduced to 23.9 percent, effective at the beginning of 1999, thereby changing revenues by -0.667 bn €.

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[30] BGBl. 2000, 57, pp. 1812–1814.
[31] BGBl. 1998, 84, pp. 3816–3817.
[32] BGBl. 1998, 84, pp. 3779–3815.

Since the law was originally part of the *Steuerentlastungsgesetz 1999/2000/2002*, it's assigned motivation is the same as that law's. In the parliamentary debate, the two measures introduced by the law at hand received relatively little attention. The increase in child benefits was seen as a good idea by all parties, and the only discussion related to the question of how to finance them. It seems uncontroversial that the expansion in child benefits was driven by family political reasons. The second measure of the law was the reduction of the starting income tax rate. In the parliamentary debate, this was sometimes justified as necessary in order to comply with the principle of vertical tax justice. The reduction in the starting tax rate was also justified by sociopolitical reasons, as it benefited mostly low-income taxpayers. In any case, neither measure seemed related to any specific macroeconomic shock. Timing considerations were responsible for removing this law from the original proposal, as the government wanted to implement these measures in 1999. Altogether, it seems uncontroversial to categorize the law as being driven by structural objectives.

Steuerentlastungsgesetz 1999/2000/2002[33]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/09/1998 (S: -4.408 bn €)	11/13/1998	03/02/1999 (S: -0.353 bn €)	03/04/1999
Bundesrat	**Publication**	**Implementation**	
03/19/1999	03/31/1999 (S: -4.762 bn €)	03/31/1999 (S: 12.836 bn €)	
		04/01/1999 (S: 1.294 bn €)	
		01/01/2000 (S: -5.338 bn €)	

This law is one of the most extensive tax reforms covered in the narrative. The basic structure of the law was to change the income tax tariff, leading to substantial tax reductions, while financing these tax reductions by closing loopholes and eliminating tax exceptions.

The income and corporate tax tariff was reformed in three steps, one retroactively for 1999, one in 2000, and one in 2002. The combined revenue effect of the first step amounted to -2.542 bn €, the second step to -6.938 bn €, and the third step to -13.825 bn €. Note that the third step was later shifted to 2001 in the *Steuersenkungsgesetz* and that the implementation effect is subsumed in the volume derived for that law. These measures were accompanied by a multitude of others intended to close loopholes and abolish exemptions. The total volume of these measures was 18.544 bn €, to be implemented mostly at various dates in 1999, as well as at the beginning of 2000. The majority of the measures, although extremely technical in nature, had very minor revenue impacts, and so as to focus on the more important issues, these minor measures are not discussed here, although they were comprehensively analyzed. Briefly, the most noteworthy of these minor measures is the reduction in tax allowances for savings, which induced changes in revenues of 1.549 bn € effective 2000. Of considerable importance also were regulations on commercial reserves, inducing a total revenue effect of 5.54 bn € effective 1999. Changes in the taxation of extraordinary incomes induced revenue effects of 3.3 bn € effective 1999. Changes in the value-added tax code related to the deduction of prepaid taxes induced revenue effects of 1.008 bn € effective April 1999. A full list of measures not explicitly discussed is available on request.

Identifying the motivation behind the law is straightforward. In the statement on the introduction of the bill, it was stated that the tax reform is part of the coalition agreement between the Social Democratic Party and the Green Party. In fact, the law was introduced in parliament shortly after the election of that government. The objectives stated in the statement on the introduction of the bill were to increase growth by strengthening investment and internal demand, reduce the tax burden on employees and families, and foster tax justice and tax efficiency. Indeed, the basic structure of the law was to reduce tax rates and tax brackets, while at the same time removing exceptions and loopholes. In the parliamentary debate, many of these objectives were mentioned, but slightly stronger emphasis was placed on the law's role in promoting families and tax justice. Mr. Müller, Economics Minister at the time, stated in the *Bundesrat* that the law was also helpful in complying with requirements of the constitutional court. It seems uncontroversial to assign the law a structural motivation, especially since no specific macroeconomic conditions or shocks played a role in the parliamentary debate.

The final version of the law was very different from the one originally introduced. Parts of the original proposal were moved to separate laws (see the *Steueränderungsgesetz 1998* and the *Steuerentlastungsgesetz 1999*). I ignore those in my quantitative measure of changes during the legislative process and instead focus on the report by the budget committee (*Haushaltsausschuss*), which explicitly listed how tax measures included in the final version of the law compare to the original proposal. Based on the reports of the *Haushaltsausschuss* and the *Finanzausschuss*, no change in the original motivation was evident.

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[33] BGBl. 1999, 15, pp. 402–496.

Gesetz zur Neuregelung der geringfügigen Beschäftigungsverhältnisse[34]

Draft	1st Reading	Committee	2nd & 3rd Reading
01/19/1999 (SD: -1.079 bn €)	01/22/1999	03/01/1999	03/04/1999
Bundesrat	**Publication**	**Implementation**	
03/19/1999	03/29/1999 (SD: -1.079 bn €)	04/01/1999 (SD: -1.079 bn €)	

The law was concerned with reforming regulation on insignificant employment. Basically, employment yielding monthly wages below 630 DEM is no longer taxed. The law came into effect April 1, 1999 and was expected to change tax revenues by -1.079 bn €.

The law freed insignificant employment from income taxation, while at the same time introducing a flat-rate social insurance contribution rate for insignificant employment of 10 percent for health insurance and 12 percent for the governmental pension scheme. This was expected to generate additional social insurance revenue of roughly 2.5 bn €, larger in absolute value than the actual tax increase. It is clear from the statement on the introduction of the bill, as well as from the parliamentary debate, that the focus of the law was to increase social insurance contributions. The tax decrease cannot be viewed in isolation, as the tax measure was correlated with a corresponding increase in social insurance contributions. The tax measure is endogenous. The best fitting category seems to be spending driven.

Within the legislative process, the law was changed only in technical dimensions. No change in the revenue forecast or in motivation is evident.

Gesetz zum Einstieg in die ökologische Steuerreform[35]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/17/1998 (SD: 6.212 bn €)	11/20/1998	02/24/1999	03/03/1999
Bundesrat	**Publication**	**Implementation**	
03/19/1999	03/29/1999 (SD: 6.212 bn €)	04/01/1999 (SD: 6.212 bn €)	

The law increased energy taxes with the intention of lowering social insurance contributions.

The law increased taxes on electricity, petroleum, heating oil, and petroleum gas, thereby generating 2.301 bn €, 2.147 bn €, 0.793 bn €, and 0.971 bn € on annual basis, respectively. The law came into effect April 1, 1999.

The law was part of the so-called ecological tax reform, which started with this law and continued with the *Gesetz zur Fortführung der ökologischen Steuerreform* and the *Gesetz zur Fortentwicklung der ökologischen Steuerreform*. In addition to creating behavioral incentives for economical consumption of scarce resources, the program was intended to reduce labor costs by lowering social insurance contributions and hence improving structural aspects of the economy. Speficially, reductions in labor costs were expected to increase employment. Indeed, the statement on the introduction of the bill suggested that the additional revenue raised by the law would be used to finance a decrease in social insurance contribution rates, as well as be invested in renewable energies. The *Gesetz zu Korrekturen in der Sozialversicherung und zur Sicherung der Arbeitnehmerrechte*[36] had reduced social insurance contributions rates effective April 1, 1999 while increasing the block grant of the general government to the social insurance institutions. The total budgetary effect of that law was forecast to be around 7 bn €, even exceeding tax revenues generated by the law at hand. The law at hand was spending driven.

Within the legislative process, the law underwent a series of technical changes due to suggestions by the leading parliamentary committee. No changes in the revenue forecast or in motivation seem evident. The law represented a tax shock of 6.212 bn € to be implemented in April 1999.

Gesetz zur Senkung des Solidaritätszuschlags[37]

Draft	1st Reading	Committee	2nd & 3rd Reading
05/24/1997 (S: -3.784 bn €)	06/14/1997	10/07/1997	10/09/1997
Bundesrat	**Publication**	**Implementation**	
11/07/1997	11/28/1997 (S: -3.784 bn €)	01/01/1998 (S: -3.784 bn €)	

The law was originally introduced as part of the *Jahressteuergesetz 1997*; however, during the legislative process, it was decided to split the original law into two parts. Accordingly, the dates for the draft and the first reading are taken from the *Jahressteuergesetz 1997*. The

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[34] BGBl. 1999, 14, pp. 388–395.
[35] BGBl. 1999, 14, pp. 378–384.
[36] BGBl. 1998, 85, pp. 3833–3896.
[37] BGBl. 1997, 78, pp. 2743–2744.

law reduced the solidarity surcharge on income and corporate taxes from 7.5 percent to 5.5 percent, thereby lowering tax revenues by -3.784 bn € effective 1998.

The law was originally part of the *Jahressteuergesetz 1997*, so it has the same structural motivation of that law. The reduction in the solidarity surcharge tracks back to the *Aktionsprogramm für Investitionen und Arbeitsplätze*, which can be translated as the Agenda for Investment and Employment. The program recognized that unemployment in Germany had been high and suggested potential policy approaches, including a reduction in the solidarity surcharge. In the discussion of the program, it was argued that the government sector in Germany is too large and that reducing it would improve structural conditions for growth. As part of the agenda to reduce governmental influence, the program proposed reducing the solidarity surcharge. Finally, note that growth rates in the first and second quarter in comparison to the previous year were around 1.8 percent. Business cycle indicators also support that economic conditions were fairly normal, which support deeming this law to have a structural motivation.

The law was originally part of the *Jahressteuergesetz 1997*, where the original intention had been to reduce the solidarity surcharge in two steps as of 1997 and 1998. The measure is now implemented in one step as of 1998, but other than that, no substantial changes during the legislative process are evident.

Gesetz zur Finanzierung eines zusätzlichen Bundeszuschusses zur gesetzlichen Rentenversicherung[38]

Draft	1st Reading	Committee	2nd & 3rd Reading
10/07/1997 (SD: 5.778 bn €)	10/10/1997	10/29/1997	10/31/1997
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/28/1997	12/10/1997	12/11/1997	12/19/1997
Publication	**Implementation**		
12/23/1997 (SD: 5.778 bn €)	04/01/1998 (SD: 5.778 bn €)		

The *Gesetz zur Reform der gesetzlichen Rentenversicherung (Rentenreformgesetz 1999 - RRG 1999)*[39] reduced pension contribution rates and introduced an additional government block grant corresponding to the part of value-added tax revenues generated by a 1 percent value-added tax rate. The law at hand was concerned with increasing the value-added tax rate in order to finance the additional block grant to the government pension scheme. Effective April 1998, the value-added tax rate was increased from 15 to 16 percent, generating 5.778 bn € in additional revenues.

In the law, it was clearly stated that expected additional revenues of the value-added tax increase are to be used to finance a grant to the pension system. At the beginning of 1999, social insurance contribution rates were reduced in accordance with the law at hand. Taken together, it is clear that the law was spending driven.

Within the legislative process, the law experienced some alternations. The increase in the value-added tax rate was originally scheduled for January 1, 1999 but was shifted by the mediation committee to April 1, 1998. No changes in motivation were evident.

Jahressteuergesetz (JStG) 1997[40]

Draft	1st Reading	Committee	2nd & 3rd Reading
05/24/1996 (S: -1.398 bn €)	06/14/1996	11/05/1996 (S: -0.182 bn €)	11/07/1996
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/15/1996	12/12/1996 (S: 1.488 bn €)	12/12/1996	12/19/1996
Publication	**Implementation**		
12/27/1996 (S: -0.092 bn €)	12/27/1996 (S: 1.562 bn €)		
	01/01/1997 (S: -2.505 bn €)		
	01/01/1998 (S: -0.851 bn €)		

Jahressteuergesetze (annual tax laws) are often concerned with changing technical aspects of the tax code. Indeed, most of the measures contained in this law were very technical and associated with only minor revenue effects. However, partially due to demands of the constitutional court, the law also made important changes in the inheritance and wealth tax, leading to substantial revenue effects. The reason this law is given careful study in the narrative is that a couple of its measures are very substantial, changing revenues by more than 4 bn €. Still, as these measures partially cancel out, no substantial net revenue effect is achieved.

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[38] BGBl. 1997, 86, pp. 3121–3126.
[39] BGBl. 1997, 85, pp. 2998–3038.
[40] BGBl. 1996, 68, pp. 2049–2081.

In 1995, the constitutional court ruled that the wealth tax in its current form is unconstitutional and demanded changes. Rather than changing the wealth tax, the government decided to suspend it, leading to an annualized revenue impact of -4.755 bn € effective 1997. Reforming the inheritance tax in accordance with the demands of the constitutional court led to a revenue change of 1.074 bn € effective retroactively for 1996. Accordingly, the date of publication is chosen as the implementation date. The land purchase tax was increased effective 1997, inducing a revenue effect of 2.684 bn €. Technical changes in the land purchase tax code lead to revenue changes of 0.179 bn € effective 1997. The law also introduces a couple of technical changes in the income tax code. Retroactively for 1996, special depreciations for airplanes and ships were abolished, inducing revenue changes of 0.038 bn € and special rules for loss deduction in relation to ships were introduced, changing revenues by 0.066 bn €.

All other changes in the income tax code were effective 1997. The way meals on business trips are treated was changed, inducing changes of -0.268 bn €. Some depreciation rules were changed, inducing revenue effects of -0.089 bn €. Tax allowances for household employment were increased, inducing revenue effects of -0.138 bn €. The way the income tax is charged was altered effective 1997, inducing one-time revenue effects of -0.182 bn € in 1997. The increase in the general tax-free amount due to the *Jahressteuergesetz 1996* was shifted to 1998, inducing revenue effects of 0.851 bn € in 1997. To model implementation of the measure correctly, I model a shock of -0.851 bn € at the beginning of 1998 and remove the implementation effect of the aforementioned law. This ensures that the tax shock hits at the correct time. Technical changes in the local business tax code induced changes of -0.018 bn € in 1997. Changes in tax benefits for home owners induced revenue effects of 0.082 bn € in 1997. Technical changes in the general tax code induced revenue changes of 0.383 bn € with immediate impact. Accordingly, the date of publication is chosen as the implementation date.

Identifying the motivation behind the law is straightforward. To a large extent, the law was concerned with rulings of the constitutional court. At the same time, the statement on the introduction of the bill cited structural reasons, such as improving opportunities for production, investment, and employment. The removal of the wealth tax, which not demanded by the constitutional court, was justified by arguing that the wealth tax was hindering economic growth by taxing the substance of companies in bad years. Changes in the depreciation rules were justified as improving conditions for investment and growth of small and medium-sized companies. Specifically, no specific economic shock was mentioned. Also, the law was concerned with balancing tax decreases and tax increases, making a business cycle stimulus unlikely. It is evident that the law was structurally motivated.

Within the legislative process, the law was changed to a substantial degree as it was augmented by a variety of new measures. Also, parts of the law were removed to separate legislations. No change in motivation was evident.

Gesetz zur Fortsetzung der wirtschaftlichen Förderung in den neuen Ländern[41]

Draft	1st Reading	Committee	2nd & 3rd Reading
06/03/1997 (S: -2.937 bn €)	06/06/1997	06/25/1997 (S: -0.031 bn €)	06/26/1997
Bundesrat	**Publication**	**Implementation**	
07/04/1997	08/25/1997 (S: -2.968 bn €)	01/01/1999 (S: 0 bn €)	

The law extended and reformed the investment surcharge for the New Laender.

The law implemented an investment surcharge of 10 percent on moveable assets in manufacturing until the end of 2004, affecting revenues by -0.435 bn. Investment in small and medium-sized companies was encouraged by an additional surcharge of 10 percent, affecting revenues by -1.120 bn € until the end of 2004. The investment surcharge was 10 percent for investment in crafts enterprises and in retail and wholesale trade until the end of 2004, affecting revenues by -0.143 bn € and -0.082 bn €, respectively. Until the end of 2004, investment in buildings used in manufacturing was benefited by an investment surcharge of 10 percent, affecting revenues by -0.358 bn €. Corresponding investment surcharges for buildings used for crafts enterprises and for retail and wholesale trade each changed revenues by -0.036 bn € until the end of 2001. Modernization of old homes and flats were benefited until the end of 2004, changing revenues by -0.348 bn €. New homes and flats let for rent were benefited until the end of 2001, changing revenues by -0.077 bn €. Owner-occupied buildings were benefited until the end of 2004, changing revenues by -0.143 bn €. West Berlin was included in the investment surcharge, changing revenues by -0.115 bn €. Previously, East German companies with turnovers less than 1,000,000 DEM were temporarily allowed to pay value-added taxes on actual revenues rather than on contracted sums. The law extended this provision, thereby inducing an announcement effect of -0.077 bn €. All measures of the law are effective at the beginning of 1999.

It is difficult to assess the implementation effect precisely because the law partially extended already existing measures that had been designed to expire in 1998. This is a frequent aspect of investment surcharges, which are usually limited to a specific time span and then later adjusted and prolonged. The statement on the introduction of the bill explicitly pointed out that the total volume of the investment

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[41] BGBl. 1997, 59, pp. 2070–2074.

surcharge roughly corresponded to the total volume of previous benefits. Based on that argument, the law was not a true tax innovation and the implementation effect is hence set to zero.

Identifying the motivation behind the law is straightforward. The statement on the introduction of the bill recognized that the capital stock, productivity, and economic conditions in East Germany were still lagging those of West Germany. Therefore, the law extended and reformed the existing investment surcharge with the intention of fostering investment. In addition to investment in capital stocks, the law also allowed investment in buildings, recognizing that the standard of buildings and flats in East Germany is somewhat below the Western German level. The motivation of the law was structural.

Within the legislative process, the law was subject to only very modest changes.

Jahressteuergesetz 1996[42]

Draft	**1st Reading**	**Committee**	**2nd & 3rd Reading**
03/27/1995 (S: -15.354 bn €)	03/31/1995	05/31/1995 (S: -1.986 bn €)	06/02/1995
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
06/23/1995	07/07/1995	07/13/1995	07/14/1995
Vermittlungsausschuss	**Bundestag**	**Bundesrat**	**Publication**
08/02/1995 (S: -3.219 bn €)	09/21/1995	09/22/1995	10/20/1995 (S: -20.559 bn €)

Implementation

10/20/1995 (S: -0.159 bn €)
01/01/1996 (S: -8.904 bn €)
01/01/1997 (S: -1.981 bn €)
01/01/1999 (S: -2.38 bn €)

Important parts of this law were related to reforms of the income tax tariff, as well as to changes in the tax treatment of families and children. Of relevance also was extension of the surcharge for investment in East Germany. In addition, the law contained a series of rather technical changes with limited revenue impact. The law has a record length of 164 pages, thus only the important measures are discussed in full detail here.

The income tax tariff was reformed in three steps. The general tax-free amount was adjusted in 1996, 1997, and 1999, inducing revenue changes of -7.15 bn €, -1.478 bn €, and -2.38 bn €, respectively. The change in 1997 was later shifted to 1998 in the *Jahressteuergesetz 1997*. The implementation shock is discussed in the section on that law and set to zero for purposes of the law at hand. Changes in the tax treatment of families affect revenues by -3.702 bn € effective 1996. A related increase in child benefits induced revenue changes of -1.961 bn € in 1997. The law further extended and slightly altered the already existing investment surcharge for investment in East Germany for the time period 1996 to 1998. The announcement effect of these measures was -5.437 bn € on an annual basis. It is clear that the largest part of the shock was due to the renewal of existing measures, and hence the implementation effect is set to zero. The total effect of the multitude of tax shocks not discussed here, yet analyzed in an identical matter, was 1.549 bn €, implemented mostly in 1996.

Identifying the motivation behind the law is straightforward. The constitutional court required the government to reform tax treatment of the minimum income needed to exist. This induced changes in the general tax-free amount and the tax treatment of family and children. The extension of the investment surcharge for the New Laender was motivated by a continued lag in economic activity and living standards in East Germany compared to West Germany. The remainder of the law was concerned with changing technical aspects of the tax code, with the intention of making the tax system simpler and more transparent. The discussion in parliament does not change this basic interpretation, although the parliamentary debate strongly emphasized the size of government in general at that time, potentially explaining the implementation of tax reductions. In any case, no endogenous motives for the law changes were present. The motivation of the law was structural.

Within the legislative process, the law was changed extensively, yet no change in motivation occurred.

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[42] BGBl. 1995, 53, pp. 1250–1413.

Gesetz zur Bekämpfung des Mißbrauchs und zur Bereinigung des Steuerrechts (Mißbrauchsbekämpfungs- und Steuerbereinigungsgesetz - StMBG)[43]

Draft	1st Reading	Committee	2nd & 3rd Reading
09/03/1993 (MS: 1.271 bn €)	09/07/1993	11/08/1993 (MS: -0.394 bn €)	11/11/1993
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/26/1993	12/08/1993 (MS: 0.57 bn €)	12/10/1993	12/17/1993
Publication	**Implementation**		
12/29/1993 (MS: 1.447 bn €)	12/29/1993 (MS: 0.182 bn €)		
	01/01/1994 (MS: 1.910 bn €)		
	04/01/1994 (MS: -0.716 bn €)		
	07/01/1994 (MS: 0.072 bn €)		

The law contained a series of technical changes in the tax code, primarily concerned with simplifying the tax code and closing loopholes.

Depreciation rules for buildings not used as accommodations were changed, affecting revenues by 0.051 bn € effective 1994. Tax allowances for commuting costs were increased, affecting revenues by -0.205 bn € effective 1994. Tax allowances related to the acquisition of buildings were reduced, thereby changing revenues by 0.317 bn € effective 1994. Under former regulation, employers had been allowed to grant employees tax-free equity participation as long as the value did not exceed 500 DEM. This threshold was reduced to 300 DEM, increasing revenues by 0.077 bn € effective 1994. Technical changes in the income tax code intended to close loopholes related to financial innovations changed revenues by 0.205 bn € effective 1994. Further changes in the income tax code were of minor importance and had a total revenue effect of 0.304 bn €.

Employee savings allowances for certain capital investment were reduced to 10 percent, affecting revenues by 0.051 bn € effective 1994. Closing loopholes in the Foreign Tax Act affected revenues by 0.332 bn € effective 1994. The law also introduced several changes in the Valuation Tax Act, the inheritance tax, and the value-added tax code, resulting in total revenue effects of 0.033 bn €, 0.038 bn €, and 0.105 bn €, respectively. The fire insurance tax rate was set to 8 percent. The prospected revenue forecast for that measure was 0.072 bn € effective July 1, 1994. The automobile tax for diesel cars was increased, inducing revenue changes of 0.332 bn € in 1994. The automobile tax for trucks was changed as of April 1, 1994, inducing revenue changes of -0.716 bn €. Technical changes in the general fiscal code induced revenue effects of 0.179 bn € effective on the date of announcement. Further technical changes in the corporate tax code and other minor parts of the tax code induced revenue effects of 0.271 bn € effective around 1994.

According to the statement on the introduction of the bill, the law was primarily concerned with simplifying the tax system and closing loopholes. Changes in the automobile tax code were also justified on an environmental basis. Moreover, some technical adjustments were needed to comply with EC regulations. However, in the parliamentary debate, the law was discussed in conjunction with the *Erstes Gesetz zur Umsetzung des Spar-, Konsolidierungs- und Wachstumsprogramms (1. SKWPG)*. It was repeatedly mentioned that both laws form a common program and share the same background. Accordingly, consolidation motives receive stronger emphasis in the parliamentary debate than do the technical arguments brought forward in the statement on the introduction of the bill. In the parliamentary debate, the law is seen as part of the consolidation program passed in response to a recent recession. It hence seems convincing to see both laws as having the same motivation, namely, macroeconomic shock.

Within the legislative process, the law experienced some changes, none of which changed its motivation.

Erstes Gesetz zur Umsetzung des Spar-, Konsolidierungs- und Wachstumsprogramms (1. SKWPG)[44]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/13/1993 (MS: 4.346 bn €)	09/07/1993	10/20/1993	10/22/1993
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/26/1993	12/09/1993	12/10/1993	12/17/1993
Publication	**Implementation**		
12/29/1993 (MS: 4.346 bn €)	01/01/1994 (MS: 4.346 bn €)		

The law increased the petroleum tax rate at the beginning of 1994, thereby generating 4.346 bn € in revenues. Along with the tax measures, the law introduced a series of consolidation measures on the expenditure side.

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[43] BGBl. 1993, 72, pp. 2310–2352.
[44] BGBl. 1993, 72, pp. 2353–2368.

In the statement on the introduction of the bill, it was stated that a recent economic downturn had led to reduced revenues, inducing a large budget deficit. The government at that time was not willing to enage in additional borrowing and hence decided to increase taxes. In the parliamentary debate, it was stated that the government's budgetary targets would be in danger without additional revenue. Taken together, the official government stance suggested that the law increased taxes in response to a recent recession. It seems warranted to assume that the law is driven by a recent macroeconomic shock.

The part of the law related to changes in the tax code did not changed substantially during the legislative process.

Gesetz zur Neuregelung der Zinsbesteuerung (Zinsabschlaggesetz)[45]

Draft	1st Reading	Cmomittee	2nd & 3rd Reading
04/08/1992 (S: -0.118 bn €)	05/07/1992	06/03/1992 (S: 0.394 bn €)	06/05/1992
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
06/26/1992	07/08/1992 (S: 1.751 bn €)	09/24/1992	09/25/1992
Publication	**Implementation**		
11/12/1992 (S: 2.027 bn €)	01/01/1993 (S: 1.567 bn €)		
	01/01/1994 (S: 0.46 bn €)		

The law reformed the tax treatment of interest income, leading to substantial tax increases. Increases in the tax burden were accompanied by expansions in tax allowances, most notably for for savings and insurance contributions.

The law introduced a 30 percent withholding tax on interest income. Under the new regulation, banks were directly obliged to pay a 30 percent tax on interest income, with the possibility of later deduction against tax liabilities at the individual level. The measure was expected to be implemented in 1993 with expected revenue effects of 6.647 bn €. Accrued interest was included in the new regulations in 1994, changing revenues by 0.46 bn €. The tax rate on over-the-counter transactions was set at 35 rather than 30 percent, raising 0.205 bn € effective 1993. The law also expanded tax allowances. The general allowance for savings was increased to 6,000 DEM from 600 DEM in 1993, changing revenues by -2.592 bn €. Technical changes in the wealth tax affected revenues by -0.043 bn €. Finally, allowances related to savings and insurance contributions were increased, inducing changes of -2.648 bn € in 1993.

The primary motivation for the law was a ruling of the constitutional court demanding changes in the taxation of interest income. Given banking confidentiality, enforcing taxation of interest income was difficult, which was criticized as violating tax justice. The *Zinsabschlaggesetz* reacted to this ruling and introduced a withholding tax on interest income. Increases in allowances for savings and insurance contributions and related changes were justified in the statement on the introduction of the bill in terms of sociopolitical reasons. The parliamentary debate does not add insight to these basic qualifications. The debate was entirely oriented toward structural arguments, with no mention of specific macroeconomic shocks. The motivation of the law was structural.

Gesetz zur Anpassung von Verbrauchsteuer- und anderen Gesetzen an das Gemeinschaftsrecht sowie zur Änderung anderer Gesetze (Verbrauchsteuer-Binnenmarktgesetz)[46]

Draft	1st Reading	Committee	2nd & 3rd Reading
10/02/1992 (S: -1.651 bn €)	10/29/1992	11/30/1992 (S: -0.836 bn €)	12/02/1992
Bundesrat	**Publication**	**Implementation**	
12/18/1992	12/29/1992 (S: -2.487 bn €)	01/01/1993 (S:-0.249 bn €)	
		02/01/1993 (S: 0.056 bn €)	

The *Verbrauchsteuer-Binnenmarktgesetz* reformed two blocks of the tax code. It rewrote the majority of consumption tax laws while introducing several technical adjustments. The most noteworthy measure of the second block was extension of the investment surcharge for East German states.

The more extensive part of the law dealt with reformulating consumption tax laws while introducing slight alternations. Alcohol used for medicine, cosmetics, and groceries was no longer taxed effective 1993, affecting revenues by -0.205 bn €. Taxes on lubricants were abolished effective 1993, leading to a one-time effect of -0.008 bn € and a permanent effect of -0.153 bn €. Technical changes in the petroleum tax code as well as abolishment of the tax on petrol coke led to revenue effects of 0.074 bn € effective 1993. The beer tax was increased effective 1993, changing revenues by 0.051 bn €. Technical changes in the tobacco tax code led to revenue changes of -0.029 bn € effective 1993. The tax rate for so-called *Steckzigaretten*, which are made out of a ready-made paper tube into which tobacco is inserted, was increased in two steps. For a transition period between February 1993 and December 1995, the tax rate was slightly

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[45] BGBl. 1992, 52, pp. 1853–1863.
[46] BGBl. 1992, 59, pp. 2150–2210.

increased, affecting revenues by 0.056 bn €. Afterward, the full tax rate for ordinary cigarettes was to apply, affecting revenues by 0.353 bn €. However, the transition regulation was regularly extended by later legislations, and thus the implementation effect of the final provisions is set to zero.

The *Verbrauchsteuer-Binnenmarktgesetz* also contained provisions affecting other parts of the tax code. The surcharge for investment in East Germany was both slightly altered and extended for the most part until the end of 1996. Regrettably, the *Finanzbericht* does not make a clear distinction between the effect of the prolongation and that of the expansion. However, it is clear that the largest part of the effect was caused by renewing extant regulation. It seems advisable to set the implementation effect of measures related to the promotion of investment in East Germany to zero. The announcement effect of the measure was -2.614 bn €. Finally, special depreciations granted in § 7c EStG related to tenements were renewed until the end of 1995, while those in § 7k EStG pertaining to social housing were slightly altered. The combined effect of the two measures is -0.013 bn €.

The law had two core topics, the promotion of economic development in the New Laender and the reformulation of consumption tax laws. Assessing the motivation behind the law is straightforward. The statement on the introduction of the bill cited EU regulations as the primary driving factor behind the legislation addressing consumption taxes. The investment surcharge, which aims at equalizing economic conditions across Germany, has a structural motive.

Within the legislative process, alternations related to the investment surcharge led to substantial changes in the prospective revenue impact of the law. No change in motivation occurred.

Gesetz über Maßnahmen zur Bewältigung der finanziellen Erblasten im Zusammenhang mit der Herstellung der Einheit Deutschlands, zur langfristigen Sicherung des Aufbaus in den neuen Ländern, zur Neuordnung des bundesstaatlichen Finanzausgleichs und zur Entlastung der öffentlichen Haushalte (Gesetz zur Umsetzung des Föderalen Konsolidierungsprogramms - FKPG)[47]

Draft	1st Reading	Committee	2nd & 3rd Reading
03/04/1993 (C: 10.303 bn €)	04/22/1993	05/18/1993 (C: 7.094 bn €)	05/27/1993
Bundesrat	**Publication**	**Implementation**	
05/28/1993	06/26/1993 (C: 17.397 bn €)	06/26/1993 (C: -1.125 bn €)	
		07/01/1993 (C: 1.048 bn €)	
		01/01/1994 (C: -0.026 bn €)	
		01/01/1995 (C: 16.885 bn €)	
		01/01/1996 (C: 0.102 bn €)	
		01/01/1997 (C: 0.102 bn €)	
		01/01/1998 (C: 0.102 bn €)	
		01/01/1999 (C: 0.102 bn €)	
		01/01/2000 (C: 0.102 bn €)	
		01/01/2001 (C: 0.102 bn €)	

The centerpieces of this legislation were the increase in the insurance tax rate and the permanent introduction of a "solidarity" surcharge of 7.5 percent on income and corporate taxes. The *Gesetz zur Umsetzung des Föderalen Konsolidierungsprogramms* made other changes on both the revenue and the expenditure side of the budget, but these were of limited revenue impact.

The solidarity surcharge, which is an additional surcharge on income and corporate tax liabilities, was formerly levied in 1992 and 1993. The *Gesetz zur Umsetzung des Föderalen Konsolidierungsprogramms* reintroduced a solidarity surcharge of 7.5 percent effective 1995, associated with an annualized revenue impact of 15.339 bn €. The insurance tax was increased in two steps: by 2 percent on July 1, 1993, and by an additional 3 percent at the beginning of 1995. The revenue effect of the first step was 0.844 bn €; the effect of the second step was 1.329 bn €. Changes in the wealth tax effective 1995 induced effects of 0.499 bn €. Rated films and other acts were no longer subject to the reduced value-added tax rate, inducing a revenue effect of 0.026 bn € in 1994. Temporarily, the general tax-free amount in the income tax code was set to 10,500 DEM in 1993, 11,000 DEM in 1994, and 11,500 DEM in 1995. This was associated with a series of tax shocks of -1.125 bn € in 1993, -0.46 bn € in 1994, and -0.358 bn € in 1995. Reducing home owner benefits induced a series of revenue shocks, each in the amount of 0.102 bn €, in 1994 to 2001. Other changes in the tax code were technical, with a combined revenue effect of 0.486 bn € implemented at various dates between 1993 and 1994.

The statement on the introduction of the bill reported that reunification had put tremendous financial burdens on the government budget, making additional revenue necessary. Noting that income per capita in East Germany is 15 percent lower than in West Germany

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[47] BGBl. 1993, 59, pp. 944–991.

and that the economic structure in East Germany is still burdened by its socialist past, the statement claimed that about 5 percent of output is needed annually for resolving challenges associated with reunification. Assigning a motivation to the the law is complicated because the law is also associated with reforming the financial equalization scheme between the federal government and the Laender and with constructing a federal special fund commissioned with servicing debt inherited from East Germany. However, the former is related only to redistribution of revenue across tiers of the federal state and not necessarily with expansions in expenditure. The latter deals with debt inherited from the past. As such, the *Gesetz zur Umsetzung des Föderalen Konsolidierungsprogramms* is not spending driven. The law is, instead, a reaction to the financial burdens created by reunification and was motivated by consolidation. Note that the quantitatively important parts of the law were implemented at the beginning of 1995. Reunification certainly was not a contemporeanous shock in 1995.

Within the legislative process, the law changed substantially. Due to suggestions from the leading parliamentary committee, the solidarity surcharge was set to 7.5 percent and the general tax-free amount was increased. No change in motivation was evident.

Gesetz zur Verbesserung der steuerlichen Bedingungen zur Sicherung des Wirtschaftsstandorts Deutschland im Europäischen Binnenmarkt (Standortsicherungsgesetz - StandOG)[48]

Draft	**1st Reading**	**Committee**	**2nd & 3rd Reading**
01/04/1993 (S: -3.367 bn €)	02/04/1993	05/25/1993 (S: 0.476 bn €)	05/27/1993
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
06/18/1993	07/01/1993 (S: -0.414 bn €)	07/02/1993	07/09/1993
Publication	**Implementation**		
09/17/1993 (S: -3.306 bn €)	09/17/1993 (S: 0.123 bn €)		
	11/01/1993 (S: 0.026 bn €)		
	12/21/1993 (S: 1.534 bn €)		
	01/01/1994 (S: -2.308 bn €)		
	01/01/1995 (S: -0.688 bn €)		

The *Standortsicherungsgesetz* reduced the corporate tax rate, mainly through extensive changes in depreciation rules. The law also renewed special depreciation rules for disadvantaged regions in Germany.

The law reduced the corporate tax rate effective 1994, leading to revenue changes of -2.066 bn €. Starting in 1994, the top marginal tax rate for commercial income was reduced to 47 percent, leading to expected revenue changes of -0.716 bn €. The declining balance method of depreciation for commercial buildings was abolished, leading to changes in revenues of 1.534 bn € effective 1994. Although not effective until 1995, new special depreciations for small and medium-sized companies were enacted, leading to expected revenue changes of -0.46 bn €. Extending existing special depreciations for ships and airplanes led to an announcement effect of -0.015 bn €. As the measure was a mere extension of existing regulations, no implementation effect is assigned.

One centerpiece of the law was related to tax allowances for investment in disadvantaged regions. Renewing and slightly adjusting existing measures was associated with an announcement effect of -2.158 bn €. It is clear that the size of the renewal is much larger than of the adjustments, making it natural to set the whole implementation effect of the measures to zero. The law implemented a tax-free amount for business assets in the inheritance tax code of 500,000 DEM, inducing revenue changes of -0.128 bn € effective 1994. Certain travel sales were now no longer subject to the reduced value-added tax rate, inducing revenue changes of 0.026 bn €. Technical changes with minor revenue effects accounted for a revenue effect of 0.677 bn €, effective mostly 1994.

The statement on the introduction of the bill reported four objectives of the law. First, the law was intended to strengthen investment. The law was further concerned with increasing international competitiveness, improving tax conditions for medium-sized companies, and with providing incentives for investment in the new Laender. It also stated that the law was concerned with reducing top marginal tax rates, which had typically been higher in Germany than in other member states of the European Union. Reducing top marginal rates was supposed to strengthen entrepreneurial spirit and willingness to invest. Also, the reduction was intended to make Germany more attractive for foreign direct investment. It is clear that the *Standortsicherungsgesetz* was concerned with improving structural conditions.

Within the legislative process, the law was changed substantially. No change in motivation was evident.

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[48] BGBl. 1993, 49, pp. 1569–1593.

Gesetz zur Entlastung der Familien und zur Verbesserung der Rahmenbedingungen für Investitionen und Arbeitsplätze (Steueränderungsgesetz 1992 - StÄndG 1992)[49]

Draft	**1st Reading**	**Committee**	**2nd & 3rd Reading**
09/03/1991 (S: 2.678 bn €)	09/19/1991	11/07/1991 (S: -1.279 bn €)	11/08/1991
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/29/1991	02/10/1992 (S: 0.302 bn €)	02/13/1992	02/14/1992

Publication	**Implementation**
02/28/1992 (S: 1.701 bn €)	02/28/1992 (S: -1.784 bn €)
	01/01/1993 (S: 3.788 bn €)
	01/01/1994 (S: -0.173 bn €)
	01/01/1995 (S: -0.02 bn €)
	01/01/1996 (S: -0.02 bn €)
	01/01/1997 (S: -0.02 bn €)
	01/01/1998 (S: -0.02 bn €)
	01/01/1999 (S: -0.02 bn €)

Two noteworthy tax measures of the *Steueränderungsgesetz 1992* were the expansions in tax allowances for children and in direct child benefits, financed by an increase in the value-added tax rate. Other tax measures were largely technical in nature and had very limited revenue impact.

Quantitatively most important was the increase in the value-added tax rate from 14 to 15 percent, changing tax revenues by 6.289 bn € effective 1993. Technical changes in the value-added tax code induced permanent revenue effects of 0.051 bn €, and one-time revenue effects of -0.128 bn €, both effective 1993. Expansions in tax allowances for children and in direct child benefits effective retroactively to 1992 induced revenue effects of -1.853 bn € and -1.582 bn €, respectively. The law reformed benefits for home owners. As those are paid for eight consecutive years, a series of revenue effects of -0.02 bn € from 1992 to 1999 occurred (see the discussion under *Gesetz zur Abschaffung der Eigenheimzulage*). Those measures related to real estate were accompanied by minor technical measures, inducing a revenue effect of 0.107 bn € effective retroactively for 1992, and by temporary measures limited for three years and implemented in 1992, 1993, and 1994, affecting revenues by -0.077 bn € on an annual basis.

Changes in the local business tax code, including increases in the tax-free amount, a new tax tariff, and technical changes, induced revenue effects of -1.185 bn € effective 1993. Changes in the Valuation Tax Act related to the tax balance sheet induced revenue changes of -1.066 bn € effective 1993. Reductions in tax allowances related to cash-value life insurance induced revenue effects of 0.767 bn € effective retroactively for 1992. Tax allowances related to business contributions to pension funds were reduced, affecting revenues by 0.545 bn € effective retroactively for 1992. Changes in the International Tax Relations Law affected revenues by 0.409 bn € effective retroactively for 1992. Further tax changes had only minor revenue effects. The total volume of these measures was -0.169 bn €.

In the statement on the introduction of the bill, it was explicitly stated that the law's intention had been to improve the economic structure in Germany. Changes in the tax treatment of families were partially motivated by requirements of the constitutional court. The increase in value-added taxes was implemented to improve the government's financial situation and to finance expansions in tax benefits, especially those related to families. Many of the more technical changes were concerned with improving the structure of the tax system and making it ready for introduction of the European common market. The parliamentary debate adds nothing to this basic interpretation. The motivation of the law was structural.

Within the legislative process, the law experienced substantial changes. No change in motivation was present.

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[49] BGBl. 1992, 9, pp. 297–358.

Gesetz zur Förderung von Investitionen und Schaffung von Arbeitsplätzen im Beitrittsgebiet sowie zur Änderung steuerrechtlicher und anderer Vorschriften (Steueränderungsgesetz 1991 - StÄndG 1991)[50]

Draft	1st Reading	Committee	2nd & 3rd Reading
03/08/1991 (MS: 1.379 bn €)	03/12/1991	05/11/1991 (MS: -0.375 bn €)	05/14/1991
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
06/07/1991	06/17/1991 (MS: 0.026 bn €)	06/19/1991	06/21/1991

Publication	Implementation		
06/27/1991 (MS: 1.03 bn €)	06/27/1991 (MS: -3.15 bn €)		
	07/01/1991 (MS: 1.687 bn €)		
	01/01/1992 (MS: -1.47 bn €)		
	01/01/1993 (MS: 0.281 bn €)		
	01/01/1994 (MS: 0.522 bn €)		
	01/01/1995 (MS: 0.230 bn €)		
	01/01/1996 (MS: -0.089 bn €)		
	01/01/1997 (MS: -0.089 bn €)		
	01/01/1998 (MS: -0.089 bn €)		

The main theme of the law was expansion of tax benefits for investment in the New Laender, partially replacing earlier tax instruments designed to promote growth in disadvantaged regions. In addition, the law included a collection of minor technical tax measures.

The most important parts of the law were concerned with reforming tax allowances for disadvantaged regions. The law largely removed tax benefits for companies in West Berlin. This induced revenue effects of 0.066 bn € retroactively for 1991, 1.36 bn € effective July 1991, 1.603 bn € effective 1992, and 0.238 bn € distributed over 1993 to 1995. Moreover, benefits for taxpayers and employees in West Berlin were reduced in a series of five steps. The revenue effects were 0.389 bn € effective October 1991, 0.251 bn € effective 1992, 0.307 bn € effective 1993, 0.537 bn € effective 1994, and 0.256 bn € effective 1995. The reductions in benefits for West Berlin were compensated by increases in tax benefits for disadvantaged regions and the investment surcharge tailored toward the needs of East Germany, with a total volume of -2.027 bn €, implemented retroactively for 1991. The law introduced, temporarily for 1991 to 1993, a tax-free amount for East German taxpayers, thereby affecting revenues by -0.409 bn €. For 1991 and 1992, the local capital tax was not imposed in East Germany, inducing a revenue effect of -0.046 bn €. The wealth tax was not imposed in 1992 to 1994, inducing revenue effects of -0.102 bn €. However, both the wealth tax and the local capital tax were never actually imposed in East Germany and were finally abolished and hence these tax shocks are treated as permanent.

Section 10e EStG had been concerned with special deductions for home owners, allowing deducting certain amounts for eight consecutive years after acquisition of a family-occupied flat or home. The law increased the upper limit for deductions and created additional child benefits, thereby inducing a revenue change of -0.089 bn € for each vintage accumulating over eight years. Also, but limited to acquisitions in 1991 to 1994, there were additional benefits for East Germany of -0.033 bn € per vintage, accumulating for 1991, 1992, 1993, and 1994, and then being paid for eight years. The law prolonged existing special deductions for social housing, implying an announcement effect of -0.128 bn €. Allowances for commuting costs were expanded in two steps, one retroactively for 1991, the other at the beginning of 1992. Unfortunately, the available revenue forecast is combined for both steps. It seems reasonable to distribute the shock equally across both steps, implying a shock of -0.281 bn € per step. Also, some technical changes related to child benefits retroactive for 1983 to 1985 induce revenue effects of -0.055 bn €. Technical changes related to the tax treatment of families induced a revenue effect of -0.023 bn € effective 1992. Changes in the local business tax tariff induced revenue changes of -0.036 bn € effective 1991. Changes in the automobile tax had a volume of 0.231 bn € effective at various dates in 1991.

The primary focus of the law was on improving economic conditions in East Germany. Tax benefits for West Germany were substantially reduced, while those benefiting East Germany were expanded. In the statement on the introduction of the bill, this was justified by promoting economic development in East Germany toward the goal of equalizing living conditions across Germany. The parliamentary debate centered on challenges raised by reunification. Treating reunification in 1989 to 1991 as a macroeconomic shock, which seems feasible, this suggests that the law was endogenous. In addition to measures related to the promotion of economic development in East Germany, the law contained a series of technical adjustments to the tax code. Some of these, such as the adjustments in the automobile tax or the expansion in commuter tax allowances, can be traced back to the reunification shock as they were either direct responses or responses to measures related to reunification. Only for measures with very minor revenue effects, such as the changes in the tax treatment of families, is an alternative motivation feasible. Taken together, it seems convincing to view the law as an endogenous reaction to the reunification shock. However, an alternative structural motivation is also a possibility.

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[50] BGBl. 1991, 38, pp. 1322–1341.

Gesetz zur Einführung eines befristeten Solidaritätszuschlags und zur Änderung von Verbrauchsteuer- und anderen Gesetzen (Solidaritätsgesetz)[51]

Draft	1st Reading	Committee	2nd & 3rd Reading
03/08/1991 (SD: 20.022 bn €)	03/12/1991	05/11/1991	05/14/1991
Bundesrat	**Vermittlungsausschuss**	**Bundesrat**	**Publication**
06/07/1991	06/17/1991	06/21/1991	06/27/1991 (SD: 20.022 bn €)

Implementation

07/01/1991 (SD: 18.833 bn €)
03/01/1992 (SD: 0.525 bn €)

The law increased taxes on petroleum and tobacco and introduced the solidarity surcharge, which was an additional levy on income and corporate taxes.

Temporarily, between July 1991 and June 1992, a solidarity surcharge of 7.5 percent on income and corporate taxes was levied. The revenue effect was 10.226 bn € on an annual basis. The petroleum tax was increased as of July 1991, thereby generating 6.698 bn €. Note that part of the changes in the petroleum tax code consisted in the extension of extant measures. The extension effect of 0.665 bn € is not included in the implementation effect. Finally, the insurance tax was increased effective July 1991, inducing additional revenues of 0.971 bn €, and the tobacco tax went up as of March 1992, increasing tax revenues by 0.46 bn €. Increases in the petroleum and tobacco taxes created additional value-added tax revenues of 1.002 bn €, which are distributed on the implementation date of the increase in the tobacco tax and the increase in the petroleum tax in accordance to the relative size of the shocks.

It is clear that the law's main objective was to generate additional revenue. The statement on the introduction of the bill mentions that additional revenues are needed to finance expenditures related to the Gulf War and to reunification, and to assist eastern European transition economies. However, additional revenues were not earmarked and it was pointed out in the parliamentary debate that the increase in revenues exceeds the costs of the Gulf War by a fair margin. Nevertheless, the parliamentary debate was dominated by reunification and expenditure needs created by it. As such, the law is a response to the macroeconomic shock created by reunification in general. More specifically, it seems related to expenditure needs created by recent political developments. Taken together, the law was spending driven.

Within the legislative process, the law did not experience any substantial alternations.

Gesetz zur Änderung des Steuerreformgesetzes 1990 sowie zur Förderung des Mietwohnungsbaus und von Arbeitsplätzen in Privathaushalten[52]

Draft	1st Reading	Committee	2nd & 3rd Reading
05/09/1989 (S: -2.498 bn €)	05/12/1989	06/14/1989 (S: -0.043 bn €)	06/16/1989
Bundesrat	**Publication**	**Implementation**	
06/30/1989	06/30/1989 (S: -2.541 bn €)	07/01/1989 (S: -2.521 bn €)	
		01/01/1990 (S: -0.02 bn €)	

The law's main measure was abolishment of the so-called small capital return tax. Together with other minor measures, the law implemented substantial tax reductions.

The so-called small capital return tax was a withholding tax on capital returns introduced at the beginning of 1989 and abolished effective July 1989, changing revenues by -1.943 bn €. Savings allowances were increased, changing revenues by -0.297 bn € effective July 1, 1989. Changes in the income tax code expanded special depreciation for flats let for rent, thereby affecting revenues by -0.123 bn € effective July 1, 1989. Technical changes related to the capital gains tax changed tax revenues by -0.02 bn € effective 1990. Employment in private households was benefited by the introduction of special deductions, affecting revenues by -0.115 bn € effective July 1, 1989. Other technical changes affected revenues by -0.026 bn € effective July 1, 1989. Finally, the law allowed for additional special depreciations related to buildings in West Berlin, thereby changing revenues by -0.018 bn € effective July 1, 1989.

According to the statement on the introduction of the bill, the capital return tax was abolished because it has led to confusion in financial markets and to extreme administrative effort. Many of the minor changes introduced by the law, such as expansions in allowances for housing and in government incentives for savings, were justified with sociopolitical reasons. The parliamentary debate adds no insight. It is clear that the law was driven by structural reasons.

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[51] BGBl. 1991, 38, pp. 1318–1321.
[52] BGBl. 1989, 31, pp. 1267–1272.

Gesetz über Maßnahmen zur Entlastung der öffentlichen Haushalte (Haushaltsbegleitgesetz 1989)[53]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/12/1988 (C: 0.879 bn €)	09/30/1988	11/18/1988 (C: -0.02 bn €)	11/23/1988
Bundesrat	**Publication**	**Implementation**	
12/16/1988	12/22/1988 (C: 0.859 bn €)	01/01/1989 (C: 0.854 bn €)	
		01/01/1991 (C: 0.01 bn €)	

The total announcement effect of the *Haushaltsbegleitgesetz 1989* fails to exceed the 0.1 percent threshold. However, the law contained a few, well-defined tax measures of considerable importance, warranting discussion in this history. Of importance was the increase in the insurance tax rate as well as in the automobile tax on diesel cars.

The automobile tax on diesel cars was increased effective 1989, changing revenues by 0.276 bn €. Technical changes in the automobile tax code induced a revenue effect of 0.01 bn € effective 1991. The increase in the insurance tax rate increased revenues by 0.603 bn € effective 1989. Minor changes in the capital returns tax affected revenues by -0.026 bn € effective 1989. Finally, the law prolonged the reduced value-added tax rate on ship travelling introduced with the *Gesetz zur Stärkung der Wettbewerbsfähigkeit der Wirtschaft und zur Einschränkung von steuerlichen Vorteilen (Steuerentlastungsgesetz 1984 - StEntlG 1984)*. The prospective revenue effect was -0.005 bn € on an annual basis. As usual, the measure is included in the announcement effect, but not in the implementation shock.

According to the statement on the introduction of the bill, the primary motive behind this tax legislation was to generate additional revenue. It states that grants to the European communities and to financially weak *Laender* have put financial burdens on the general budget, requiring compensation. It is, however, not clear that the revenue was earmarked for specific expenditure programs. The law appears to be chiefly related to distributing revenues across tiers of government, not necessarily to contemporaneous expansions in spending. It is also reported that the law was part of an ongoing effort to reduce budget deficits. For many of the tax measures included in the bill, structural motives were reported. Technical changes in the automobile tax code were justified by necessary modernizations and by the need to reduce administrative costs. The increase in the automobile tax on diesel cars was justified partially by tax justice, as previous increases in the petroleum tax fell disproportionally on other sorts of fuel. It was also noted that moving to indirect taxes may be beneficial for the economy, as direct taxes may discourage economic activity. The parliamentary debate does not add any fundamentally different insight. Given the emphasis on raising revenues, the law is classified as motivated by consolidation. However, an alternative structural motivation may be feasible.

During discussion in parliament, the law was altered only in very minor ways.

Gesetz zur Änderung von Verbrauchsteuergesetzen (Verbrauchsteueränderungsgesetz 1988 - VerbrStÄndG 1988)[54]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/12/1988 (C: 4.218 bn €)	09/30/1988	11/21/1988 (C: -0.146 bn €)	11/23/1988
Bundesrat	**Publication**	**Implementation**	
12/16/1988	12/22/1988 (C: 4.072 bn €)	01/01/1989 (C: 3.339 bn €)	
		05/01/1989 (C: 0.256 bn €)	
		01/01/1990 (C: 0.008 bn €)	
		01/01/1991 (C: 0.47 bn €)	

The *Verbrauchsteueränderungsgesetz 1988* implemented substantial increases in the petroleum and tobacco tax, with the primary intention of generating additional revenue.

The petroleum tax on gasoline and fuel oil was increased in two steps. In a first step, effective 1989, 3.339 bn € in additional revenues were created. In the second step, effective 1991, 0.47 bn € in additional revenues were created. Some technical changes in the petroleum tax code created 0.008 bn € effective 1990. Additionally, the tobacco tax was increased, generating 0.256 bn € effective May 1, 1989.

The *Verbrauchsteueränderungsgesetz 1988* was closely related to the previously discussed *Haushaltsbegleitgesetz 1989*. The laws were often discussed together in parliament, indicating that they did indeed share a common motivation. In the statement on the introduction of the bill, it is again stated that the government needs to compensate for grants to the European communities, to the *Laender*, and to the federal labor market authority. Again, no specific expenditure programs mentioned, nor are additional revenues earmarked. The motive of the law was one of consolidation.

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[53] BGBl. 1988, 58, pp. 2262–2269.
[54] BGBl. 1988, 58, pp. 2270–2276.

Based on suggestions from the leading parliamentary committee, the tax increase in the petroleum tax was less severe than originally planned. No change in motivation is evident.

Steuerreformgesetz 1990[55]

Draft	**1st Reading**	**Committee**	**2nd & 3rd Reading**
03/23/1988 (S: -11.156 bn €)	04/21/1988	06/21/1988 (S: -0.266 bn €)	06/23/1988
Bundesrat	**Publication**	**Implementation**	
07/08/1988	08/02/1988 (S: -11.422 bn €)	08/02/1988 (S: 0.133 bn €)	
		01/01/1989 (S: 3.244 bn €)	
		01/01/1990 (S: -14.799 bn €)	

The *Steuerreformgesetz 1990* is one of the more extensive tax reforms in this history. However, most of its tax measures had only very minor revenue effects. To keep focused on the more important parts of the reform, negligible measures are discussed only in the aggregate. The analysis of these smaller measures, however, was conducted in a manner identical to that for the measures dicussed in more detail. Most noteworthy was the reform in the income tax tariff, leading to substantial tax reductions. Of interest also were reductions in the corporate tax rate.

The most important part of the law was the change in the income tax tariff effective 1990, which changed revenues by -16.31 bn €. The law also increased allowances for families effective 1990, thereby generating -1.107 bn €. Allowances for expenses of a provident nature were expanded effective 1990, leading to changes in revenues of -0.307 bn € and one-time effects of -0.153 bn €. The corporate tax rate was reduced, thereby generating -1.278 bn €. Compensations of employers for professional expenses were now taxed to a larger degree, changing revenues by 0.102 bn € effective 1990. The measure was also associated with a one-time revenue effect of size 0.256 bn €. Tax benefits for employment on Sundays, at night, or on bank holidays were reduced, thereby generating revenues of 0.130 bn € effective 1990. Effective 1989, allowances for provisions for jubilee benefits were removed, thereby generating revenues of 0.307 bn €. Effective 1990, a general tax deduction for work-related expenses of 2000 DEM was introduced, thereby changing revenues by 0.614 bn €. Only 50 percent of contributions to building savings contracts were allowed to be deductible effective 1990, thereby changing revenues by 0.128 bn €. The general allowance for special expenses was reduced effective 1990, thereby generating revenues of 0.179 bn €. The old age tax-free amount was removed, generating 0.215 bn € effective 1990. Additional wage components were included in the progression clause, changing revenues by 0.256 bn € effective 1990. The capital return tax was reformed effective 1989, inducing revenue changes of 2.199 bn €. The most noteworthy of these reforms was the introduction of a 10 percent withholding tax. The investment surcharge was removed, generating 0.818 bn € effective 1990. Tax debts were now subject to interest payment, changing revenues by 0.46 bn € effective 1989. Government incentives for savings were reduced, changing revenues by 0.307 bn € in 1990. Tax measures not discussed here were often technical and associated with only minor revenue impacts. Their total volume was 2.015 bn €, mostly effective 1989 and 1990.

The *Steuerreformgesetz 1990* was the core part of an attempt to reform and modernize the German tax system, with the general intention being to reduce tax rates financed by, at least partially, broadening the tax base. Based on the statement on the introduction of the bill, there is little doubt that the law was driven by structural considerations. According to this source, the law's measures were designed to lead to a more efficient tax system, to improve tax justice, to promote families, and to achieve sustainable long-term growth. It was also stated that the law increased international competitiveness. It was explicitly stated in the statement on the introduction of the bill that the law will improve conditions for sustainable growth, making its structural emphasis clear. The parliamentary debate was along similar lines. Dr. Stoltenberg from the CDU/CSU pointed out that the law followed the principal logic of expanding the tax base, while reducing tax rates. Not only is such a course of action often advised by leading economists, it is also the principle of tax reform in many countries. Mr. Stoltenberg further claimed ideological motivations for a reduction in marginal tax rates; as such a reduction should increase the benefits of work and effort. Dr. Dregger from the CDU/CSU government claimed that the objectives of the tax reform were to improve tax justice and the efficiency of the tax system, to improve structural conditions for growth, to reduce bureaucratic costs, and to increase international competiveness. Neither the statement on the introduction of the bill, nor the discussion in parliament, justified the reform on the basis of specific macroeconomic shocks. The law was motivated by structural considerations.

Given the size of the tax reform at hand, it is not surprising that the law changed during the legislative process. However, most changes had only minor revenue impacts and none were related to alterations in motivation. The *Steuerreformgesetz* implemented a shock of 3.24 bn € in 1989 and of -14.8 bn € in 1990.

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[55] BGBl. 1988, 36, pp. 1093–1186.

Gesetz zur Änderung des Einkommensteuergesetzes (Steuersenkungs-Erweiterungsgesetz 1988 - StSenkErwG 1988)[56]

Draft	1st Reading	Committee	2nd & 3rd Reading
04/03/1987 (MS: -2.677 bn €)	05/20/1987	06/24/1987	06/26/1987
Bundesrat	**Publication**	**Implementation**	
07/10/1987	07/22/1987 (MS: -2.677 bn €)	01/01/1988 (MS: -2.677 bn €)	

The law introduced tax reductions, supplementing those already implemented at the beginning of 1988 due to the *Steuersenkungsgesetz 1986/1988*. One important motive was to comply with a February 22, 1987 international agreement among six industrial nations.

The general tax-free amount was increased with the beginning of 1988, thereby changing tax revenues by -0.734 bn € on an annual basis. In addition to measures that had already been designed to be implemented in 1988, the law further changed the income tax tariff, thereby inducing revenue changes of -1.534 bn €. The law increased training tax allowances, changing revenues by -0.153 bn €. Special depreciations for small and medium-sized companies were expanded, changing revenues by -0.256 bn € on an annual basis effective 1988.

In the parliamentary debate, Mr. Stoltenberg, Federal Minister of Finance, reported that an important motive of the law was to strengthen internal demand. It was stated that the DEM had appreciated strongly, thereby depressing external demand. The tax stimulus program was partially designed to offset these macroeconomic shocks. It is explicitly stated that economic growth was slowing down, providing incentive for a stimulus package. Mr. Stoltenberg also justified the law as an exercise in international cooperation. Germany at that time had a large trade surplus, and strengthening internal demand was expected to lead to more balanced trade. The statement on the introduction of the bill reported that the law had been designed to improve disposable income, employment, and investment. Based on the parliamentary debate, it also seems that the government was reacting to current macroeconomic conditions. The tax law was endogenous and reacted to a recent macroeconomic shock.

Within the legislative process, the law experienced no substantial alternation.

Gesetz zur Verbesserung der Abschreibungsbedingungen für Wirtschaftsgebäude und für moderne Heizungs- und Warmwasseranlagen[57]

Draft	1st Reading	Committee	2nd & 3rd Reading
08/16/1985 (S: -1.48 bn €)	10/25/1985	11/26/1985 (S: -0.091 bn €)	12/05/1985
Bundesrat	**Publication**	**Implementation**	
12/19/1985	12/24/1985 (S: -1.571 bn €)	12/24/1985 (S: -1.571 bn €)	

The law was concerned with reforming depreciation rules, primarily those related to buildings.

First and foremost, the law expanded depreciation allowances. The depreciation period for commercial buildings was set to 25 rather than 50 years. The measure came into effect retroactively for 1985, implying that the date of publication should be chosen as the implementation date. Deciding on an appropriate revenue effect is complicated because the annualized revenue impact within the first 12 months after full implementation in this case does not account for accumulation effects over the years. The pragmatic solution is to take an average over the budgetary effects given for 1985 to 1990. This produces an effect of -1.429 bn €. The law authorized the government to allow special depreciations for heating systems, with a prospective average effect of -0.091 bn € in 1985 to 1991. In calculating the revenue effect, the same logic as above is applied. The law further expanded tax benefits for Berlin and the area adjacent to the German Democratic Republic. The investment surcharge on certain assets and buildings is increased by 5 percent retroactive to 1985. Also, special depreciations for certain assets in the area adjacent to the German Democratic Republic were increased retroactively to 1985. Both measures had a combined effect of 0.051 bn €.

Based on the statement on the introduction of the bill, it is not entirely clear whether structural or countercyclical reasons were the primary motive behind these changes. It was stated that increased depreciation allowances give companies increased flexibility and hence are beneficial in overcoming structural problems. At the same time, it was stated that one motive of the law was to increase employment in the construction sector given current economic conditions. Still, there are indications that this motive was sectoral and not economywide. First, in the third quarter of 1985, the economy was growing at 2.5% on an annual level, while the corresponding rate was 4% in the second quarter. There were hence no indications of a recession or unfavorable macroeconomic conditions. Also, the parliamentary debate focused on structural arguments. The motivation of the law was structural.

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[56] BGBl. 1987, 37, pp. 1629–1670.
[57] BGBl. 1985, 62, pp. 2434–2435.

Gesetz zur leistungsfördernden Steuersenkung und zur Entlastung der Familie (Steuersenkungsgesetz 1986/1988 - StSenkG 1986/1988)[58]

Draft	1st Reading	Committee	2nd & 3rd Reading
12/28/1984 (S: -9.899 bn €)	03/01/1985	05/15/1985 (S: -0.02 bn €)	05/24/1985
Bundesrat	**Publication**	**Implementation**	
06/14/1985	06/28/1985 (S: -9.919 bn €)	01/01/1986 (S: -5.573 bn €)	
		01/01/1988 (S: -4.346 bn €)	

The law reformed the income tax tariff as well as the tax treatment of families, leading to large tax reductions.

At the beginning of 1986, the general tax-free amount was increased, changing revenues by -1.074 bn €. The income tax tariff was altered in two steps, the first in 1986 and the second in 1988. The first step changed revenues by -1.841 bn € and the second step by -4.346 bn €. These changes were accompanied by changes in the tax treatment of families starting in 1986. Of special importance was the increase in the tax-free amount for children, corresponding to -2.454 bn €. Further measures, such as changes in general household allowances and training tax allowances, affected revenues by -0.205 bn € in 1986.

In the statement on the introduction of the bill it was stated that the reform of the income tax tariff was designed to offset increased taxation as a consequence of growing income. Thus, the law was at least partially designed to offset cold progression. It was also stated that the tax burden of the low–income population will be reduced. The reform of the tax treatment of families was justified on sociopolitical grounds. There was also some indication that part of the reason behind these changes related to the tax treatment of families had to do with complying with certain requirements of the constitutional court. The parliamentary debate added no substantial information. The motivation of the law was structural.

Within the legislative process, the law experienced only very modest alternations. No change in motivation is evident.

Gesetz zur Stärkung der Wettbewerbsfähigkeit der Wirtschaft und zur Einschränkung von steuerlichen Vorteilen (Steuerentlastungsgesetz 1984 - StEntlG 1984)[59]

Draft	1st Reading	Committee	2nd & 3rd Reading
07/22/1983 (S: -1.782 bn €)	09/07/1983	11/25/1983 (S: - 0.01 bn €)	12/08/1983
Bundesrat	**Publication**	**Implementation**	
12/16/1983	12/28/1983 (S: -1.792 bn €)	12/28/1983 (S: -0.895 bn €)	
		01/01/1984 (S: -0.897 bn €)	
		04/01/1984 (S: -0.051 bn €)	

The law implemented a multidude of technical changes and created new tax incentives, leading to substantial tax reductions.

In § 117 a BewG, details related to computation of the tax assessment basis of the wealth tax were changed, altering revenues by -0.593 bn € effective 1984. The wealth tax rate was reduced from 0.7 percent to 0.6 percent, changing revenues by -0.153 bn € effective 1984. Under the German Valuation Law, if a corporation holds more than 25 percent of another corporation, those shares do not qualify as business assets. The law reduced that threshold to 10 percent, leading to a change in tax revenues of -0.107 bn € effective 1984. The law also introduced changes in income-related taxes. Small and medium-sized enterprises were allowed to deduct special depreciations for moveable assets, changing revenues by -0.511 bn € retroactively. The law also introduced special depreciations for research and development, retroactively and limited until the end of 1989. The revenue effect was -0.153 bn €. Special depreciations for vessels and airplanes were extended until the end of 1989. Following the usual practice, this tax shock of -0.051 bn € is included in the announcement effect of the law, but excluded from the implementation tax shock series. Technical changes in the income tax code induced revenue effects of -0.005 bn € effective 1984.

The German tax code allows firms to transfer losses over time. The law doubled the amount for loss carry back to 10 million DEM, thereby changing revenues by -0.102 bn € effective 1984. § 16 sec. 4 EStG allowed for a tax-free amount in case of sale of business. This amount was increased to 120,000 DEM from 60,000 DEM, changing revenues by -0.02 bn € effective with 1984. Technical changes in the corporate income tax code changed tax revenues by -0.013 bn € effective 1984. There was also a large one-time effect of -0.128 bn €. From 1984 to 1989, passenger ship services were subject to a reduced VAT tax rate, changing revenues by -0.005 bn €. The measure was originally designed to be temporary, but it was in effect for the rest of the time horizon considered in this history. Finally, tax benefits in the autotmobile tax code for disabled persons were reduced, changing revenues by 0.051 bn € effective April 1, 1984.

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[58] BGBl. 1985, 34, pp. 1153–1242.
[59] BGBl. 1983, 54, pp. 1583–1591.

The law's title suggests that it was concerned with strengthening growth. The statement on the introduction of the bill reported that the law was intended to increase growth and to decrease unemployment, both by improving the structure of the tax system and by fostering investment and innovation. However, while considerable emphasis was given to improving long-term conditions, no specific macroeconomic shock was mentioned. Indeed, the economy was growing at around 2 percent annually at the time the law was written, which seems about normal. Also, in the parliamentary debate, it is acknowledged that the economy was recovering at the time the law was written. The focus of the law is not countercyclical; rather, it is concerned with improving structural conditions.

Within the legislative process, the law was changed only in insubstantial ways. No change in motivation is evident.

Erstes Gesetz zur Änderung des Umsatzsteuergesetzes[60]

Draft	1st Reading	Committee	2nd & 3rd Reading
04/30/1984 (S: -0.98 bn €)	05/03/1984	06/20/1984 (S: -0.457 bn €)	06/27/1984
Bundesrat	**Publication**	**Implementation**	
06/29/1984	06/30/1984 (S: -1.437 bn €)	07/01/1984 (S: -1.437 bn €)	
		01/01/1989 (S: -0.98 bn €)	

The purpose of the law was to provide an income transfer to farmers implemented via the value-added tax.

The value-added tax code contains special regulations for farmers and agricultural businesses. Famers are not required to engage in bookkeeping, implying that value-added taxation can be based on average rates. Specifically, the tax code allows for average rates for input tax deductions. The law changed the average tax rate for agricultural businesses and granted the right to reduce value-added tax liabilities by 5 percent of the tax base between July 1984 and December 1988 and by 3 percent between January 1989 and December 1991. Over the whole lifetime of the measure, the *Finanzbericht* reports an effect of -9.408 bn €, while for the first phase, the total revenue effect is given as -6.468 bn €. On an annual basis, this allows specifying an annualized revenue effect of -0.980 bn € on the second phase, to be phased out at the end of 1991, and one of -1.437 bn € on the first phase, to be phased out at the end of 1988.

Based on the parliamentary debate and the statement on the introduction of the bill, it is clear that the law was related to technical changes in the EU common agricultural policy. Using a complex system, the EU common agricultural policy fixed prices. By technical adjustments due to a decision of the Council of the European Union, the monetary compensatory amount for Germany was decreased. In essence, this led to reduced prices for German agricultural goods. The law's intention was to compensate farmers for their loss in income. It is clear that policymakers were acting on agricultural and social policy motives. Note that other than in the *Gesetz über einen Ausgleich für Folgen der Aufwertung der Deutschen Mark auf dem Gebiet der Landwirtschaft (Aufwertungsausgleichsgesetz - AufwAG)*, the law was not a reaction to a recent exchange rate alteration, but to a technical adjustment in the EU common agricultural policy. Hence, the motivation behind the law was structural.

Due to suggestions of the *Finanzausschuss*, the income transfer to farmers was increased in the period between July 1984 and December 1988, while it remained essentially unchanged for the remaining period. Originally, the regulations for the second phase were designed for the whole period between 1984 and 1991. Our annualized effect of -0.98 bn € seems a good proxy for the original revenue effect of the law.

Gesetz zur Wiederbelebung der Wirtschaft und Beschäftigung und zur Entlastung des Bundeshaushalts (Haushaltsbegleitgesetz 1983)[61]

Draft	1st Reading	Committee	2nd & 3rd Reading
11/04/1982 (MS: 2.81 bn €)	11/10/1982	12/09/1982 (SD: -0.153 bn €)	12/15/1982
11/04/1982 (SD: 0.639 bn €)			
Bundesrat	**Publication**	**Implementation**	
12/17/1982	12/23/1982 (MS: 2.81 bn €)	12/23/1982 (MS: -0.383 bn €)	
	12/23/1982 (SD: 0.486 bn €)	01/01/1983 (MS: -0.312 bn €)	
		01/01/1983 (SD: 0.486 bn €)	
		07/01/1983 (MS: 4.09 bn €)	
		01/01/1984 (MS: -0.279 bn €)	
		01/01/1985 (MS: -0.307 bn €)	

The law's title suggests it was designed to promote employment and economic activity, while in effect it implemented substantial tax increases, mostly via an increase in the value-added tax rate.

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[60] BGBl. 1984, 26, pp. 796–797.
[61] BGBl. 1982, 54, pp. 1857–1911.

The general value-added tax rate was increased from 13 to 14 percent and the reduced value-added tax rate from 6.5 to 7 percent effective July 1, 1983. The prospected revenue effect was 4.09 bn € on an annual basis. A reform of the tax treatment of child-care expenses affected revenues by -0.271 bn € effective 1983. A related retroactive measure generated a one-time revenue effect of -0.077 bn €. Changes in § 21 a EStG allowed an increased interest deduction for family homes and owner-occupied flats from 1983 to 1986. The annualized impact was given as -0.307 bn €. The deduction was paid for three consecutive years, implying a series of revenue shocks in 1983, 1984, and 1985 (see the *Gesetz zur Abschaffung der Eigenheimzulage* for a justification). Tax allowances for private pensions were reduced, generating 0.460 bn € effective 1983.

Temporarily, the law allowed for book reserves in case of acquisition of endangered companies. The measure changed tax revenues by -0.307 bn €, was implemented retroactively, and was expected to phase out at the end of 1986. Previously, certain interest payments had been subject to the local business tax. Under new regulations, 50 percent of such interest was taxed in 1984 and only 40 percent beginning with 1983. Unfortunately, the revenue forecast provided in the official sources does not allow distinguishing between the revenue effects of these steps. Based on the effects on budgetary years, a good estimate seems to be -0.706 bn € for the first step and -0.176 bn € for the second step. Part of the law is the *Investitionshilfegesetz*, concerned with generating revenues for public housing schemes. In principle, the measure implements a surcharge on income and corporate taxes for the years 1983 and 1984, generating 0.486 bn € on an annual basis.

The temporary surcharge on income and corporate taxes in 1983 and 1984 was spending driven, as revenues were intented to finance public housing schemes. The rest of the law was justified in the statement on the introduction of the bill as related to recent economic deterioration. Specifically, it was stated that surprisingly gloomy business cycle prospects required adjustments in budgetary planning. Reductions in tax revenues and increased unemployment put a financial burden on the budget, requiring additional revenues. And, indeed, the economy was in a recession at the time the law was passed. Accordingly, the law was driven by a recent macroeconomic shock.

The law was slightly altered due to suggestions from the leading parliamentary committee; however, no change in motivation was evident. Taken together, the law implemented an endogenous shock of 3.295 bn € at various dates between 1982 and 1985.

Zweites Gesetz zur Verbesserung der Haushaltsstruktur (2. Haushaltsstrukturgesetz - 2.HStruktG)[62]

Draft	1st Reading	Committee	2nd & 3rd Reading
09/04/1981 (S: 0.119 bn €)	10/01/1981	11/03/1981 (S: -0.029 bn €)	11/12/1981
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/27/1981	12/08/1981 (S: -0.568 bn €)	12/10/1981	12/18/1981
Publication	**Implementation**		
12/29/1981 (S: -0.477 bn €)	12/29/1981 (S: -1.682 bn €)		
	01/01/1982 (S: 1.971 bn €)		
	01/01/1983 (S: -0.156 bn €)		
	01/01/1984 (S: -0.156 bn €)		
	01/01/1985 (S: 0.151 bn €)		
	01/01/1986 (S: -0.156 bn €)		
	01/01/1987 (S: -0.156 bn €)		
	01/01/1988 (S: -0.156 bn €)		
	01/01/1989 (S: -0.156 bn €)		

The law implemented a diversity of tax measures, most of which had limited revenue impact. One emphasis of the tax act was on removing tax exemptions, and yet noteworthy provisions of the law involved subsidies on housing and expansions in depreciation allowances.

The law extensively reformed the income tax code, with a net revenue effect of -0.517 bn €. Retroactively, the declining balance depreciation was expanded, changing revenues by -1.526 bn €. Also, again retroactively, depreciation allowances for single and two-family homes, as well as owner-occupied flats, were extended, changing revenues by -0.156 bn €. As benefits are paid for eight consecutive years, a revenue effect in the amount of -0.156 bn € resulted at each step (see the discussion under the *Gesetz zur Abschaffung der Eigenheimzulage* for more details). Given the retroactive nature of these shocks, the date of publication is chosen as the implementation date. Technical changes related to housing induced revenue changes of 0.087 bn € effective 1982. The law reduced tax allowances for training and education costs, thereby generating 0.102 bn € in 1982. Certain unemployment benefits had not previously been taxable; however, under the new regulation, they were considered as part of income when computing the tax rate. This was important because of

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[62] BGBl. 1981, 58, pp. 1523–1559.

the progressivity of the tax tariff and generated 0.205 bn € in revenues. The law removed household allowances for singles older than 49 years, generating 0.263 bn € in 1982. The *Haushaltsstrukturgesetz* changed technical details related to pension reserves, generating 0.562 bn € effective 1982. Further technical changes in the income tax code affected revenues by 0.332 bn € effective 1982.

In addition to amending the income tax code, the law also touched on a diversity of other tax types. Privileges granted the self-employed in regard to the value-added tax were removed effective 1982, generating 0.169 bn €. Sales by the land-registry were included in the value-added tax base, generating 0.031 bn € in 1982. Starting in 1982, agricultural businesses were allowed to deduct larger input taxes, in effect reducing their tax burden by 0.128 bn € in 1982. Removing further exemptions in the value-added tax code generated 0.307 bn €, effective 1985. For 1982 to 1985 only, the law implemented an investment surcharge for investment in the iron steel industry, which affected revenues by -0.107 bn € on an annual basis. The law reduced tax incentives for savings, which generated 0.542 bn € effective 1982. The law also closed loopholes in the local business tax, thereby generating 0.005 bn € effective 1982. The tax code at that time had allowed creating book reserves for investment in developing countries, which in essence had reduced taxable profits. The *Haushaltsstrukturgesetz* abolished these tax benefits effective 1982, thereby changing revenues by 0.164 bn €. The law also reduced tax benefits for West Berlin, thereby changing revenues by 0.053 bn € in 1982. Some further technical changes affected revenues by 0.112 bn € in 1982.

At the time of writing the law, budget consolidation was the dominant political topic and, accordingly, the statement on the introduction of the bill, as well as the parliamentary debate, put considerable emphasis on consolidation. In the aftermath of the oil crises, the economy needed structural adjustments, and reductions in the budget deficit were expected to promote investment and growth. While growth at that time was relatively low, the statement on the introduction of the bill suggested that low growth rates at that time were structural in nature. Indeed, this is the general theme of a great deal of tax legislation implemented at that time (see the discussion under the *Gesetz zur Änderung von Verbrauchsteuergesetzen*, under the *Gesetz über steuerliche und sonstige Maßnahmen für Arbeitsplätze, Wachstum und Stabilität*, or under the *Mineralöl- und Branntweinsteuer-Änderungsgesetz 1981*). The *Haushaltsstrukturgesetz* abolished tax exemptions and special allowances, reflecting the general consolidation motive. Yet given substantial increases in depreciation allowances, and in allowances for housing, the law actually had a negative impact on tax revenues. In the parliamentary debate, considerable emphasis was given to the housing aspect, with sociopolitical reasons used in its justification. Increases in depreciation allowances were also expected to increase investment, and hence improve conditions for growth. Taken together, I see a slight dominance of structural considerations. The law was motivated by structural considerations.

Within the legislative process, the law experienced some modest alternations. No change in motivation was prevalent.

Gesetz zur Änderung von Verbrauchsteuergesetzen (Verbrauchsteueränderungsgesetz 1982 - VStÄndG 1982)[63]

Draft	1st Reading	Committee	2nd & 3rd Reading
09/04/1981 (C: 1.679 bn €)	09/16/1981	11/04/1981	11/12/1981
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
11/27/1981	12/08/1981	12/10/1981	12/11/1981
Bundestag	**Publication**	**Implementation**	
12/18/1981	12/30/1981 (C: 1.679 bn €)	01/01/1982 (C: 0.007 bn €)	
		04/01/1982 (C: 0.394 bn €)	
		06/01/1982 (C: 1.278 bn €)	

The law increased taxes on tobacco, sparkling wine, and spirits.

The tobacco tax was increased effective June 1982, generating 1.278 bn €. Increases in the tax rates on sparkling wine and spirits generated 0.394 bn € effective April 1982. Finally, the law introduced some technical adjustments in the petroleum tax code, changing revenues by 0.007 bn € at the beginning of 1982.

The statement on the introduction of the bill reported that the law was motivated by budget consolidation and structural adjustments in the composition of tax revenues. Specifically, one of the law's purposes was to increase the importance of indirect taxes vis-à-vis direct taxes. Increasing the tobacco tax was also justified by health political reasons; however, this argument seems secondary. In the parliamentary debate, Mr. Matthoefer, Federal Minister of Finance at that time, opened by describing the economic background of the law. Substantial oil price increases in the 1970s had put considerable stress on the current account, and had induced structural adjustment processes in the economy, according to Mr. Matthoefer. The law's intention was to aid economic adjustment by consolidating budgetary positions and, as such, the law was part of a general consolidation program. In the parliamentary debate, it was explicitly stated that

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[63] BGBl. 1981, 59, pp. 1562–1565.

budget consolidation would improve confidence and hence investment. Changing the composition of tax revenues by favoring indirect taxes over direct taxes was expected to preserve marginal returns of labor and capital, and hence to be beneficial for economic activity, according to Mr. Matthoefer. The only difficulty in assessing the motivation of the law arises because the law mixed consolidation and structural motives. Still, the main motivation of the law seems to have been consolidation.

Within the legislative process, the law was not altered substantially.

Gesetz über steuerliche und sonstige Maßnahmen für Arbeitsplätze, Wachstum und Stabilität (Beschäftigungsförderungsgesetz - BeschäftFG)[64]

Draft	1st Reading	Committee	2nd & 3rd Reading
03/01/1982 (S: 0.409 bn €)	03/04/1982	03/25/1982	03/26/1982
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
04/30/1982	05/12/1982 (S: - 2.454 bn €)	05/27/1982	05/28/1982
Publication	**Implementation**		
06/08/1982 (S: - 2.045 bn €)	06/08/1982 (S: - 2.045 bn €)		

The law implemented a temporary investment surcharge of 10 percent on certain investment categories, in most cases restricted to 1982. The investment surcharge was granted only if the investment in 1982 was larger than that made in the three previous years. The measure was expected to change revenues by -2.045 bn € in 1982. Given the law's retroactive nature, the date of publication is chosen as the implementation date.

Dr. Graf Lambdsdorff from the coalition government started the parliamentary debate by outlining economic projections for 1982. According to these projections, the government expected modest economic growth and a slight recovery of employment. However, he continued by arguing that economic growth in general had been too weak to substantially reduce unemployment. Especially, international and national economic adjustment processes following the oil price increases in the 1970s had put considerable stress on economic growth. He pointed out that the necessary structural adjustment would require time and long-term effort. Dr. Graf Lambdsdorff stated explicitly that the temporary investment surcharge was expected to jump-start growth of the economy, as well as help make the necessary structural adjustments. Although the investment surcharge was designed to be only temporary, Dr Graf Lambdsdorff reported that the measure would be accompanied by additional structural measures at later points. The statement on the introduction of the bill followed a similar line of reasoning. It was explicitly stated that structural adjustment was needed and that the law had been designed to induce sustainable structural change. The motivation of the law was structural.

Within the legislative process, the law changed substantially. The government originally intended to increase the value-added tax rate to offset the budgetary effects of the investment surcharge, but this plan was rejected by the mediation committee.

Mineralöl- und Branntweinsteuer-Änderungsgesetz 1981 - MinöBranntwStÄndG 1981 -[65]

Draft	1st Reading	Committee	2nd & 3rd Reading
12/19/1980 (C: 2.021 bn €)	01/23/1981	02/16/1981 (C: -0.051 bn €)	02/19/1981
Bundesrat	**Vermittlungsausschuss**	**Bundesrat**	**Bundestag**
02/20/1981	03/06/1981	03/13/1981	03/18/1981
Publication	**Implementation**		
03/25/1981 (C: 1.969 bn €)	04/01/1981 (C: 1.765 bn €)		
	12/27/1981 (C: 0.153 bn €)		
	01/01/1982 (C: 0.051 bn €)		

The law increased the petroleum tax and taxes on spirits.

The petroleum tax was increased, which generated 1.348 bn € on an annual basis effective April 1982. Technical changes in the petroleum tax code had additional effects of 0.051 bn € and were implemented at the beginning of 1982. The remaining part of the law was concerned with changing taxation of spirits. First, the tax rate was increased, leading to 0.307 bn € in revenues effective April 1982. The law also broadend the tax base of the tax on spirits by introducing taxes on Isopropylalcohols. This generated 0.11 bn € in additional revenues. Last, the law changes the payment period, which generated a one-time revenue effect of 0.153 bn € in December 1982.

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[64] BGBl. 1982, 19, pp. 641–645.
[65] BGBl. 1981, 13, pp. 301–305.

The *Finanzbericht* categorizes the law as motivated by budget consolidation. The statement on the introduction of the bill reported three objectives of the tax act: the law was designed to reduce public borrowing, to improve the structure of tax revenues by aiding changes in its composition, and to reduce energy dependence and oil imports by increasing the cost of energy consumption. Mr. Matthöfer, Federal Minister of Finance, stated in the parliamentary debate that the law was part of a general effort to moving from direct to indirect taxation, and pointed out that this agenda had been supported across parties. More importantly, past increases in oil prices had put considerable burdens on the current account. Increasing the cost of petroleum consumption would then reduce oil imports, and aid the economy in structural adjustments following escalating oil prices. Political uncertainties in the Arab region, and dependency on oil imports from that region, also determined to a considerable extent the first reading in parliament. However, it was also repeatedly stated that additional revenue was needed for budgetary reasons, recognizing that the current budgetary situation was not sustainable. Budget consolidation was a general theme at that time, with many hoping that consolidation itself would benefit economic growth. Taken together, it is evident that the law was motivated by both consolidation and structural concerns. Given the assignment in the *Finanzbericht*, I see a slight dominance of consolidation motives, specifically because budget consolidation was expected to have beneficial structural effects. The motivation of this act was budget consolidation; however, a structural motivation is not completely out of question.

Within the legislative process, the law was augmented in technical dimensions, none of them quantitatively substantial.

Gesetz zur Steuerentlastung und Familienförderung (Steuerentlastungsgesetz 1981)[66]

Draft	1st Reading	Committee	2nd & 3rd Reading
02/21/1980 (S: -8.334 bn €)	03/07/1980	05/14/1980	05/22/1980
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
06/13/1980	07/03/1980 (S: 1.278 bn €)	07/04/1980	07/04/1980
Publication	**Implementation**		
08/21/1980 (S: -7.056 bn €)	08/21/1980 (S: -1.79 bn €)		
	01/01/1981 (S: -3.272 bn €)		
	01/01/1982 (S: -1.994 bn €)		

The law introduced a series of tax reductions, mainly by extending child benefits and reforming the income tax tariff. The main intention of the law was to offset bracket creep.

The law's quantitatively most important measure was adjustment of the income tax tariff. Specifically, the tax-free amount and income brackets were expanded. This lowered revenues by 3.119 bn € effective 1981. Of considerable importance also was the increase in the maximum deduction for special expenses, as well as the advance deduction for insurance contributions. The measure was expected to change revenues by -1.841 bn € effective 1982. Two measures of the law were retroactive for 1980. First, the tax-free Christmas allowance was increased. This lowered tax revenues by 0.716 bn €. Also, allowances for child-care expenses were extended, lowering tax revenues by -1.074 bn €. Some other, rather technical measures changed revenues by -0.153 bn € both at the beginning of 1981 and in 1982.

In the *Finanzbericht*, it was reported that the law had been designed to assist families and to lower taxes. Based on the statement on the introduction of the law, the law was implemented for sociopolitical reasons and to offset bracket creep. Precisely these two motivations were mentioned in the parliamentary debate. It is hence clear that the law was not a reaction to a contemporaneous macroeconomic shock. The motivation of the law was structural.

Within the legislative process, the law was altered substantially. No change in motivation was evident.

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[66] BGBl. 1980, 49, pp. 1381–1427.

Gesetz zur Änderung des Einkommensteuergesetzes, des Gewerbesteuergesetzes, des Umsatzsteuergesetzes und anderer Gesetze (Steueränderungsgesetz 1979 - StÄndG 1979)[67]

Draft	1st Reading	Committee	2nd & 3rd Reading
09/01/1978 (CC: -4.433 bn €)	09/20/1978	10/18/1978	10/19/1978
Bundesrat	**Vermittlungsausschuss**	**Bundesrat**	**Vermittlungsausschuss**
10/27/1978	11/09/1978 (CC: -0.636 bn €)	11/10/1978	11/17/1978 (CC: -0.636 bn €)
Bundestag	**Bundesrat**	**Publication**	**Implementation**
11/17/1978	11/24/1978	12/02/1978 (CC: -5.068 bn €)	01/01/1979 (CC: -5.686 bn €)
			07/01/1979 (CC: 3.298 bn €)
			01/01/1980 (CC: -2.599 bn €)
			01/01/1981 (CC: -0.082 bn €)

The law was a stimulus package in response to global economic imbalance financed partially by an increase in the value-added tax rate.

First, the law reformed the income tax tariff effective with 1979, thereby changing revenues by -5.42 bn €. Of some importance also were increases in advance deductions for health insurance, pension contributions, and other insurance. This changed revenues by -0.92 bn € effective 1980. Other changes in the income tax system were of less importance, affecting tax revenues by -0.266 bn € in 1979 and -0.256 bn € in 1980. The law also introduced substantial changes in the local business tax. At that time, the local business tax included a municipal payroll tax, a profit tax, and a trade capital tax. The law abolished the municipal payroll tax effective 1980, thereby lowering tax revenues by -1.125 bn €. Tax allowances and exemptions for the profit tax were increased at the beginning of 1980, thereby affecting revenues by -0.298 bn €. Similar changes for the trade capital tax affected revenues by -0.082 bn € effective 1981. To finance some of the tax reductions, the value-added tax rate was increased from 12 to 13 percent effective July 1979. This measure raised 3.298 bn € on an annual basis.

The *Finanzbericht* classified the law as a countercyclical policy. The statement on the introduction of the bill pointed out that the law was designed to cope with a recent global recession and that it is part of an international cooperation aimed at providing a demand stimulus. Specifically, global policymakers believed that global demand was insufficient, and hence implemented a coordinated stimulus. This tax act was Germany's contribution. The parliamentary debate also revolved around countercyclical arguments. It was mentioned that the law was part of an international cooperation effort to overcome recent imbalances, to which end the federal government had agreed to implement stimulus measures. Hence, the motivation of the law was clearly countercyclical.

Within the legislative process, the law was altered substantially. No change in motivation occurred.

Gesetz zur Steuerentlastung und Investitionsförderung[68]

Draft	1st Reading	Committee	2nd & 3rd Reading
09/13/1977 (CC: -4.671 bn €)	09/15/1977	10/05/1977	10/06/1977
Bundesrat	**Vermittlungsausschuss**	**Bundestag**	**Bundesrat**
10/14/1977	10/24/1977 (CC: -1.841 bn €)	10/27/1977	11/04/1977
Publication	**Implementation**		
11/08/1977 (CC: -6.512 bn €)	11/08/1977 (CC: -2.831 bn €)		
	01/01/1978 (CC: -3.681 bn €)		

The *Gesetz zur Steuerentlastung und Investitionsförderung* implemented a large business cycle stimulus.

The law increased the tax-free Christmas allowance from 51 € to 205 €, effective 1977, and changed revenues by -1.074 bn €. The tax-free income was increased from 1,534 € to 1,687 € effective 1977, which changed revenues by -1.074 bn € on an annualized basis. The law introduced a general tax allowance of 261 €, which affected revenues by -2.608 bn € effective 1978. Finally, the law reformed depreciation rules. Declining depreciation for buildings was reintroduced retroactively to September 1977. The measure changed revenues by -0.371 bn €. The law also allowed for increased rates in declining balance depreciation, changing revenues by -1.386 bn € retroactively to September 1977.

The *Finanzbericht* classified the law as driven by countercyclical reasons. In the statement on the introduction of the bill, it was explicitly stated that the economy had been doing worse than expected and that the law was intended to stimulate growth and employment. Mr. Westphal, SPD, gave the opening speech in the parliamentary debate, in which he stated very clearly that the law was

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[67] BGBl. 1978, 65, pp. 1849–1908.
[68] BGBl. 1977, 71, pp. 1965–2015.

intended to increase consumer spending, economic activity, and employment. The tax law was a classical Keynesian stimulus and its motivation was countercyclical.

Within the legislative process, the law was changed in important ways in the *Vermittlungsausschuss*, but it is clear that these changes were not driven by alterations in motivation.

Gesetz über steuerliche Vergünstigungen bei der Herstellung oder Anschaffung bestimmter Wohngebäude[69]

Draft	1st Reading	Committee	2nd & 3rd Reading
03/03/1977 (S: -1.329 bn €)	04/21/1977	05/17/1977	05/26/1977
Bundesrat	**Publication**	**Implementation**	
06/24/1977	07/14/1977 (S: -1.329 bn €)	07/14/1977 (S: -0.435 bn €)	
		01/01/1978 (S: -0.128 bn €)	
		01/01/1979 (S: -0.128 bn €)	
		01/01/1980 (S: -0.128 bn €)	
		01/01/1981 (S: -0.128 bn €)	
		01/01/1982 (S: -0.128 bn €)	
		01/01/1983 (S: -0.128 bn €)	
		01/01/1984 (S: -0.128 bn €)	

The law does not formally qualify as important according to the 0.1 percent criterion; however, it had two clearly defined measures of considerable importance. Also, the annualized revenue impact of the law reported in the *Finanzbericht* underestimates its impact, as part of the tax measures cumulate over time. The tax act was concerned with tax benefits related to family homes.

Under the new regulation, transactions involving one- and two-family houses, as well as owner-occupied flats, were exempted from the land purchase tax retroactive to 1977, thereby changing tax revenues by -0.307 bn € on an annual level. The tax law further expanded income tax deductions for the same class of real estate in case of acquisitions. For a total of eight consecutive years, the home owner was allowed to set off 5 percent of the acquisition costs against tax liabilities. Analysis of this law is very similar to that conducted for the law that abolished home owner benefits (see *Gesetz zur Abschaffung der Eigenheimzulage*). The total impact on tax liabilities accumulates over time, with a series of tax shocks of -0.128 bn € on July 14, 1977 as well as at the beginning of the years 1978 to 1984.

The statement on the introduction of the bill mentioned several policy objectives. Measures of the law were driven by concern over urban development, housing policies, and government incentives to save. In the parliamentary debate, mainly social political reasons were stated. It was also often argued that the exemption of acquisitions of owner-occupied homes from the land purchase tax increased labor mobility. The law had mainly social policy and structural reasons. It is hence classified as motivated by structural concerns.

The law experienced some technical adjustment within the legislative process, but according to my sources, none of these adjustments changed the prospective revenue impact.

Gesetz zur Verbesserung der Haushaltsstruktur (Haushaltsstrukturgesetz - HStrukG)[70]

Publication	Implementation
12/20/1975 (C: 1.468 bn €)	01/01/1976 (C: 0.944 bn €)
	01/01/1977 (C: 0.105 bn €)
	01/01/1978 (C: 0.105 bn €)
	01/01/1979 (C: 0.105 bn €)
	01/01/1980 (C: 0.105 bn €)
	01/01/1981 (C: 0.105 bn €)

The law reduced government incentives to save effective 1976, thereby raising 0.588 bn €. After the appreciation of the DEM in 1969, technical aspects of the Common Agricultural Policy led to reduced DEM prices for agricultural goods. As compensation, the *Aufwertungsausgleichgesetz vom 23. Dezember 1969* had introduced tax benefits for the agricultural sector paid via the value-added tax system, which, under the new regulation, were reduced uniformly at the beginning of 1976, 1977, 1978, 1979, and 1980, and finally abolished at the beginning of 1981. The *Finanzbericht* reported a change in tax revenues of 0.105 bn € for the first step. Given that the tax measure was phased out uniformly, the estimate for the initial step seems a good proxy for later revenue effects. The law also reduced tax benefits for public banks, inducing a revenue change of 0.251 bn € effective 1976. The measure was intended to be in effect for 1976 and

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[69] BGBl. 1977, 44, pp. 1213–1221.
[70] BGBl. 1975, 144, pp. 3091–3112.

1977; however, the *Körperschaftssteuerreformgesetz vom 31. August 1976*[71] permanently reduced these tax benefits. Hence, the measure is treated as permanent.

According to the *Finanzbericht*, the law was driven by budgetary reasons. There are no indications that additional revenues were used to finance specific expenditure programs. The motive of the law was consolidation.

Gesetz zur Änderung des Tabaksteuergesetzes und des Gesetzes über das Branntweinmonopol[72]

Publication	Implementation
07/08/1976 (C: 0.818 bn €)	01/01/1977 (C: 0.818 bn €)

The law increased taxes on tobacco and spirits effective 1977. The prospected revenue effects were 0.614 bn € and 0.205 bn €, respectively.

The *Finanzbericht* reported that the motive behind the the law was consolidation.

Gesetz zur Förderung von Investitionen und Beschäftigung[73]

Publication	Implementation
12/24/1974 (CC: -3.477 bn €)	12/24/1974 (CC: -3.477 bn €)
12/28/1974 (CC: -0.118 bn €)	12/28/1974 (CC: -0.118 bn €)
12/31/1974 (CC: -0.031 bn €)	01/01/1975 (CC: -0.031 bn €)

At the time of writing the law, the economy had been moving into a recession and the law implemented a temporary investment surcharge as a business cycle stimulus. Based on the discussion of the law in the *Finanzbericht*, it is clear that two other laws—the *Gesetz zur Änderung des Investitionszulagengesetzes vom 30.12.1974*[74] and the *Gesetz über Investitionszuschüsse für Mietwohnungen, Genossenschaftswohnungen und Wohnheime im sozialen Wohnungsbau vom 27.12.1974*[75]—were closely related. Thus, the two tax measures introduced by these laws are subsumed under the discussion here.

The *Gesetz zur Förderung von Investitionen und Beschäftigung* introduced a temporary investment subsidy between November 30 and June 30, 1975. Given the retroactive nature of the change, the date of publication is chosen as the implementation date. The measure was expected to change revenues by -3.477 bn € on an annual basis. The *Gesetz über Investitionszuschüsse für Mietwohnungen, Genossenschaftswohnungen und Wohnheime im sozialen Wohnungsbau vom 27.12.1974* extended the investment subsidy to nonprofit public housing organizations, changing revenues by -0.118 bn €. The timing of the tax shock is as before. Finally, the *Gesetz zur Änderung des Investitionszulagengesetzes vom 30.12.1974* introduced additional investment allowances for investment in energy consumption reductions. The tax measure was applicable for all investment conducted since 1975 and was expected to change revenues by -0.031 bn €. In contrast to the other measures, this measure was intended to be permanent.

The *Finanzbericht* reported that the law was countercyclically motivated. It was explicitly stated that Germany had moved into a recession in 1974, requiring countercyclical policies.

Gesetz zur Reform der Einkommensteuer, des Familienlastenausgleichs und der Sparförderung (Einkommensteuerreformgesetz - EStRG)[76]

Publication	Implementation
08/10/1974 (S: -8.024 bn €)	01/01/1975 (S: -6.879 bn €)
	01/01/1977 (S: -1.145 bn €)

The law's most notable provisions reformed the income tax tariff and the system of child benefits.

The reform of the income tax tariff affected revenues by -2.505 bn € effective 1975. The *Zweites Steueränderungsgesetz 1967* had introduced a 3 percent surcharge on income and corporate taxes. Effective 1975, the 3 percent surcharge on income taxes was removed, changing revenues by -1.007 bn €. The 3 percent surcharge on corporate taxes was abolished effective 1977, affecting revenues by -0.931 bn €. The wealth tax rate for legal entities was increased from 0.7 percent to 1 percent starting at the beginning of 1975, generating

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[71] BGBl. 1976, 114, pp. 2597–2627.
[72] BGBl. 1976, 79, pp. 1770–1772.
[73] BGBl. 1974, 141, pp. 3676–3680.
[74] BGBl. 1974, 143, pp. 3726–3727.
[75] BGBl. 1974, 142, p. 3698.
[76] BGBl. 1974, 89, pp. 1769–1855.

revenues of 0.476 bn €. The *Einkommensteuerreformgesetz* also substantially reformed the system of child benefits. Child benefits of 50 DEM for the first, 70 DEM for the second, and 120 DEM for each further child were now directly paid to eligible parents per month. This replaced former tax allowances and direct payments, making it clear that the child benefit is systematically related to the income tax tariff as the child benefit was partially designed to exclude from taxation the minimum income needed to sustain a child. The net effect on revenues was -2.548 bn € effective 1975. The law also reduced government incentives for savings, generating 1.038 bn € effective 1975. In addition, the *Einkommensteuerreformgesetz* implemented 28 other tax measures associated with very modest revenue effects. In total, these other measures changed tax revenues by -2.331 bn € effective 1975 and by -0.215 bn € effective 1977. Quantitatively important were changes related to the general allowance for tax allowable expenses and to income tax allowances for special expenses.

The *Finanzbericht* reported that the main motivation of the law was to improve tax justice and to lower taxes on small and middle-sized incomes. It was also reported that the law had abolished "unwarranted" subventions and had improved the efficiency of the tax system. The motivation of the law was structural.

Steueränderungsgesetz 1973[77]

Publication	Implementation
06/28/1973 (CC: 7.795 bn €)	06/28/1973 (CC: 7.411 bn €)
06/28/1973 (S: -0.115 bn €)	01/01/1974 (CC: 0.383 bn €)
	06/28/1973 (S: -0.038 bn €)
	06/29/1973 (S: -0.077 bn €)

The *Steueränderungsgesetz 1973* implemented substantial tax increases to cool down the economy and combined those with less important structural adjustments to the tax code.

According to the *Finanzbericht*, most of the tax measures were driven by countercyclical reasons. The law implemented a temporary tax of 11 percent on investment, which was expected to generate 4.857 bn € on an annual basis. Originally, the measure was designed to be in effect between May 9, 1973 and April 30, 1975 and, given its retroactive nature, the date of publication is chosen as the implementation date. By later regulation in the *Neunte Verordnung zur Durchführung des UStG vom 20. Dezember 1973*,[78] the measure was phased out at the end of November 1973. Additionally, the law levied a temporary surcharge on income and corporate taxes for the years 1973 and 1974, raising revenues of 2.454 bn €. Further countercyclical measures were related to depreciations for buildings, investment surcharges, and the tax treatment of interest payments. The combined effect was 0.483 bn €.

Technical adjustments in the tax code, related to the payment period for the value-added tax and to the tax treatment of work on public holidays, affected revenues by -0.115 bn €. According to the *Finanzbericht*, these measures were driven by structural motives.

Dritte Verordnung über steuerliche Konjunkturmaßnahmen[79]

Publication	Implementation
06/09/1973 (CC: 0.358 bn €)	06/09/1973 (CC: 0.358 bn €)

At this point in the country's history, the federal government was allowed to implement business cycle programs via simple decrees. This decree was one such countercyclical measure, making the motivation of the decree clear.

The decree temporarily abolished the declining balance depreciation between May 8, 1973 and May 1, 1974. Following the usual practice, the date of publication is chosen as the implementation date. The measure raised revenues by 0.307 bn € on an annual basis. For the same time span, the law also reduced tax allowances for investment in buildings, thereby generating revenue of 0.051 bn €. By later regulation in the *Verordnung zur Änderung der Dritten Verordnung über steuerliche Konjunkturmaßnahmen vom 4. Februar 1974*,[80] both measures were phased out at the end of November 1973 and at the end of December 1973, respectively.

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[77] BGBl. 1973, 51, pp. 676–690.
[78] BGBl. 1973, 108, p. 1961.
[79] BGBl. 1973, 45, p. 530.
[80] BGBl. 1974, 12, p. 155.

Gesetz zur Reform des Grundsteuerrechts[81]

Publication	Implementation
08/11/1973 (C: 0.409 bn €)	01/01/1974 (C: 0.409 bn €)

The law increased the tax assessment base of the land tax effective 1974 and thereby generated 0.409 bn € in revenue.

According to the *Finanzbericht*, the intention of the law was to generate additional revenue. The motivation of the law was consolidation.

Gesetz zur Änderung des Mineralölsteuergesetzes 1964 und des Gesetzes über das Branntweinmonopol[82]

Publication	Implementation
06/28/1973 (C: 1.483 bn €)	07/01/1973 (C: 1.023 bn €)
	12/27/1973 (C: 0.256 bn €)

The law increased the petroleum tax effective July 1973, generating revenues of 1.023 bn € on an annual basis. The law further adjusted payment periods for the petroleum tax and the duty on spirits. Under former regulation, the petroleum tax had to be paid at latest three months after accrual. The *Gesetz zur Änderung des Mineralölsteuergesetzes 1964 und des Gesetzes über das Branntweinmonopol* mandated that taxes accrued in November must be paid by December 27 of that year. The measure generated one-time revenues of 0.256 bn €, to be offset by an equal-sized shock in the next period. Similarly, the time allowed for payment of the petroleum tax was shortened in a series of steps from five to three months beginning with July 1973. This corresponded to a shock of 0.205 bn €. Unfortunately, the available sources on the measure's revenue impact do not allow accounting for the step-wise nature of the measure. Therefore, the implementation effect of the measure is set to zero.

The *Finanzbericht* reported that all tax measures were enacted for budgetary reasons. The motivation of the law was consolidation.

Gesetz zur Änderung des Gesetzes über das Branntweinmonopol[83]

Publication	Implementation
12/28/1971 (C: 0.297 bn €)	01/01/1972 (C: 0.297 bn €)

The law increased taxes on spirits, changing revenues by 0.297 bn € effective 1972.

According to the *Finanzbericht*, the motivation of the law was consolidation.

Gesetz über die weitere Finanzierung von Maßnahmen zur Verbesserung der Verkehrsverhältnisse der Gemeinden und des Bundesfernstraßenbaus[84]

Publication	Implementation
02/29/1972 (SD: 0.716 bn €)	03/01/1972 (SD: 0.716 bn €)
02/29/1972 (S: 0.123 bn €)	04/01/1972 (S: 0.123 bn €)

The law increased the petroleum tax effective March 1972, generating 0.716 bn €. The automobile tax was increased effective April 1972, generating 0.123 bn € in revenues.

According to the *Finanzbericht*, revenues generated by the increase in the petroleum tax were earmarked for traffic policies, making this measure spending driven. The increase in the automobile tax was justified as a way of increasing rail usage. Accordingly, this measure was motivated by structural concerns.

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[81] BGBl. 1973, 66, pp. 965–974.
[82] BGBl. 1973, 51, pp. 691–692.
[83] BGBl. 1971, 135, pp. 2137–2138.
[84] BGBl. 1972, 14, pp. 201–205.

Elftes Gesetz zur Änderung des Tabaksteuergesetzes[85]

Publication	Implementation
03/04/1972 (C: 0.818 bn €)	09/01/1972 (C: 0.818 bn €)

The law raised the tobacco tax effective September 1972, generating 0.818 bn € in revenues.

According to the *Finanzbericht*, the law was driven by budgetary reasons. The *Finanzbericht* gave no evidence that the additional revenues were used to finance specific expenditures. Therefore, the motivation of the law was consolidation.

Gesetz zur Wahrung der steuerlichen Gleichmäßigkeit bei Auslandsbeziehungen und zur Verbesserung der steuerlichen Wettbewerbslage bei Auslandsinvestitionen[86]

Publication	Implementation
09/12/1972 (S: 0.263 bn €)	09/12/1972 (S: 0.263 bn €)

The law introduced a couple of measures aimed at hindering tax evasion and raised revenues of 0.263 bn €. Most parts of the law were retroactive to 1972; hence, I choose the date of publication as the implementation date.

According to the *Finanzbericht*, the main motivation of the law was structural.

Gesetz zur Änderung des Gesetzes über die Besteuerung des Straßengüterverkehrs[87]

Publication	Implementation
12/31/1970 (S: 0.24 bn €)	01/01/1971 (S: 0 bn €)

The law renewed the transportation tax introduced in the *Gesetz über die Besteuerung des Straßengüterverkehrs*. Following my usual practice, the extension counts as an announcement, not as an implementation shock.

The original motivation for the transportation tax was structural. Based on the *Finanzbericht*, there is no reason to change this.

Gesetz zur Änderung des Mineralölsteuergesetzes 1964 und zur Änderung des Gesetzes zur Änderung des Mineralölsteuergesetzes 1964[88]

Publication	Implementation
04/30/1971 (SD: 0.552 bn €)	05/01/1971 (SD: 0 bn €)

The law combined an extension of the general fuel tax with a reduction in the tax rate on heavy fuel oil in two steps in 1972 and 1973. Unfortuntately, the *Finanzbericht* provided only a combined forecast for both measures, making it impossible to assess the revenue impact of each measure separately. However, taxes on heavy fuel oil accounted for only a minor fraction of total fuel tax revenues and the extension was clearly the important part of the law. Accordingly, the implementation effect is set to zero. The announment effect of the two measures was 0.552 bn €.

According to the *Finanzbericht*, the law was spending driven. Revenues generated by the law's measures were intended to finance subventions of the coal industry. Also, the government wanted to install a strategic oil reserve and to assist German companies in developing foreign oil fields.

Gesetz zur Änderung des zweiten Gesetzes zur Förderung der Vermögensbildung der Arbeitnehmer[89]

Publication	Implementation
06/30/1970 (S: -0.547 bn €)	06/30/1970 (S: -0.077 bn €)
	01/01/1971 (S: -0.470 bn €)

The law implemented important measures related to government incentives to save. First, it increased the maximum amount of the employee savings allowance from 312 to 624 DEM effective 1970. Further measures of the law were implemented in 1971, such as the

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[85] BGBl. 1972, 17, pp. 261–264.
[86] BGBl. 1972, 98, pp. 1713–1724.
[87] BGBl. 1970, 119, p. 1869.
[88] BGBl. 1971, 36, pp. 377–378.
[89] BGBl. 1972, 17, pp. 261–264.

substitution of tax deductions by a direct payment, the introduction of income limits for eligibility, and specific tax allowances for small companies. Regrettably, the *Finanzbericht* provided only a combined revenue impact for all measures. However, revenue forecasts for budgetary years allow a reasonable distinction of the revenue impacts, giving a shock of -0.077 bn € in June 1970 and of -0.435 bn € in 1971. Additionally, the law implemented expansions in government incentives to save of -0.036 bn € effective 1971.

According to the *Finanzbericht*, the main intention of the law was to promote asset formation by people with low or medium income. As the law was concerned with social equity and sociopolitic motives, the motivation of the law is designated as structural.

Gesetz über einen Ausgleich für Folgen der Aufwertung der Deutschen Mark auf dem Gebiet der Landwirtschaft (Aufwertungsausgleichsgesetz - AufwAG)[90]

Publication   **Implementation**

  12/31/1969 (MS: -0.399 bn €)   01/01/1970 (MS: -0.399 bn €)

According to the *Finanzbericht*, the motivation behind this law was to compensate agricultural business for the exchange rate appreciation that occurred on October 27, 1969.

The EU's common agricultural policy had fixed prices for agricultural goods. Exchange rate appreciations hence implied that prices in national currency would decrease, leaving farmers worse off. To compensate for the exchange rate appreciation, the law allowed agricultural businesses to deduct higher input value-added taxes, changing revenues by -0.399 bn € effective 1970. It is clear that the law was a reaction to a contemporeanous macroeconomic shock.

Gesetz über die Erhebung eines rückzahlbaren Konjunkturzuschlags zur Einkommen- und Körperschaftsteuer[91]

Publication   **Implementation**

  07/25/1970 (CC: 2.659 bn €)   08/01/1970 (CC: 2.659 bn €)

The law implemented an additional surcharge on the income tax and the corporate tax between August 1, 1970 and June 30, 1971, generating revenues of 2.659 bn €.

According to the *Finanzbericht*, the law was an attempt at counteracting an economic upswing and hence was motivated by countercyclical reasons.

Gesetz über die Gewährung von Investitionszulagen und zur Änderung steuerrechtlicher und prämienrechtlicher Vorschriften (Steueränderungsgesetz 1969)[92]

Publication   **Implementation**

  08/21/1969 (S: -0.7 bn €)   08/21/1969 (S: -0.427 bn €)
                                  01/01/1970 (S: -0.056 bn €)

The law implemented a variety of often minor tax changes.

The law introduced subsidies for investment in disadvantaged regions, with the intention of reducing regional inequality. These measures changed revenues by -0.138 bn € and were retroactive to 1969; accordingly, the date of publication is chosen as the implementation date. Also, the law introduced investment subsidies for research and development expenditures, changing revenues by -0.056 bn € effective 1970. Investment surcharges related to the coal industry were renewed, changing revenues by -0.077 bn € for 1970 and 1971. The law also renewed investment surcharges for West Berlin, inducing an announcement effect of -0.01 bn €. Associated expansions in investment surcharges for West Berlin had an additional effect of -0.005 bn €.

The law granted tax exemptions for a newly founded association of stone coal companies, with the intention of mitigating the effects of the structural change in the Ruhr region. The total revenue effect was -0.031 bn €. Changes related to international taxation affected revenues by -0.031 bn € retroactive to 1969. Additional changes in the income tax code, related to special depreciations, donations, and international trade, were associated with an announcement effect of -0.138 bn € and an implementation effect of -0.008 bn €. Of interest also were expansions in government incentives for savings, affecting revenues by -0.215 bn €.

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[90] BGBl. 1969, 17, pp. 2381–2382.
[91] BGBl. 1972, 17, pp. 261–264.
[92] BGBl. 1969, 79, pp. 1211–1231.

The *Finanzbericht* classified the law's provisions as related to sociopolitics and structural policies. The motivation of the law was structural.

Gesetz über die Besteuerung des Straßengüterverkehrs[93]

Publication	Implementation
31/12/1968 (S: 0.194 bn €)	01/01/1969 (S: 0.194 bn €)

The law implemented a transportation tax on trucks. Although the total impact of the law did not exceed 0.1 percent of GDP, it is covered here because it consisted of mainly one measure having a significant impact on revenues. The law was expected to raise 0.194 bn € effective 1969. Originially, the measure was to expire at the end of 1970. However, the *Gesetz zur Änderung des Gesetzes über die Besteuerung des Straßengüterverkehrs* extended it by two years up to the end of 1972.

The *Finanzbericht* reported that the main intention of the law was to increase rail usage. Hence the law was structurally motivated.

Gesetz über Maßnahmen zur außenwirtschaftlichen Absicherung gemäß § 4 des Gesetzes zur Förderung der Stabilität und des Wachstums der Wirtschaft (AbsichG)[94]

Publication	Implementation
11/30/1968 (MS: 0.307 bn €)	11/30/1968 (MS: 0.307 bn €)

The law attempted to reduce the current account surplus by implementing a sales tax on exports, while warranting a negative tax on imports. The measure was expected to change revenues by 0.307 bn €, effective retroactively. Given the retroactive nature of the law, the publication date is chosen as the implementation date. The measure was originally designed to expire at the end of 1970. However, it was actually abolished by decree effective October 10, 1968.[95]

The *Finanzbericht* reported that the law was designed to achieve "external equilibrium." At the time, Germany was running an account surplus, giving rise to fear of "international disequilibria" and price increases. It is evident that the law was related to contemporaneous macroeconomic conditions and hence is classified as being driven by a recent macroeconomic shock.

Gesetz zur Verwirklichung der mehrjährigen Finanzplanung des Bundes, I. Teil Zweites Steueränderungsgesetz 1967[96]

Publication	Implementation
12/23/1967 (C: 0.353 bn €)	01/01/1968 (C: 0.353 bn €)
12/23/1967 (S: 0.261 bn €)	01/01/1968 (S: 0.261 bn €)

The law implemented a supplementary tax to income and corporate taxes. The measure was expected to raise 0.353 bn € effective 1968. Additionally, the law reduced tax benefits for financial businesses, generating 0.261 bn € effective 1968.

The *Finanzbericht* classified the supplementary tax as being concerned with budget consolidation. The abolishment of tax benefits for financial businesses, on the contrary, was concerned with the efficiency of the tax system. The latter measure hence was motivated by structural concerns.

Gesetz zur Sicherung des Haushaltsausgleichs (Haushaltsicherungsgesetz)[97]

Publication	Implementation
12/24/1965 (C: 0.169 bn €)	01/01/1966 (C: 0.169 bn €)

The law increased duties on spirits and the sparkling wine tax, both effective at the beginning of 1966. The measures were expected to raise 0.133 and 0.036 bn €, respectively.

The *Finanzbericht* classified the law as concerned with budget consolidation.

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[93] BGBl. 1968, 99, pp. 1461–1465.
[94] BGBl. 1968, 86, pp. 1255–1262.
[95] BGBl. 1969, 108, p. 1864 and BGBl. 1969, 115, p. 2045.
[96] BGBl. 1967, 74, pp. 1254–1258.
[97] BGBl. 1965, 72, pp. 2065–2072.

Zweites Gesetz zur Überleitung der Haushaltswirtschaft des Bundes in eine mehrjährige Finanzplanung (Steueränderungsgesetz 1966)[98]

Publication	Implementation
12/29/1966 (C: 0.504 bn €)	01/01/1967 (C: 0.48 bn €)
12/29/1966 (SD: 0.337 bn €)	01/01/1967 (SD: 0.337 bn €)
	04/01/1967 (C: 0.024 bn €)

The law implemented a variety of tax measures. First and foremost, it raised the petroleum tax, changing revenues by 0.337 bn € effective 1967. The law abolished value-added tax exemptions related to petroleum consumption, generating 0.245 bn € effective beginning in 1967. Supersession of value-added tax exemptions related to housing development raised 0.038 bn € effective 1967. Also of some importance was the reduction in allowances for commuting expenses, raising 0.148 bn € at the beginning of 1967. The law also reformed government incentives for savers, changing revenues by 0.048 bn € effective 1967. Finally, the law implemented some technical changes related to duties on spirits, changing revenues by 0.024 bn € effective April 1967.

The *Finanzbericht* classified the law as concerned with budget consolidation. However, revenues due to the increase in the petroleum tax were explicitly earmarked for road construction and related expenditures, making this measure spending driven.

Siebentes Gesetz zur Änderung des Tabaksteuergesetzes (Zweites Steueränderungsgesetz 1966)[99]

Publication	Implementation
12/31/1966 (C: 0.301 bn €)	03/01/1966 (C: 0.301 bn €)

The law increased tobacco taxes, effective March 1967. The budgetary figure for 1967 is given as 490 million DEM, which, annualized and transformed to Euro, corresponds to a change in revenues of 0.301 bn €.

The *Finanzbericht* classified the law as concerned with budget consolidation.

Gesetz zur Änderung von Verbrauchsteuergesetzen, des Gesetzes über das Branntweinmonopol und des Zollgesetzes (Steueränderungsgesetz 1967)[100]

Publication	Implementation
04/01/1967 (C: 0.46 bn €)	?

The law adjusted payment periods for consumption taxes and thereby generated one-time revenues of 0.46 bn €. However, appropriately timing the tax shock is complicated by the fact that the law allowed for transition rules, effectively phasing in the new regulations by shortening the payment periods step by step. Unfortunately, the revenue forecasts do not allow recovering a series of revenue effects and, accordingly, the implementation effect of the measure is set to zero.

The *Finanzbericht* classified the law as concerned with budget consolidation.

Gesetz zur Änderung des Umsatzsteuergesetzes 1967 (Mehrwertsteuer)[101]

Publication	Implementation
10/21/1967 (CC: -0.358 bn €)	01/01/1968 (CC: -0.358 bn €)
10/21/1967 (C: 1.125 bn €)	07/01/1968 (C: 1.125 bn €)

The law increased the value-added tax rate from 10 percent to 11 percent effective July 1, 1968. This measure was expected to raise revenues by 0.562 bn € in the budgetary year 1968, and hence 1.125 bn € on an annualized basis. Germany switched from a gross turnover tax to a net turnover tax at the beginning of 1968. During the transition period, companies had been allowed to subtract prepaid tax on existing stocks. The law expanded existing allowances for the transition period in 1968.

The *Finanzbericht* classified the increase in the value-added tax rate as concerned with budget consolidation. The expansion in allowances for the transition period was classified as driven by countercyclical reasons.

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[98] BGBl. 1966, 56, pp. 702–708.
[99] BGBl. 1966, 57, pp. 747–749.
[100] BGBl. 1967, 18, pp. 385–387.
[101] BGBl. 1967, 60, pp. 991–992.

Gesetz zur Änderung des Einkommensteuergesetzes, des Spar-Prämiengesetzes und anderer Gesetze (Steueränderungsgesetz 1964)[102]

Publication   **Implementation**

11/21/1964 (S: -1.651 bn €)   11/22/1964 (S: -0.069 bn €)
                                01/01/1965 (S: -1.582 bn €)

The law had a substantial impact on tax revenues and contained a series of quantitatively important tax measures. First and foremost, the income tax tariff was adjusted effective 1965, changing revenues by -0.726 bn €. Of considerable importance also was introduction of a tax-free amount for employees, changing revenues by -0.419 bn € effective 1965. Also of note were changes in the standard deduction for expenses in the income tax code and changes in depreciation rules for low-value assets. Both measures were effective 1965, changing tax revenues by -0.215 bn € and -0.128 bn €, respectively. The law introduced a series of special depreciation that benefited expenditures for research and development, ocean-going vessels, airplanes, and investment in old buildings. Combined, the measures were expected to change revenues by -0.069 bn € on an annualized level. These measures were retroactive; hence, the date of publication is chosen as the implementation date. To some degree, these allowances were only temporary, but seeing as they were repeatedly extended by later regulation, it is justifiable to treat them as permanent. Other measures had quantitatively limited importance, but are coded identical to those discussed above. In total, these lesser measures changed revenues by 0.095 bn € effective 1965.

The *Finanzbericht* classified the law as structural.

Gesetz zur Änderung des Einkommensteuergesetzes, des Körperschaftsteuergesetzes, des Gewerbesteuergesetzes, des Bewertungsgesetzes, des Steuersäumnisgesetzes, der Reichsabgabenordnung und anderer Gesetze (Steueränderungsgesetz 1965)[103]

Publication   **Implementation**

05/21/1965 (S: 0.218 bn €)   05/21/1965 (S: -0.199 bn €)
                                07/01/1965 (S: -0.017 bn €)
                                01/01/1966 (S: -0.001 bn €)

The law's quantitatively most important measures were concerned with tax allowances for pensions. These measures were expected to change tax revenues by -0.199 bn € effective 1966. The law further introduced tax allowances for sales of business, changing revenues by -0.01 bn € effective at the beginning of 1965. As usual, the date of publication is chosen as the implementation date. Changes in § 11 KStG increased tax exemptions for companies experiencing a change in legal status. The measure was expected to change revenues by -0.05 bn € effective retroactive to the beginning of 1965. The law increased tax-exemption-free limits for holiday premiums. The measure was expected to change revenues by -0.002 bn € retroactive to the beginning of 1965. Finally, the law abolished the *Süßstoffsteuer*, which was a tax on artificial sweetener. The measure changed tax revenues by -0.001 bn € effective July 1965.

The *Finanzbericht* classified the law as structural.

Zweites Gesetz zur Förderung der Vermögensbildung der Arbeitnehmer (Zweites Vermögensbildungsgesetz - 2. VermBG)[104]

Publication   **Implementation**

07/08/1965 (S: -0.169 bn €)   07/08/1965 (S: -0.169 bn €)

This legislation expanded tax allowances for savings of employees. Employers had been allowed to make contributions to workers' asset formation funds on their employees' behalf. By the new regulation, these contributions were fully exempted from income taxation. Employers were also granted a tax credit of 30 percent of their contributions, up to a limit of 800 DEM a year. The law came into effect retroactively to April 1965; correspondingly, the date of publication is chosen as the implementation date.

The *Finanzbericht* classified the law as driven by sociopolitical objectives. Specifically, the law was intended to increase savings by wage earners and employees. Correspondingly, the law was motivated by structural concerns.

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[102] BGBl. 1964, 57, pp. 885–916.
[103] BGBl. 1965, 20, pp. 377–385.
[104] BGBl. 1965, 29, pp. 585–588.

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Appendix

Table A1 Important Tax Legislation and its Revenue Impact

No.	Title	Publication	Motivation	Impact
1	Gesetz zur Beschleunigung des Wirtschaftswachstums (Wachstumsbeschleunigungsgesetz)	Dec-09	CC	-0.35
2	Gesetz zur Umsetzung steuerrechtlicher Regelungen des Maßnahmenpakets "Beschäftigungssicherung durch Wachstumsstärkung"	Dec-08	CC	-0.19
3	Gesetz zur Förderung von Familien und haushaltsnahen Dienstleistungen (Familienleistungsgesetz - FamLeistG)	Dec-08	S	-0.10
4	Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland	Mar-09	CC	-0.32
5	Gesetz zur Fortführung der Gesetzeslage 2006 bei der Entfernungspauschale	Dec-08	S	-0.11
6	Gesetz zur verbesserten steuerlichen Berücksichtigung von Vorsorgeaufwendungen (Bürgerentlastungsgesetz Krankenversicherung)	Jul-09	S/CC	-0.53
7	Unternehmensteuerreformgesetz 2008	Aug-07	S	-0.36
8	Gesetz zur steuerlichen Förderung von Wachstum und Beschäftigung	May-06	S	-0.24
9	Haushaltsbegleitgesetz 2006 (HBeglG 2006)	Jun-06	C/SD	1.04
10	Steueränderungsgesetz 2007	Jul-06	C	0.19
11	Gesetz zur Abschaffung der Eigenheimzulage	Dec-05	C	0.26
12	Gesetz zur Beschränkung der Verlustverrechnung im Zusammenhang mit Steuerstundungsmodellen	Dec-05	C	0.09
13	Gesetz zur Förderung der Steuerehrlichkeit	Dec-03	S	0.00
14	Haushaltsbegleitgesetz 2004 (HBeglG 2004)	Dec-03	C/CC	-0.06
15	Gesetz zur Neuordnung der einkommensteuerrechtlichen Behandlung von Altersvorsorgeaufwendungen und Altersbezügen (Alterseinkünftegesetz – AltEinkG)	Jul-04	S	-0.22
16	Gesetz zur Änderung des Tabaksteuergesetzes und anderer Verbrauchsteuergesetze	Dec-03	C	0.11
17	Gesetz zur Änderung steuerrechtlicher Vorschriften und zur Errichtung eines Fonds "Aufbauhilfe" (Flutopfersolidaritätsgesetz)	Sep-02	SD	0.33
18	Zweites Gesetz für moderne Dienstleistungen am Arbeitsmarkt	Dec-02	S	-0.07
19	Gesetz zum Abbau von Steuervergünstigungen und Ausnahmeregelungen (Steuervergünstigungsabbaugesetz - StVergAbG)	May-03	C	0.18
20	Gesetz zur Fortentwicklung der ökologischen Steuerreform	Dec-02	S	0.08
21	Zweites Gesetz zur Familienförderung	Aug-01	S	-0.11
22	Gesetz zur Bekämpfung von Steuerverkürzungen bei der Umsatzsteuer und zur Änderung anderer Steuergesetze (Steuerverkürzungsbekämpfungsgesetz - StVBG)	Dec-01	S	0.00
23	Gesetz zur Finanzierung der Terrorbekämpfung	Dec-01	SD	0.10
24	Gesetz zur Reform der gesetzlichen Rentenversicherung und zur Förderung eines kapitalgedeckten Altersvorsorgevermögens (Altersvermögensgesetz - AVmG)	Jun-01	S	-0.51
25	Gesetz zur Fortführung der ökologischen Steuerreform	Dec-99	C	0.52
26	Gesetz zur Familienförderung	Dec-99	S	-0.17
27	Gesetz zur Bereinigung von steuerlichen Vorschriften (Steuerbereinigungsgesetz 1999 - StBereinG 1999)	Dec-99	S	-0.08
28	Gesetz zur Senkung der Steuersätze und zur Reform der Unternehmensbesteuerung (Steuersenkungsgesetz - StSenkG)	Oct-00	S	-2.08
29	Gesetz zur Ergänzung des Steuersenkungsgesetzes (Steuersenkungsergänzungsgesetz – StSenkErgG)	Dec-00	S	-0.17
30	Steueränderungsgesetz 1998	Dec-98	S	-0.08
31	Steuerentlastungsgesetz 1999	Dec-98	S	-0.18
32	Steuerentlastungsgesetz 1999/2000/2002	Mar-99	S	-0.24
33	Gesetz zur Neuregelung der geringfügigen Beschäftigungsverhältnisse	Mar-99	SD	-0.05
34	Gesetz zum Einstieg in die ökologische Steuerreform	Mar-99	SD	0.31
35	Gesetz zur Senkung des Solidaritätszuschlags	Nov-97	S	-0.19
36	Gesetz zur Finanzierung eines zusätzlichen Bundeszuschusses zur gesetzlichen Rentenversicherung	Dec-97	SD	0.30
37	Jahressteuergesetz (JStG) 1997	Dec-96	S	0.00
38	Gesetz zur Fortsetzung der wirtschaftlichen Förderung in den neuen Ländern	Aug-97	S	-0.15
39	Jahressteuergesetz 1996	Oct-95	S	-1.10

No.	Title	Publication	Motivation	Impact
40	Gesetz zur Bekämpfung des Mißbrauchs und zur Bereinigung des Steuerrechts (Mißbrauchsbekämpfungs- und Steuerbereinigungsgesetz - StMBG)	Dec-93	MS	0.08
41	Erstes Gesetz zur Umsetzung des Spar-, Konsolidierungs- und Wachstumsprogramms (1. SKWPG)	Dec-93	MS	0.25
42	Gesetz zur Neuregelung der Zinsbesteuerung (Zinsabschlaggesetz)	Nov-92	S	0.12
43	Gesetz zur Anpassung von Verbrauchsteuer- und anderen Gesetzen an das Gemeinschaftsrecht sowie zur Änderung anderer Gesetze (Verbrauchsteuer-Binnenmarktgesetz)	Dec-92	S	-0.15
44	Gesetz über Maßnahmen zur Bewältigung der finanziellen Erblasten im Zusammenhang mit der Herstellung der Einheit Deutschlands, zur langfristigen Sicherung des Aufbaus in den neuen Ländern, zur Neuordnung des bundesstaatlichen Finanzausgleichs und zur Entlastung der öffentlichen Haushalte (Gesetz zur Umsetzung des Föderalen Konsolidierungsprogramms - FKPG)	Jun-93	C	1.02
45	Gesetz zur Verbesserung der steuerlichen Bedingungen zur Sicherung des Wirtschaftsstandorts Deutschland im Europäischen Binnenmarkt (Standortsicherungsgesetz - StandOG)	Sep-93	S	-0.19
46	Gesetz zur Entlastung der Familien und zur Verbesserung der Rahmenbedingungen für Investitionen und Arbeitsplätze (Steueränderungsgesetz 1992 - StÄndG 1992)	Feb-92	S	0.10
47	Gesetz zur Förderung von Investitionen und Schaffung von Arbeitsplätzen im Beitrittsgebiet sowie zur Änderung steuerrechtlicher und anderer Vorschriften (Steueränderungsgesetz 2001 - StÄndG 2001)	Jun-91	MS	0.07
48	Gesetz zur Einführung eines befristeten Solidaritätszuschlags und zur Änderung von Verbrauchsteuer- und anderen Gesetzen (Solidaritätsgesetz)	Jun-91	SD	1.30
49	Gesetz zur Änderung des Steuerreformgesetzes 1990 sowie zur Förderung des Mietwohnungsbaus und von Arbeitsplätzen in Privathaushalten	Jun-89	S	-0.21
50	Gesetz über Maßnahmen zur Entlastung der öffentlichen Haushalte (Haushaltsbegleitgesetz 1989)	Dec-88	C	0.07
51	Gesetz zur Änderung von Verbrauchsteuergesetzen (Verbrauchsteueränderungsgesetz 1988 - VerbrStÄndG 1988)	Dec-88	C	0.35
52	Steuerreformgesetz 1990	Aug-88	S	-1.01
53	Gesetz zur Änderung des Einkommensteuergesetzes (Steuersenkungs-Erweiterungsgesetz 1988 - StSenkErwG 1988)	Jul-87	MS	-0.25
54	Gesetz zur Verbesserung der Abschreibungsbedingungen für Wirtschaftsgebäude und für moderne Heizungs- und Warmwasseranlagen	Dec-85	S	-0.15
55	Gesetz zur leistungsfördernden Steuersenkung und zur Entlastung der Familie (Steuersenkungsgesetz 1986/1988 - StSenkG 1986/1988)	Jun-85	S	-1.00
56	Gesetz zur Stärkung der Wettbewerbsfähigkeit der Wirtschaft und zur Einschränkung von steuerlichen Vorteilen (Steuerentlastungsgesetz 1984 - StEntlG 1984)	Dec-83	S	-0.19
57	Erstes Gesetz zur Änderung des Umsatzsteuergesetzes	Jun-84	S	-0.15
58	Gesetz zur Wiederbelebung der Wirtschaft und Beschäftigung und zur Entlastung des Bundeshaushalts (Haushaltsbegleitgesetz 1983)	Dec-82	MS/SD	0.37
59	Zweites Gesetz zur Verbesserung der Haushaltsstruktur (2. Haushaltsstrukturgesetz - 2.HStruktG)	Dec-81	S	0.06
60	Gesetz zur Änderung von Verbrauchsteuergesetzen (Verbrauchsteueränderungsgesetz 1982 - VStÄndG 1982)	Dec-81	C	0.20
61	Gesetz über steuerliche und sonstige Maßnahmen für Arbeitsplätze, Wachstum und Stabilität (Beschäftigungsförderungsgesetz - BeschäftFG)	Jun-82	S	-0.24
62	Mineralöl- und Branntweinsteuer-Änderungsgesetz 1981 - MinöBranntwStÄndG 1981 -	Mar-81	C	0.24
63	Gesetz zur Steuerentlastung und Familienförderung (Steuerentlastungsgesetz 1981)	Aug-80	S	-0.89
64	Gesetz zur Änderung des Einkommensteuergesetzes, des Gewerbesteuergesetzes, des Umsatzsteuergesetzes und anderer Gesetze (Steueränderungsgesetz 1979 - StÄndG 1979)	Dec-78	CC	-0.72
65	Gesetz zur Steuerentlastung und Investitionsförderung	Nov-77	CC	-1.00
66	Gesetz über steuerliche Vergünstigungen bei der Herstellung oder Anschaffung bestimmter Wohngebäude	Jul-77	S	-0.21

No.	Title	Publication	Motivation	Impact
67	Gesetz zur Verbesserung der Haushaltsstruktur (Haushaltsstrukturgesetz - HStrukG)	Dec-75	C	0.25
68	Gesetz zur Änderung des Tabaksteuergesetzes und des Gesetzes über das Branntweinmonopol	Jul-76	C	0.14
69	Gesetz zur Förderung von Investitionen und Beschäftigung	Dec-74	CC	-0.67
70	Gesetz zur Reform der Einkommensteuer, des Familienlastenausgleichs und der Sparförderung (Einkommensteuerreformgesetz - EStRG)	Aug-74	S	-1.50
71	Steueränderungsgesetz 1973	Jun-73	S/CC	1.57
72	Dritte Verordnung über steuerliche Konjunkturmaßnahmen	Jun-73	CC	0.07
73	Gesetz zur Reform des Grundsteuerrechts	Aug-73	C	0.08
74	Gesetz zur Änderung des Mineralölsteuergesetzes 1964 und des Gesetzes über das Branntweinmonopol	Jun-73	C	0.30
75	Gesetz zur Änderung des Gesetzes über das Branntweinmonopol	Dec-71	C	0.07
76	Gesetz über die weitere Finanzierung von Maßnahmen zur Verbesserung der Verkehrsverhältnisse der Gemeinden und des Bundesfernstraßenbaus (Verkehrsfinanzgesetz 1971)	Feb-72	S/SD	0.17
77	Elftes Gesetz zur Änderung des Tabaksteuergesetzes	Mar-72	C	0.22
78	Gesetz zur Wahrung der steuerlichen Gleichmäßigkeit bei Auslandsbeziehungen und zur Verbesserung der steuerlichen Wettbewerbslage bei Auslandsinvestitionen	Sep-72	S	0.06
79	Gesetz zur Änderung des Gesetzes über die Besteuerung des Straßengüterverkehrs	Dec-70	S	0.06
80	Gesetz zur Änderung des Mineralölsteuergesetzes 1964 und zur Änderung des Gesetzes zur Änderung des Mineralölsteuergesetzes 1964	Apr-71	SD	0.14
81	Gesetz zur Änderung des zweiten Gesetzes zur Förderung der Vermögensbildung der Arbeitnehmer	Jun-70	S	-0.02
82	Gesetz über einen Ausgleich für Folgen der Aufwertung der Deutschen Mark auf dem Gebiet der Landwirtschaft (Aufwertungsausgleichsgesetz - AufwAG)	Dec-69	MS	-0.25
83	Gesetz über die Erhebung eines rückzahlbaren Konjunkturzuschlags zur Einkommen- und Körperschaftsteuer	Jul-70	CC	0.72
84	Gesetz über die Gewährung von Investitionszulagen und zur Änderung steuerrechtlicher und prämienrechtlicher Vorschriften (Steueränderungsgesetz 1969)	Aug-69	S	-0.21
85	Gesetz über die Besteuerung des Straßengüterverkehrs	Dec-68	S	0.06
86	Gesetz über Maßnahmen zur außenwirtschaftlichen Absicherung gemäß § 4 des Gesetzes zur Förderung der Stabilität und des Wachstums der Wirtschaft (AbsichG)	Nov-68	MS	0.10
87	Gesetz zur Verwirklichung der mehrjährigen Finanzplanung des Bundes I. Teil Zweites Steueränderungsgesetz 1967	Dec-67	S/C	0.23
88	Gesetz zur Sicherung des Haushaltsausgleichs (Haushaltsicherungsgesetz)	Dec-65	C	0.07
89	Zweites Gesetz zur Überleitung der Haushaltswirtschaft des Bundes in eine mehrjährige Finanzplanung (Steueränderungsgesetz 1966)	Dec-66	C/SD	0.32
90	Siebentes Gesetz zur Änderung des Tabaksteuergesetzes (Zweites Steueränderungsgesetz 1966)	Dec-66	C	0.12
91	Gesetz zur Änderung von Verbrauchsteuergesetzen, des Gesetzes über das Branntweinmonopol und des Zollgesetzes (Steueränderungsgesetz 1967)	Apr-67	C	0.18
92	Gesetz zur Änderung des Umsatzsteuergesetzes 1967 (Mehrwertsteuer)	Oct-67	C/CC	0.28
93	Steueränderungsgesetz 1964	Nov-64	S	-0.69
94	Gesetz zur Änderung des Einkommensteuergesetzes, des Körperschaftsteuergesetzes, des Gewerbesteuergesetzes, des Bewertungsgesetzes, des Steuersäumnisgesetzes, der Reichsabgabenordnung und anderer Gesetze (Steueränderungsgesetz 1965)	May-65	S	-0.09
95	Zweites Gesetz zur Förderung der Vermögensbildung der Arbeitnehmer (Zweites Vermögensbildungsgesetz - 2. VermBG)	Jul-65	S	-0.07

Notes: Impact is the announcement effect of the tax law in percent of GDP. Abbreviations: CC: countercyclical, MS: macroeconomic shock, SD: spending driven, S: structural, C: consolidation.

Regional Effects of Federal Tax Shocks*

Bernd Hayo and Matthias Uhl

Abstract This paper studies the effects of federal tax changes on U.S.-state-level income. Utilizing an exogenous tax shock series recently proposed in the literature, we find considerable variation in how federal tax changes affect regional income: estimated state income multipliers range between –0.2 in Utah and –3.7 in Hawaii. Analyzing the determinants of differences in regional tax multipliers suggests that size and composition of the state tax base help explain the observed heterogeneity in the transmission of federal tax policy.

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Matthias Uhl

State Fiscal Policies and Regional Economic Activity

State Fiscal Policies and Regional Economic Activity[*]

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October 20, 2014

Abstract

In this paper, I estimate a structural panel vector autoregression to study the consequences of changes in U.S. state government fiscal policies for short-term local economic activity. My main result is that the state-level spending multiplier is relatively small and the tax multiplier relatively large. After four years, the government spending multiplier is 0.6 and the tax multiplier 2.6. This conclusion is robust across different model specifications. I also find that both state spending and state revenue shocks increase out-of-state output.

Keywords Spending multiplier, Tax multiplier, Subnational government
JEL Classifications E62, H30, R50

1 Introduction

In recent years, research on the consequences for economic activity of changes in government fiscal policy has intensified, partially because of questions raised during the course of the 2007 financial crisis and by the ongoing economic crisis in the Eurozone.[1] Empirical estimates on the size of fiscal multipliers are relevant in evaluating economic policies and they also provide stylized facts for theoretical macroeconomic models. In this paper, using annual data on 48 contiguous U.S. states, I estimate a structural panel vector autoregression and identify fiscal policy shocks based on the approach of Blanchard and Perotti (2002). The main result of my study is that tax multipliers associated with state-level taxation are large. In my preferred specification, the government spending multiplier is below unity, and the tax multiplier larger than 2.

I find fiscal multipliers associated with subnational governments interesting from both a theoretical and a practical policy-making perspective. First, state fiscal policymakers are interested in how local fiscal policy decisions affect economic activity in their home region. Second, fiscal policies of countries or regions in a monetary union potentially can be used to stabilize region-specific shocks that monetary policy cannot. Third, estimates on multipliers associated with regional government are informative as to the role fiscal shocks play in explaining regional business cycles.

In this paper, I provide stylized facts on the size of fiscal multipliers in a monetary union that may be informative for builders of structural models. Fiscal multipliers in monetary unions can be expected to be different from their traditional counterpart because the monetary policy reaction to regional fiscal disturbances differs, and because states or countries in a monetary union typically have relatively more open economies. Under the usual situation, monetary policy offsets fiscal policy shocks and hence lessens the effects these shocks have on aggregate economic activity. In several cases it has been demonstrated that fiscal multipliers can be large when monetary policy does not react appropriately (Christiano et al., 2011, Davig and Leeper, 2011). On the other hand, a regional fiscal policy shock may lead to higher regional inflation and hence to real exchange rate appreciation. This effect should dampen the size of the multiplier in a currency union comprised of open economies such as that of the United States (Illing and Watzka, 2013).

My paper supplements the literature on fiscal multipliers associated with national fiscal policies, as well as that on multipliers on subnational spending. Traditionally, fiscal multipliers have been estimated using single-country time series methods. Blanchard and Perotti (2002) and Mountford and Uhlig (2009) estimate structural vector autoregressive models to study the effects of spending and revenue shocks on aggregate economic activity. Ramey and Shapiro (1998), Ramey (2011b),

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[1]Ramey (2011a), Parker (2011), and Illing and Watzka (2013) provide recent reviews on fiscal multipliers.

and Romer and Romer (2010) use quasi-natural experiments to identify exogenous variation in government spending and revenues, respectively. Extensions to state-dependent fiscal multipliers can be found in Auerbach and Gorodnichenko (2012), and extensions to panels of countries in Beetsma and Giuliodori (2011), Ilzetzki et al. (2013), and Ravn et al. (2012). The size of the estimated effects differs across studies, but the general take-away point is that fiscal policy can have an effect on economic activity.

My research is also related to the literature that estimates multipliers on subnational government spending.[2] Nakamura and Steinsson (2014) use regional variation in military procurement spending to estimate relatively large spending multipliers exceeding unity, and provide a theoretical framework to interpret their results. Clemens and Miran (2012) use state budget institutions as a source for exogenous variation in spending and find a multiplier of below 1. Shoag (2013) uses shocks to state pension returns as a source of exogenous variation and concludes that the spending multiplier is larger than 1. Finally, Canova and Pappa (2007) use U.S.-state-level data to study the consequences of fiscal disturbances on price differentials within a monetary union.

Much of the work on subnational spending uses creative sources of exogenous variations in fiscal variables, but the estimated models of macro dynamics are typically simple, and sometimes static, single-equation time series models. This paper makes a useful contribution to the field in that I use a multivariate time series approach and believe the estimated macroeconometric model is more appropriate for describing the economies dynamic adjustment to the identified fiscal shocks. Also, in some papers on subnational spending, the local population does not need to pay for the stimulus, which is problematic in light of the usual finding that fiscal shocks are associated with detrimental wealth and labor supply effects that matter for the size of the multiplier (Baxter and King, 1993). I believe, and argue below, that my conclusions are contaminated by this effect to a lesser degree. Finally, to the best of my knowledge, tax multipliers associated with state revenue decisions have not yet been studied.

The paper is structured as follows. Section 2 characterizes state's fiscal policies, Section 3 discusses the empirical strategy, Section 4 contains the results, and Section 5 concludes. The Appendix describes the data used in the study.

2   State fiscal policies

U.S. state governments are economically relevant size-wise and have considerable discretion when it comes to their expenditures and revenues. Figure 1 shows the size of state governments for the

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[2]Ramey (2011a) reviews the literature and provides additional references.

period 1964 to 2006.[3] In 2006, the average real per capita total state expenditures across states was $5,645, and the average real per capita total state expenditures in percent of gross state product (GSP) was 12.8 percent. Hence, state governments are economically significant. Differences across the states reflect differences in their economic conditions and discretionary fiscal policies.
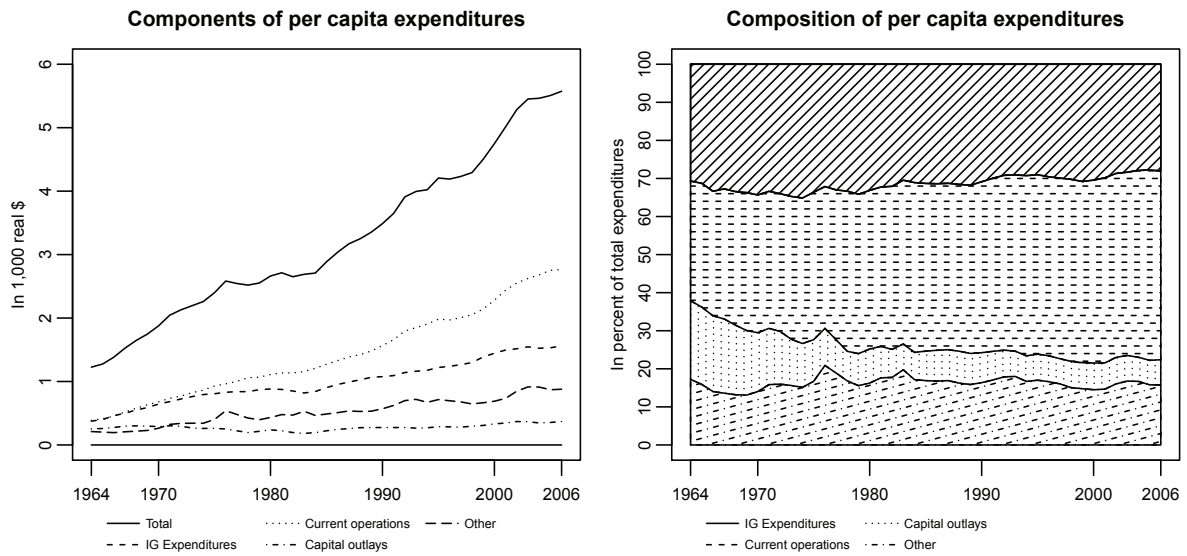
Figure 1: Total state expenditures
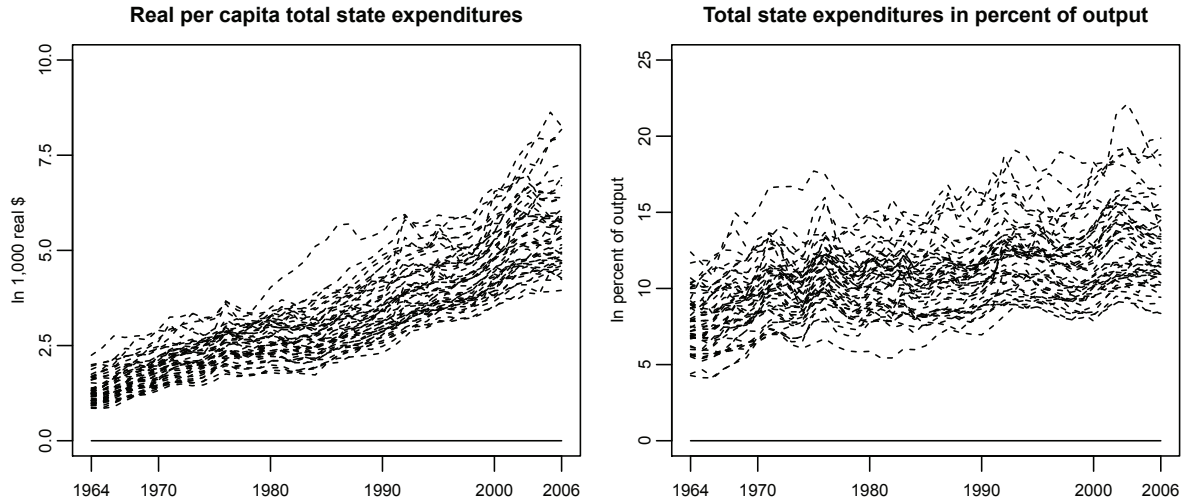
Notes: This figure shows real per capita total state expenditures, and total state expenditures as percent of GSP for the period 1964 to 2006. Each line corresponds to one of the 48 contiguous states.

Figure 2 shows the composition of total state expenditures over time. A large fraction of state total expenditures is comprised of intergovernmental spending to local governments. Capital outlays include state spending on new infrastructure (buildings, roads, etc.) as well as on equipment. Current operations include, for example, money spent on wages or supplies. The Other expenditures category consists largely of insurance benefits, but also includes assistance and subsidies and interest on state debt. In my estimation, I use capital outlays plus current operations less public welfare spending. Public welfare spending, a considerable fraction of which consists of medical assistance to the needy, is automatically related to a states output and omitting it makes the identification assumptions presented in Section 3 more feasible.

Figure 3 shows size and composition of state revenues. For my estimation, I use total state taxes from own sources. States have considerable discretion in setting tax regulations. State taxes are usually chiefly made up of sales and other indirect taxes, but individual and corporate income taxation are also important.

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[3]Detailed data definitions, as well as data sources, can be found in the Appendix.

Figure 2: Composition of total state expenditures

Components of per capita expenditures

Composition of per capita expenditures

Notes: This figure shows size and composition of state total per capita expenditures for the period 1964 to 2006. Data are aggregated across the 48 contiguous states.

Figure 3: Composition of total state revenues

Components of per capita revenues

Composition of per capita revenues
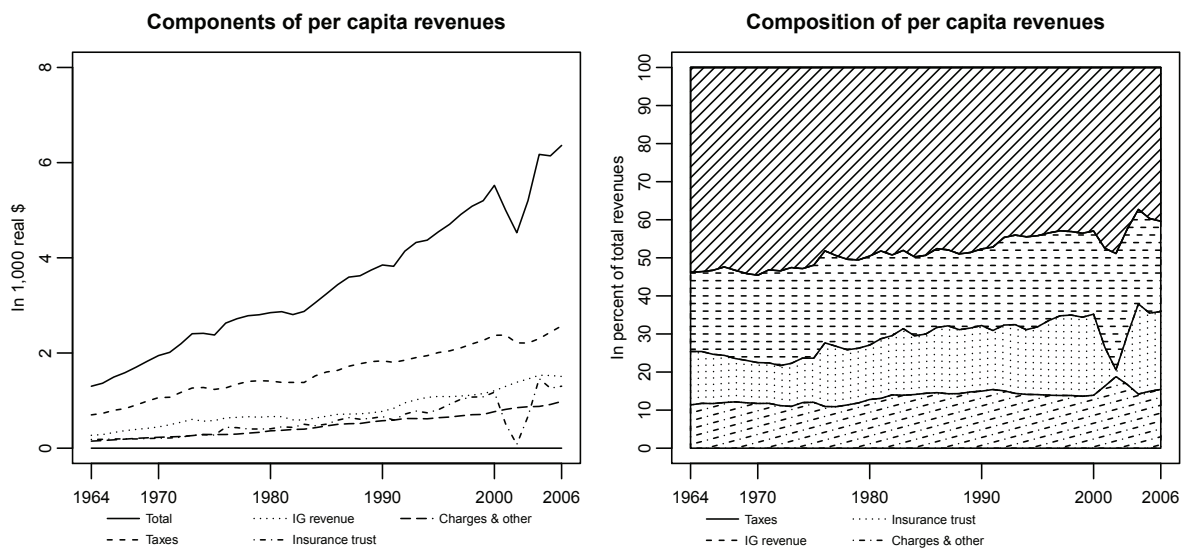
Notes: This figure shows size and composition of state total per capita revenues for the period 1964 to 2006. Data are aggregated across the 48 contiguous states.

3 Methodology

3.1 Model Specification

My empirical approach is an adaptation of the Blanchard and Perotti (2002) structural vector autoregression (SVAR) approach applied to a panel of 48 contiguous U.S. states. First, I estimate the following reduced-form model

$$y_{it} = A_0 v_t + A_1 y_{i,t-1} + ... + A_p y_{i,t-p} + u_{it}, \ t = 1, ..., T, \ i = 1, ..., N \tag{1}$$

where y_{it}, $t = -p+1, ..., T$ is a $K \times 1$ vector of endogenous variables for $i = 1, ..., N$ regions, v_t is a $S \times 1$ vector of intercepts and deterministic trend terms, $A_0, ..., A_p$ are coefficient matrices, and u_{it} is a vector of innovations with $u_{it} \sim IID(0, \Sigma_u)$. In the baseline case, the vector of endogenous variables contains log real per capita gross state product, log real per capita government expenditures, and log real per capita government revenues. As exogenous variables, I include an intercept and a linear trend. The data are of annual frequency over the period 1964 to 2006. For the lag length p, either 1 or 2 are plausible, but information criteria suggest 2 as more appropriate and I thus use a lag length of 2 for the baseline case. I estimate the model in levels using least squares and then construct an empirical sample of parameter estimates using a residual-based bootstrap. All statistics reported are based on percentiles of their empirical distribution.[4]

As a measure for state government expenditures, I use current operations plus capital outlays less public welfare spending. Taxes are state tax revenues from own sources. My output measure is the gross state product. Unfortunately, state fiscal years do not align with the calendar year. Hence, GSP data do not match the fiscal data. I solve this problem by first temporally disaggregating the annual GSP data to quarterly frequency. Next, I aggregate the quarterly data across the fiscal year of the corresponding state. The temporal disaggregation is potentially problematic and I thus show the results using the original GSP series. The Appendix contains extensive data descriptions.

The reduced-form model is transformed into a structural model using the Blanchard and Perotti (2002) identification scheme. The starting point is the following structural model, which relates reduced-form innovations u_{it} to structural innovations ϵ_{it}.

$$\begin{pmatrix} 1 & 0 & -a_1 \\ 0 & 1 & -b_1 \\ -c_1 & -c_2 & 1 \end{pmatrix} \begin{pmatrix} u_t^t \\ u_t^g \\ u_t^y \end{pmatrix} = \begin{pmatrix} 1 & a_2 & 0 \\ b_2 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} \epsilon_t^t \\ \epsilon_t^g \\ \epsilon_t^y \end{pmatrix} \tag{2}$$

---

[4]All analysis are conducted in R (R Core Team, 2013).

Here, superscripts t, g, and y are used to denote the tax, spending, and output innovation, respectively. The parameters are identified via the following procedure (Blanchard and Perotti, 2002):

1. Choose values for the elasticity of spending to output a_1 and of the tax elasticity b_1. I discuss the choice for these parameters in Section 3.2.

2. Construct $u_t^t - a_1 u_t^y$ and $u_t^g - b_1 u_t^y$, and use them as instruments to estimate c_1 and c_2 in a regression of u_t^y on u_t^t and u_t^g.

3. Blanchard and Perotti (2002) set $a_2 = 0$ and estimate b_2 by regressing u_t^g on ϵ_t^t, and, as a robustness test, set $b_2 = 0$ and estimate a_2. Blanchard and Perotti (2002) show that the relative ordering of taxes and spending is not important, and this also holds at the state level. In the following, I assume that taxes come first.

After identification, I compute the structural response functions. The size of the structural innovations themselves are interpretable only in the context of the fiscal response they generate. There are two standard transformations of the structural response functions. The first, which I call impact normalization, is computed as

$$\frac{f}{y} \times \frac{y_t}{f_o} \text{ for t=1,...,Max} \tag{3}$$

where y_t is the response of the output variable at step t, f_0 is the response of the fiscal variable at time 0, f over y is the share of the fiscal variable in output, and Max is the maximum number of periods over which the response functions are computed. After this normalization, the response functions can be interpreted as a dollar change in output at time t following a 1 dollar change in the fiscal variable at time 0. Because it takes into account the response of the fiscal variable over the whole horizon, I prefer the present value multiplier from Mountford and Uhlig (2009), which I compute as

$$\frac{f}{y} \times \frac{\sum_{i=1}^{t}(1+r)^{-i}y_t}{\sum_{i=1}^{t}(1+r)^{-i}f_t} \text{ for t=1,...,Max} \tag{4}$$

where all variables are defined as above and r is the average long-term interest rate over the sample.

Most other empirical VAR studies use quarterly data. The relative merits of using annual or quarterly data are well understood (Beetsma et al., 2008, Beetsma and Giuliodori, 2011). Some identification assumptions become stronger in the annual context, and quarterly data may be better suited for tracking the dynamic effects of macroeconomic shocks. However, fiscal shocks in annual data are more likely to represent actual fiscal policy action. Moreover, Beetsma and Giuliodori

(2011) argue that anticipation effects are less likely to affect the results in studies using annual data. A central identification assumption in this paper and other research is that government spending is predetermined with regard to output on an annual basis. Beetsma et al. (2009) and Born and Müller (2012) provide empirical evidence in support of this assumption.

I also provide the results of several robustness exercises and extensions. Changes in the variable choices, and in the basic model specification, are discussed in appropriate places in the text.

3.2 Choosing Revenue and Spending Elasticities

My choice of the spending elasticity is strongly influenced by Blanchard and Perotti (2002). I implement the standard assumption that the spending elasticity is 0. For the revenue elasticity, I again rely on Blanchard and Perotti (2002), who, in turn, follow Giorno et al. (1995). The overall elasticity of tax revenues to output is written as

$$\sum_i \eta_i \frac{T_i}{T} \tag{5}$$

where the summation is over the different tax types (sales and other indirect taxes, personal income taxes, and corporate income taxes), η_i is the elasticity of tax revenues to output for tax type i, T_i is tax revenue of tax type i, and T is total tax revenue. The standard assumption on the elasticity of sales and other indirect taxes is 1, but this seems implausibly large to me and I thus use the value of 0.8. The reason behind this decision is that the tax base for sales taxes is consumption, which is less volatile than output. Under a flat tax, the elasticity should be less than 1. Other indirect state taxes, such as property taxes or automobile taxes, also likely move less than one-to-one with output. This value of 0.8 is supported by Bruce et al. (2006), who estimate an elasticity of sales taxes of around 0.8. Following Giorno et al. (1995), the elasticity of personal income taxes is estimated as

$$\eta_{PIT} = H(FD + 1) \tag{6}$$

where H is the elasticity of employment to output, F is the elasticity of earnings to employment, and D is the elasticity of taxes to earnings. I set D at 2.9, which is the mean value reported in Giorno et al. (1995). I estimate F and H as in Blanchard and Perotti (2002). F is the coefficient on lag 0 from a regression of the log change in wages on one lead and lag 0 to 1 of the log change in employment. H is the coefficient on lag 0 from a regression of the log change in employment on one lead and lag 0 to 1 of the log change in output.

The elasticity of corporate income taxes is estimated as

Table 1: Tax revenue elasticities

Tax category	Share in total taxes	Elasticity
Sales & other	0.66	0.8
Personal income	0.28	1.63
Corporate income	0.06	1.62
Overall	1.00	1.08

Notes: This table shows tax revenue elasticities and shares of tax types in total tax revenues.

$$\eta_{CIT} = \eta_{CIT,B_{CIT}} * \eta_{B_{CIT},Y} \tag{7}$$

where $\eta_{CIT,B_{CIT}}$ is the elasticity of the corporate income tax to the tax base and $\eta_{B_{CIT},Y}$ is the elasticity of the corporate income tax base to output. Following Blanchard and Perotti (2002), I set $\eta_{CIT,B_{CIT}} = 1$ and choose $\eta_{B_{CIT},Y}$ as the coefficient on lag 0 from a regression of the log change in corporate profits on one lead and lag 0 to 1 of the log change in output. I estimate the elasticities on the panel of U.S. states using the maximum number of observations available for each regression. Data are again of an annual frequency. Table 1 shows the results.

My values for the tax elasticities are supported by findings in the literature. Bruce et al. (2006) estimates tax revenue elasticities for sales and income taxes that are comparable to mine. The selected income tax elasticity is comparable to estimates derived from the TAXSIM model (Feenberg and Coutts, 1993).

4   Results

4.1   Main Results

Table 2 contains the main results from the SVAR. The spending multiplier is 0.4 on impact and then rises to 0.6 over four years. The tax multiplier is 2.04 on impact and 2.62 after four years. Hence, the tax multiplier is relatively large, and the spending multiplier relatively small.

Taken together, the stylized facts on fiscal multipliers derived in this paper support macroeconomic models in which state fiscal policies have an impact on economic activity. This result suggests the possibility of using regional fiscal policy to stabilize regional output variation. However, the tax multiplier is larger than the spending multiplier. Carlino and Inman (2013) study the consequences for state employment of local fiscal policies and also find that state revenues have a stronger impact

Table 2: Main results

	0	1	2	3	4
Spending	0.39*	0.46*	0.50*	0.54*	0.57*
Taxes	-2.02**	-2.19**	-2.34**	-2.46**	-2.57**

Notes: This table shows present value multipliers for spending and taxes 0,...,4 years after the fiscal shock. The table shows the median of the empirical distribution generated by 1,000 replications of a residual-based bootstrap. ** significant at 95 percent, significant at 68 percent.

then state expenditures

My estimate for the state-level spending multiplier is comparable to other estimates derived at the state or country level.[5] In one specification, Blanchard and Perotti (2002) find a peak effect of 0.9 for the spending multiplier. Nakamura and Steinsson (2014) and Shoag (2013) conclude that the spending multiplier is larger than 1. Clemens and Miran (2012) find a multiplier of less than 1. Beetsma and Giuliodori (2011) estimate a peak spending multiplier of 1.5 in a panel of EU countries.

Overall, my estimate for the state-level spending multiplier is at the lower end of the spectrum of estimates found in the literature. In particular, despite the fact that monetary policy cannot counteract the region-specific fiscal shocks identified in this paper, spending multipliers are not larger than country-based estimates that are stabilized by monetary policy. One potential explanation is that because state economies are relatively open to each other, part of the local stimulus spills over to neighbor states. Indeed, Beetsma and Giuliodori (2011) and Ilzetzki et al. (2013) argue that spending multipliers are smaller in more open economies. Beetsma and Giuliodori (2011) and Carlino and Inman (2013) find that local fiscal shocks spill over to other regions. Beetsma et al. (2008) estimate a panel VAR for the EU and conclude that expansionary fiscal shocks lead to a deterioration of the trade balance, as do Ravn et al. (2012) using a panel structural VAR estimated on data from four industrialized countries.

I estimate a tax multiplier of larger than 2 in absolute value. This is larger than the 1.3 estimated by Blanchard and Perotti (2002), but more in line with the larger estimates found in literature employing narrative tax shocks. Romer and Romer (2010) construct a historical account of U.S. tax changes and use exogenous tax changes to estimate a tax multiplier of around 3. Cloyne (2013) and Hayo and Uhl (2014) also find large tax multipliers for the United Kingdom and Germany, respectively. Mertens and Ravn (2014) show that the disagreement between SVAR-based and nar-

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[5]The definition of the multiplier differs across studies, which should be kept in mind when comparing estimates across studies.

rative estimates of tax multipliers disappears as soon as one assumes the right tax elasticity. Given this background, it is interesting to note that my state-level-based estimates confirm the larger tax multipliers estimated in the literature using narrative tax shocks.

4.2   Sensitivity of Fiscal Multipliers to Spending and Revenue Elasticities

The Blanchard and Perotti (2002) approach to estimating fiscal multipliers makes at least three important assumptions in regard to (1) the spending elasticity, (2) the revenue elasticity, and (3) the temporal ordering of expenditures and taxes. To investigate the importance of these assumptions, I estimate the model represented by Equations 1 and 2 for both options on the ordering of expenditures and taxes over a grid of values for the spending and revenue elasticity. The relative ordering of expenditures and taxes does not appear to matter much. A grid search over plausible values of the spending and revenue elasticities suggests that for spending multipliers, the spending elasticity is the main parameter of interest, and for the revenue multiplier, it is the revenue elasticity. Other assumptions are of second-order importance. Figure 4 shows spending multipliers for different values of the spending elasticity conditional on a revenue elasticity of 1.1, and revenue multipliers for different values of the tax elasticity conditional on a spending elasticity of 0. The figure would look very similar for different cross-elasticity assumptions. The spending multiplier is decreasing in the assumed spending elasticity, and so is the revenue multiplier. Mertens and Ravn (2014) also find that the tax multiplier in absolute value is increasing in the tax revenue elasticity.

My main result is that *for plausible values of the spending elasticity, spending multipliers are relatively small, and for plausible values of the tax revenue elasticity, tax multipliers are relatively large.* Craig and Hoang (2011) estimate a panel VAR using data from 50 U.S. states to study the impact of innovations in GSP on fiscal variables. One of their findings is that both government current and capital spending, as well as state government tax revenues, are procyclical. Sørensen et al. (2001) conclude that state spending is moderately, and state revenues strongly, procyclical. Large government spending multipliers would occur only in the presence of anticyclical state expenditures, but such is in contravention of the available evidence. Hence, spending multipliers at the state level are likely small. In addition, for plausible values of the overall tax elasticity of state revenues - say, around 1 - tax multipliers are large.

It is also noteworthy that the confidence intervals conditional on chosen spending and revenue elasticities are of an order of magnitude smaller than variations in multipliers that result from choosing different spending and revenue elasticities. This makes the usual practice of conditioning on fixed, but estimated, elasticities somewhat questionable. Respecting the uncertainty associated

Figure 4: Sensitivity of fiscal multipliers to chosen elasticites
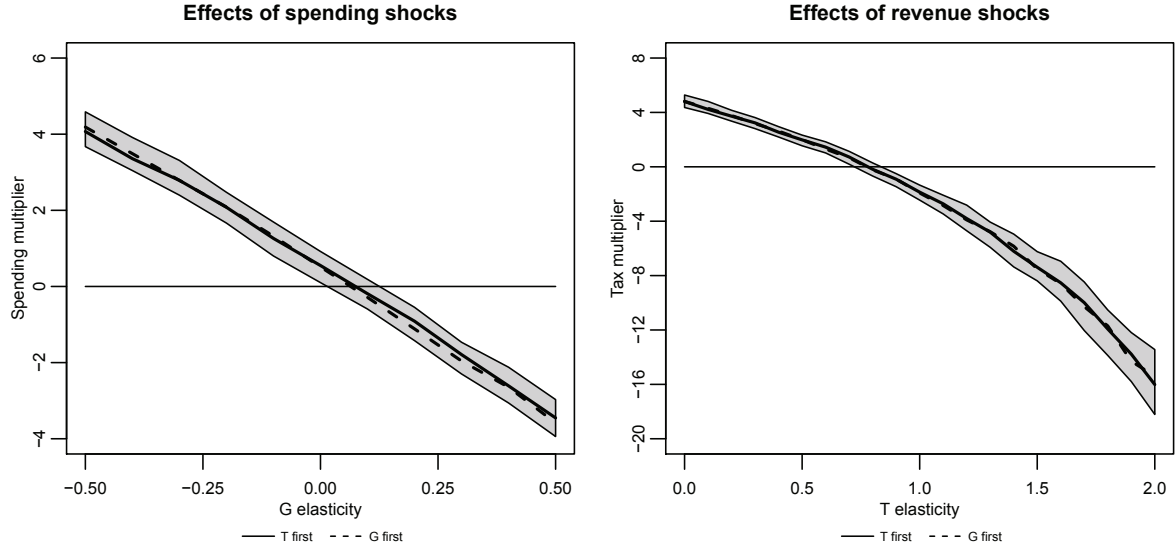
Notes: This figure shows fiscal multipliers for different values of spending and revenue elasticities. A 68 percent confidence interval based on 100 residual-based bootstrap replications is reported for each elasticity.

with the estimated elasticities would induce larger confidence intervals.

4.3 Standard Variations in the Model Specification

My results are robust to standard variations in the model specification (see Table 3). As discussed above, there are two standard definitions of fiscal multipliers in SVAR models. For the baseline case, I chose a present-value multiplier. Table 3 shows the multiplier under impact normalization; the results are generally very similar to the baseline case. Table 3 also shows the results when allowing for state-specific intercepts and linear trends, but the variation does not appear to matter. Based on information criteria, I chose a lag length of 2; Table 3 shows the results for a lag length of 1. Spending multipliers are somewhat larger, but tax multipliers are similar. In the baseline case, I use the Denton-Cholette method to arrive at an estimate for GSP in line with a states fiscal year. Results are similar when using the Chow-Lin method instead. See the Appendix for an explanation of these methods.

In the baseline case, I estimated the model in levels, which is a common approach in the literature. The VAR-in-level specification is able to capture potential long-run relationships between the variables implicitly, and is hence my preferred model. Table 3 shows the results of a VAR-in-difference model. The spending multiplier is somewhat larger. Finally, the use of estimated GSP data is potentially problematic. I thus use original GSP data, where the GSP data are for the year

Table 3: Variations in the model specification

	Spending			Taxes		
	0	2	4	0	2	4
Impact normal.	0.39*	0.59*	0.65*	-2.02**	-2.38**	-2.64**
Fixed effects	0.38*	0.69*	0.55	-2.18**	-2.72**	-3.05**
1 Lag	1.10**	1.14**	1.18**	-2.22**	-2.41**	-2.61**
Alt. interpolation	0.33*	0.46*	0.51*	-1.86**	-2.26**	-2.53**
First differences	0.76**	1.23**	1.30**	-2.12**	-2.34**	-2.34**
Unadj. data	0.62**	0.70**	0.76*	-4.75**	-6.85**	-7.71**

Notes: This table shows present value multipliers for spending and taxes 0, 2, and 4 years after the fiscal shock for various alterations of the basic model specification. The table shows the median of the empirical distribution generated by 1,000 replications of a residual based bootstrap. ** significant at 95 percent, * significant at 68 percent.

in which the states fiscal year ends. The results for the spending multiplier are robust, but the tax multipliers are much larger. This is not surprising, as Figure 4 makes clear that the tax multiplier is increasing in the tax elasticity. If GSP data that do not match the states fiscal year are used, the assumed tax elasticity is inappropriately large as an innovation in the GSP variable does not affect the portion of the tax revenue variable that matches last years GSP. Under reduced tax elasticities, smaller tax multipliers would result. Thus, it is important to align national account data with the states fiscal year, an admittedly nontrivial problem that also likely introduces some noise.

In summary, the spending multiplier varies between slightly below unity and slightly above unity across specifications, but the tax multiplier is always larger than 2 in absolute terms. Figure 5 summarizes the results.

4.4 Conditioning on Omitted Variables

In my analysis, I make several implicit orthogonality assumptions. For example, I assume that regions are independent at the annual horizon and I omit federal fiscal policies from the empirical model. To the extent that out-of-state variables or federal fiscal policies matter for state fiscal policy outcomes, the identified structural shocks may partially reflect variables other than discretionary state fiscal policies.

A SVAR analysis that explicitly takes spatial interactions or federal fiscal policies into account is beyond the scope of the present paper, but I find the following variation in the model specification indicative. Specifically, I estimate the model

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$$y_{it} = A_0 v_t + A_1 y_{i,t-1} + ... + A_p y_{i,t-p} + B x_{it} + u_{it}, \ t = 1, ..., T, \ i = 1, ..., N \tag{8}$$

where everything is as in Equation 1 except for the presence of a vector of exogenous variables x_{it}. The general idea is that after conditioning on the elements in x_{it}, the reduced-form innovations u_{it} only contain innovations in y_{it} that are not explained by the elements in x_{it}. I condition on three different sets of vectors. First, in my baseline regression, I make the implicit assumption that regions are independent. I hence include as exogenous variables a weighted average of out-of-state expenditures, revenues, and output. The weights are based on the inverse distance between states, so that closer states are given relatively more weight. The reduced-form residuals u_{it}, based on which the structural shocks are recovered, should then contain only innovations unrelated to out-of-state variables. Also, the estimated multipliers could partially represent federal fiscal policies. I hence condition on federal fiscal policy variables, and on federal grants in a third specification. Table 4 contains the results.

Table 4: Conditioning on omitted variables

|	Spending			Taxes		
	0	2	4	0	2	4
Out of state	0.52**	0.74**	0.81**	-2.05**	-2.48**	-2.85**
Fed. fiscal policy	0.38*	0.50*	0.56*	-2.01**	-2.31**	-2.51**
Fed. grants	0.35*	0.42*	0.44*	-2.02**	-2.37**	-2.64**

Notes: This table shows present value multipliers for spending and taxes 0, 2, and 4 years after the fiscal shock for various alterations of the basic model specification. The table shows the median of the empirical distribution generated by 1,000 replications of a residual-based bootstrap. ** significant at 95 percent, * significant at 68 percent.

In this new model, spending and tax multipliers are relatively similar to the baseline case. In some of the literature that estimates multipliers associated with subnational spending an assumption is made that the local population does not need to pay for the stimulus. To the extent that the strategy in this section is successful, my results hold when using spending and revenue innovations not contaminated by federal fiscal policies or federal grants. Figure 5 summarizes the results.

4.5 Output Spillovers

To study the consequences for out-of-state income of state fiscal policy changes, I supplement the model in Equation 1 with a fourth endogenous variable, namely, the distance-weighted out-of-state

Figure 5: Robustness
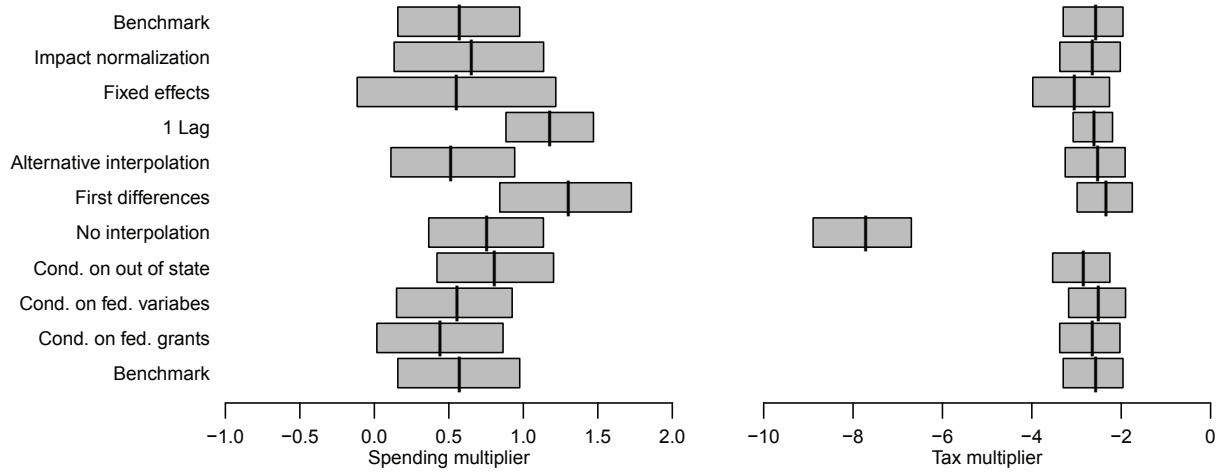
Notes: This figure shows a 68 percent confidence interval for spending and revenue multipliers after four years for different model specifications. Solid vertical lines indicate median values.

GSP. The structural model in Equation 2 is then slightly adjusted by ordering the distance-weighted out-of-state GSP variable last. More specifically, after the usual steps, I construct instruments that allow regressing the reduced-form innovation in out-of-state output on the innovations in the other equations. Table 5 contains the results.

Table 5: Output spillovers

	0	1	2	3	4
Spending	0.06	0.20*	0.30*	0.37*	0.43**
Taxes	-0.16*	0.16	0.31*	0.38*	0.41*

Notes: This table shows present value multipliers for spending and taxes 0,...,4 years after the fiscal shock. The table shows the median of the empirical distribution generated by 1,000 replications of a residual-based bootstrap. ** significant at 95 percent, * significant at 68 percent.

Interestingly, it appears that both spending and tax revenue shocks increase out-of-state economic activity, which sheds some light on the transmission mechanism of state fiscal shocks. It could be that increases in state expenditures increase demand for goods and services produced in other states and, hence, spill over positively to other states. This should correspond to a deterioration in the trade balance between states and might explain why state-level spending multipliers are relatively small. Note that Beetsma et al. (2008) conclude that expansionary fiscal shocks lead to a deterioration of

the trade balance.

State tax shocks also increase out-of-state output. It could be argued that state tax rates influence the location decisions of firms and workers, as well as decisions about where to shop, and that this mechanism produces the positive response of out-of-state output to the tax shock. Such a channel might explain the relatively large effects of tax changes on local output.

5 Conclusion

In this paper, I estimate a structural vector autoregression on a panel of U.S. states so as to study the consequences for regional economic activity of changes in state fiscal policies. In my preferred specification, the government spending multiplier is 0.4 on impact and 0.6 after four years. The tax multiplier is -2 on impact and -2.6 after four years. The tax multiplier estimations are highly robust across specifications, whereas in a VAR-in-difference specification, the spending multiplier can be as large as 1.3 after four years. I also find that both regional spending and regional revenue shocks increase out-of-state income.

My results have implications for both policy making and economic theory. Both state spending and revenue decisions appear to affect local output, which means that macroeconomic models in which fiscal shocks have no, or only small, effects on output are misleading. My state-level multipliers, however, are comparable to estimates derived at the country level, despite the fact that regional fiscal policy shocks should have a different transmission mechanism. In particular, monetary policy cannot stabilize output in response to a regional fiscal policy shock, but the estimated spending multipliers are relatively small nevertheless. This could be explained by positive demand leakages to other states and, indeed, I find that local fiscal policy shocks increase out-of-state output.

My results also indicate that state fiscal policies have the potential to stabilize regional output fluctuations that monetary policy cannot stabilize. It is interesting that my estimates for the tax multiplier are closer to the national estimates derived by Romer and Romer (2010) using narrative methods than they are to those derived in conventional SVAR studies (Blanchard and Perotti, 2002).

Admittedly, my treatment of regional interactions is simple and it would be interesting to model regional interdependencies more explicitly in a structural vector autoregression with spatial interactions. Moreover, much more disaggregated data than those used in this paper are available for U.S. states and studying the consequences of changes in components of spending or tax revenues would be of interest.

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Appendix: Data

If not stated otherwise, all data are of annual frequency and available for 1963 to 2006. All quarterly data are seasonally adjusted from the source.

Deflator For price adjustment, I use the national GDP deflator, base year is 2009. Source is the BEA Table 1.1.4. Price Indexes for Gross Domestic Product. For some series I need an annual price deflator in line with the states fiscal year. I construct it by aggregating quarterly national real and nominal GDP over the states fiscal year, and then I compute the implicit price deflator.

Distance I obtain the distance between contiguous U.S. states from Yu (2007). I use normalized inverse distances as spatial weights in the computation of measures for out-of-state fiscal policies and out-of-state GSP.

Federal government Quarterly data are from BEA Table 3.2. Federal Government Current Receipts and Expenditures and transformed to real per capita values. I then aggregate in line with a states fiscal year. My definition of spending is current expenditures plus gross government investment, and my definition of tax revenue is current tax receipts.

Fiscal data for the states fiscal years are from the U.S. Census Bureau, Annual Survey of State Government Finances and Census of Governments. When appropriate, values are transformed to real per capita values using a deflator and a population estimate in line with the states fiscal year.

Gross domestic product Quarterly national GDP is from BEA Table 1.1.5. Gross Domestic Product, and transformed to real per capita values.

Gross state product is from BEA regional data, Gross Domestic Product by State. Years 1963 to 1996 are based on the SIC; 1997 onward are based on the NAICS all-industry total. Transformed to real per capita values. The state fiscal years do not align with the calendar year, and hence fiscal data do not match the national account data. I first temporally disaggregate annual GSP to quarterly values, and then aggregate to a hypothetical annual observation that matches the states fiscal year. In a very limited number of cases, a states fiscal year ends in May or August. I treat these cases symmetrically to states with fiscal years ending in June or September, respectively. For the construction of quarterly GSP series, I use the R package tempdissag (Sax and Steiner, 2013). First, I follow Denton (1971) and Cholette (1984) and use the Denton proportional method with state quarterly personal income as the indicator variable. This method is recommended in Chen and Andrews (2008). My explanation follows Marini and Di Fonzo (2012). Let s be the number

of subannual periods, N the number of annual periods, $y_0 = (y_{01}, ..., y_{0N})$ a $Nx1$ vector of annual observations, and $y = (y_1, ..., y_{sN})$ a $sNx1$ vector of unknown quarterly values. Let p denote a $sNx1$ vector of the indicator variable. The Denton-Cholette method solves

$$min_y \sum_{t=2}^{sN} \left(\frac{y_t}{p_t} - \frac{y_{t-1}}{p_{t-1}} \right)^2 \text{ s.t. } \sum_{t=4(T-1)+1}^{4T} y_t = y_{0T} \text{ for } T = 1, ..., N$$

Intuitively, the ratio of interpolated quarterly values to the indicator series should be as constant as possible, while satisfying the aggregation constraint.

As a robustness exercise, I use a regression-based method following Chow and Lin (1971) with national GDP and state personal income as indicator variables. My explanation follows Sax and Steiner (2013). The Chow and Lin (1971) method consists in estimating a linear regression of the annual observations on the annualized indicator series, and assumes that the same linear relation also holds at the quarterly frequency. The aggregation constraint is respected by distributing the remaining residual across quarterly values, allowing for autocorrelation of the quarterly residuals.

Gross operating surplus State gross operating surplus is from BEA regional data, Gross Operating Surplus by State. 1963 to 1996 based on the SIC, 1997 onward based on the NAICS all-industry total. Transformed to real per capita values.

Personal income State quarterly personal income is from BEA Table SQ1. Quarterly Personal Income, and transformed to real per capita values.

Population Annual state populations are from BEA Table SA1-3. Personal Income Summary. Quarterly state population values are obtained by assigning the annual values to the second period, and interpolating linearly between observations. Quarterly populations for the United States are from BEA Table 7.1. Selected per Capita Product and Income Series in Current and Chained Dollars. State population in line with the states fiscal year is obtained by averaging across quarters of the fiscal year.

Long-term interest rate Data on U.S. long-term interest rates are from OECD.Stat, Dataset: Key Short-Term Economic Indicators. The average value in 1964 to 2006 is 7.24 percent.

Wages and salaries are from BEA Table SA04. State Income and Employment Summary. Values are transformed to real per capita values.

Wage and salary employment is from BEA Table SA04 State income and employment summary, and observations are available from 1969 onwards. Values are transformed to per capita values.

Figure A.1: Dataplots
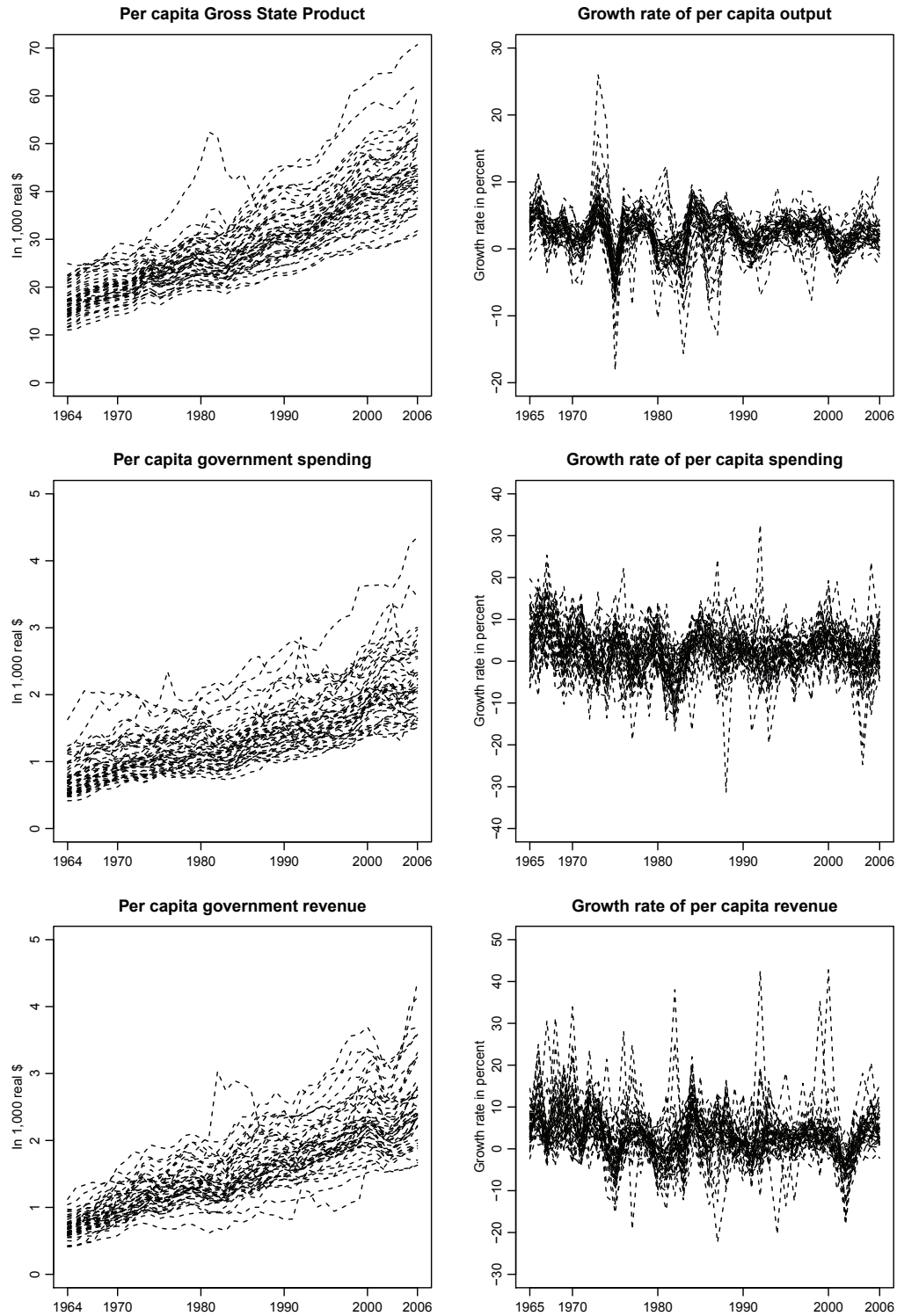
Notes: This figure shows level and growth rate series for real per capita GSP, government spending, and government tax revenue for the 48 contiguous U.S. states. The sample period is 1964 to 2006.

No. 20-2014

Bernd Hayo and Matthias Uhl

**Taxation and Consumption: Evidence from a
Representative Survey of the German Population**

Taxation and Consumption:

Evidence from a Representative Survey of the German Population[*]

Bernd Hayo and Matthias Uhl

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Taxation and Consumption:

Evidence from a Representative Survey of the German Population

Abstract Using a representative survey of the German population, this paper studies self-reported individual consumption responses to a recent payroll tax reduction. About 55 per cent of the respondents report that they spend the extra money, indicating considerable potential for tax changes to affect consumption and economic activity. Our analysis of the socio-demographic and economic covariates of consumption responses suggests, among other effects, that interest rates are related to consumption responses to tax changes, and that households with higher income have a higher propensity to consume.

1 Introduction

The 2007 financial crisis and the associated economic slump, together with the ongoing economic crisis in the euro area, have generated renewed interest in the consequences for economic activity of changes in government fiscal policy. In Germany, private final consumption expenditure accounts for around 60 per cent of GDP, which suggests that consumption responses are highly relevant in analysing the macroeconomic consequences of tax changes. Not only are consumption responses to tax changes a prominent feature of the public debate over the effectiveness of fiscal stimulus, they are also at the core of the transmission of fiscal policy shocks in most macroeconomic models.[1] Thus, understanding consumption responses to tax changes in Germany is important for both economic policy and academic research. In this paper, we study the effects on consumption of a recently enacted payroll tax change using a representative survey conducted on our behalf by GfK in the first quarter of 2013.

At the beginning of 2013, contribution rates to the statutory pension insurance were decreased from 19.6 per cent to 18.9 per cent. We interpret this tax change as an exogenous shock and study the link between taxation and consumption by directly asking a representative sample of respondents how they spent the extra money. In using a representative survey analysis to study self-reported consumption responses to legislated tax changes, we follow Sahm et al. (2012) and Shapiro and Slemrod (1995, 2003, 2009), who use survey methodology to investigate the impacts of various US tax changes on consumption. Shapiro and Slemrod (1995) examine the effects of a change in tax withholding enacted 1992 and find that almost 43 per cent of households report that they spent the temporary increase in income. Given that the tax measure induced only a change in the timing of taxation, this is a remarkably high number. Shapiro and Slemrod (2003) find that 22 per cent of respondents report to have (mostly) consumed the additional income generated by the 2001 tax rebates, and Shapiro and Slemrod (2009) put that number at 20 per cent for the 2008 tax rebates. Coronado et al. (2005) investigate self-reported consumption responses to the child credit rebate and the change in withholding taxes enacted in 2003 and conclude that around 21–24 per cent of households spent the additional income. Jappelli and Pistaferri (2012) use the 2010 Italian survey of household income and wealth to study how much of a (hypothetical) unexpected transitory income change respondents would consume and find that, on average, consumers would have spent 48 per cent of the additional funds.

To the best of our knowledge, we are the first to conduct a comparable survey for Germany. When asking respondents about whether they plan to save or spend the additional household income, 55 per cent stated that they intend to increase spending. In comparison to other microeconometric estimates, this is at the upper end of the distribution of estimates. Thus, our survey analysis suggests that German tax changes likely affect economic activity. Using a back-of-the-envelope calculation to transform our qualitative estimate into a quantitative one, we find a marginal propensity to consume of around 0.53, which is compatible with a relatively strong impact of taxation on consumption. This microeconomic-based finding is compatible with recent macroeconomic evidence from Hayo and Uhl (2013). Using narratively identified German tax shocks

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[1] This is well documented in the case of the United States (see, e.g., Broda and Parker, 2008). In Germany, much of the business cycle stimulus after the 2007 financial crisis was implemented in the *Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland*. The draft bill contains a justification for the business cycle stimulus: the government argues that tax reductions strengthen domestic demand. The bill was introduced in parliament by finance minister Peer Steinbrück, who stressed that the business cycle stimulus would lead to a substantial financial relief for taxpayers and hence strengthen aggregate demand.

to study the consequences of tax changes for GDP and consumption in a vector-autoregressive model, they find that a unit increase in taxes reduces consumption by 1.8.

Although the use of survey methods in economic research is increasing (Blinder and Krueger, 2004; Shapiro and Slemrod, 2009; Jappelli and Pistaferri, 2012; Hayo and Neuenkirch, 2013; Hayo and Neumeier, 2013; among others), they are still used relatively seldom. In particular, directly asking respondents about their response to economic policy is a nonstandard approach in economics. One general concern with using survey methods in economics is measurement error. However, in our view, assuming that survey responses accurately measure economic concepts is no more or less troublesome than the untestable identification assumptions typically present in econometric approaches. More precisely, empirical evidence on the effects of fiscal policy is often based on analysis of aggregate economic time series and to deduce causal effects from such an analysis it is necessary to presuppose identification assumptions (Sims, 2010). By analysing self-reported consumption responses to a recent payroll tax change using a representative survey of the German population, we circumvent these identifying assumptions. Thus, this study can be seen as a useful and novel contribution to the macroeconomic literature on how tax changes affect consumption and economic activity in Germany (Perotti, 2004; Baum and Koester, 2011; Hayo and Uhl, 2013).

An advantage of our survey data is that they allow analysing correlations of consumption responses with other economic and socio-demographic variables. Due to this, our analysis makes at least three important contributions to the literature. First, assuming forward-looking consumers, standard macroeconomic theory predicts that temporary and permanent tax changes have different impacts. Whether this is true in practice is of interest because many stimulus measures are of a temporary nature.[2] Although we cannot differentiate between the effects of temporary and permanent tax changes using only this one exogenous tax change, we can test an important implication of the permanent income model: consumers expecting the tax change to be temporary should be less inclined to increase consumption in response to the rate cut. We find that respondents expecting the tax reduction to be only temporary react similarly to those expecting a permanent reduction, which we interpret as evidence against the permanent income hypothesis.

Second, the macroeconomic environment in which the 2013 payroll tax change took place is special in the sense that interest rates are at a historic low. This situation has led to lively public debate about whether low interest rates are a strong deterrent to savings.[3] We find that respondents who perceive the attractiveness of saving to be low have a higher propensity to spend, which reinforces these concerns. Third, we find that households with higher income are more likely to spend the additional income resulting from the tax reduction, which runs counter to conventional wisdom and is of practical relevance because many stimulus measures are based on the idea that low-income households spend a particularly large fraction of their income.[4]

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[2] The 2008 tax rebate studied in Shapiro and Slemrod (2009) is one example. In Germany, a one-time €100 child benefit payment was implemented as part of the business cycle stimulus in 2009.

[3] Two newspaper articles on this topic are *Niedrige Zinsen: Deutsche sparen zu wenig für ihre Altersvorsorge* (Low interest rates: Germans do not save enough for their retirement) from Frankfurter Allgemeine Zeitung online on 20 August 2013 and *Die Deutschen sparen nicht mehr* (Germans no longer save) from Handelsblatt online on 22 November 2013.

[4] For the United States, this is established in Shapiro and Slemrod (2009). For Germany, this idea is present in the official government justification of business cycle stimulus measures accompanying the *Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland*.

Section 2 briefly discusses the survey design. Section 3 shows descriptive statistics of consumption responses to tax changes and compares the survey findings to available estimates from the literature. Section 4 analyses determinants of consumption responses to the 2013 payroll tax change. Section 5 concludes. The Appendix lists the survey questions.

2 Survey Design

At the beginning of 2013, contribution rates to the statutory pension insurance system in Germany were reduced from 19.6 per cent to 18.9 per cent, thereby lessening the overall tax burden of employees and employers. This payroll tax reduction is the real-world framework for our representative survey on consumption responses to tax changes.

Extant survey analyses of consumption responses to tax changes (Sahm et al., 2012; Shapiro and Slemrod, 1995, 2003, 2009) mainly study exceptionally large tax changes. On the one hand, large tax changes could enhance identification of the effects in the sense that respondents may have spent some time thinking about how they will respond. On the other hand, the tax change we study is of a more realistic size: a narrative of German tax legislation shows that its magnitude is similar to the vast majority of tax changes (Uhl, 2013). We find it important to study tax changes of more normal size because estimating average tax responses based on exceptional circumstances may bias the results. Moreover, doing so makes our findings directly relevant for the evaluation of 'normal' tax changes, which occur much more frequently.

The survey was conducted as part of an omnibus survey between 15 February 2013 and 1 March 2013 and administered by GfK. GfK is one of the largest private research companies in Germany working in the fields of market research and public opinion. The original sample consists of 2,042 representatively selected persons from the general German population aged 14 or above. The survey was conducted via face-to-face interviews using pen-pads. The interviewers followed specific instructions described in the survey instrument. The GfK uses quota sampling, which makes the sample distributions comparable to the population distribution in terms of the following six dimensions: sex, age, household size, city size, occupation of head of household, and state of residence. Generally, sample and population distributions are similar, as shown in the survey documentation (Hayo et al., 2014). Sample weights representing the inverse probability of being included in the sample could be used to compensate for over- or underrepresentation of an individual. Reported statistical results are based on unweighted observations. Reflecting the similarity between sample and actual distribution, no notable changes occur when using weighted observations. We report heteroscedasticity-robust, consistent standard errors.

Statutory pension insurance in Germany is a pay-as-you-go system, where current contributions are used to pay for current pensions. The pension insurance contribution rate is split between employers and employees and financed by a proportionate tax on monthly income up to €4,900 in East Germany and €5,800 in West Germany. Future pension entitlements depend on the insured's income, but not on the contribution rate. The rate change studied here had to be implemented because the statutory pension insurance is not allowed to accumulate a substantial surplus. It is therefore exogenous with respect to the consumption response.[5]

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[5] At the beginning of the survey, we briefly describe the tax change and then explicitly ask about the respondent's reaction to the rate change. Even if the respondent reacted to the rate change prior to its actual implementation, our survey item—to be presented in the next section—would likely capture its effect. We

In principle, the macroeconomic environment prevalent at the time of implementing the rate change, as well as other tax changes occurring at the same time, could influence the way our respondents answer the survey.[6] However, the German population has been relatively little affected by the ongoing crisis in the euro area; indeed, labour market conditions have been robust. Moreover, as we ask about self-reported responses to a real-world rate change, we do not face the identification problem of finding exogenous variation in taxation that plagues the standard empirical literature.

The payroll tax change that forms the basis of our analysis affects only a subsample of the general German population. All employees pay into the statutory pension insurance system. Also, some employers, freelancers, and the insignificantly employed contribute to the government pension insurance system, some voluntarily and some compulsorily. We collected the information necessary to assess whether a respondent is contributing to the statutory pension insurance. The *Bundesagentur für Arbeit* (Federal Employment Agency) directly pays pension insurance contributions for the unemployed. Public servants and those not part of the labour force—including pensioners and the inactive working-age population—are not subject to payroll taxation. Filtering was employed to ensure that only respondents who are subject to payroll taxation were surveyed. Specifically, this includes all employees and those employers, freelancers, and insignificantly employed who stated that they contribute to the statutory pension insurance system.

Specific survey items are discussed as appropriate throughout the analysis. The Appendix contains a list of all survey items used in this paper. However, the survey is part of a large project involving a diverse set of contemporaneous fiscal policy issues,[7] and so to preserve space, full documentation, including the survey instrument as well as extensive descriptive statistics, can be found in a companion paper (Hayo et al., 2014).

3 Consumption Responses to Tax Changes in our Survey and in the Literature

In the survey, we first briefly described the payroll tax change and explained its consequences for the household budget. Following Sahm et al. (2012) and Shapiro and Slemrod (1995, 2003, 2009), we then measured consumption responses to the recent tax change by asking:

Thinking about your household's financial situation, will you use the additional budget mostly to increase spending, mostly to increase saving, or mostly to pay off debt?[8]

The item does not give a quantitative estimate of the fraction of the additional budget that is spent—the marginal propensity to consume (MPC)—but instead measures qualitatively whether respondents will mostly spend or mostly save the additional funds. This is in contrast to Jappelli and Pistaferri (2012), who directly ask respondents to state the fraction of the additional budget that is spent. We opted for the qualitative approach because we think it is more robust with respect to

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have no information about individuals' awareness of the rate change and its effect on responses, but judging from the relatively low level of factual economic knowledge that we find in our sample, it seems unlikely that very many respondents anticipated this change.

[6] For instance, independently from the change in social security tax, the income-tax-free amount was increased from €7,834 to €8,130.

[7] Hayo and Neumeier (2013) study public preferences as to the composition of government expenditures and for public debt.

[8] This is an English translation of the German original. The German original of the survey instrument is included in the survey documentation (Hayo et al., 2014).

measurement error in the respondents' replies. The qualitative question requires less processing capacity and hence may be answered more accurately; the drawback, of course, is that such an approach does not allow quantitatively estimating the size of the consumption response. Table 1 shows the self-reported response to the payroll tax change.

Table 1: Consumption responses to the 2013 payroll tax change

	Proportion	Standard error	Confidence interval (95%)	Frequency
Mostly spend	0.55	0.02	[0.52, 0.58]	565
Mostly repay debt	0.18	0.01	[0.16, 0.20]	183
Mostly save	0.27	0.01	[0.24, 0.30]	277

Notes: See Item 1 in Appendix A. Based on 1,025 observations.

Table 1 shows that 55 per cent of interviewed persons stated that they use the additional income resulting from the tax reduction to increase spending, which suggests that taxation can notably affect consumption. Given the qualitative nature of the question, it is not possible to derive a quantitative estimate of the consumption response—the marginal propensity to consume (MPC)—without additional assumptions. To transform the qualitative numbers into a quantitative estimate we follow Shapiro and Slemrod (2009). The method is based on assuming that respondents choose to answer 'mostly spend' if their MPC is at least 50 per cent, and that respondents' MPC within answer categories is uniformly distributed. In our sample, 55 per cent of respondents answer 'mostly spend' and, accordingly, are assumed to have a MPC between 50 and 100 per cent (75 per cent on average), and 45 per cent are assumed to have a MPC between 0 and 50 per cent (25 per cent on average). The weighted average produces our estimate for the overall MPC of 0.53.

Comparing this estimated MPC for Germany with those derived in other studies, most of which focus on the United States, we find that it is at the upper end of the spectrum. Shapiro and Slemrod (1995) study the consequences for consumption of a reduction in withholding taxes and report that around 40 per cent of respondents increased spending. Shapiro and Slemrod (2003) analyse the 2001 income tax rebate and estimate the marginal rate of consumption to be as low as 0.22. Results for the 2008 tax change (Shapiro and Slemrod, 2009) are comparable to the latter estimate. Based on the timing of the 2001 income tax rebate, Johnson et al. (2006) estimate that households spent between 20 and 40 per cent of the tax rebate within the first three months after implementation of the tax change. Jappelli and Pistaferri (2012) estimate an average marginal propensity to consume of 0.48 for transitory changes in income. Hence, in comparison to estimates from other microeconomic studies, our estimate for the marginal propensity to consume is at the upper end of the distribution. See Shapiro and Slemrod (2003) for an extensive list of MPC estimates.

4 Characterising Savers and Consumers

4.1 Variables and Economic Hypotheses

Next, we investigate correlates of consumption responses by running a logistic regression with the dependent variable taking the value 1 when the respondent answered 'mostly spend' and 0 when the respondent answered 'mostly repaying debt' or 'mostly saving'. Combining the latter two categories seems justified because in economic theory the two behaviours are generally equivalent.

Moreover, this is the approach taken in much of the extant literature (Shapiro and Slemrod, 2003), thus improving comparability of our work with that of others. [9] This section introduces theoretical hypotheses and operationalisation of the variables, which are summarised in Table 2. Coefficients or marginal effects in the logit regression are estimated conditional on all other covariates included in the logit regression. For some policy applications, however, unconditional covariances are also relevant. Thus, in addition to the multivariate regression approach, we compute cross-tabulations. To economise on space we do not provide the tables when discussing the results, but instead refer to interesting descriptive statistics and the Fisher exact test for independence across categories of a covariate.

Permanent income theory predicts that temporary tax changes have a smaller impact on consumption than do permanent tax changes (Friedman, 1957). This hypothesis is of practical interest because many business cycle stimulus measures are temporary. We cannot formally test this hypothesis using only a single tax change, but we can investigate one implication of the permanent income model: respondents perceiving the current rate change to be temporary should be less inclined to increase spending. Specifically, we use two items from the survey (Items 2 and 3 in the Appendix) to assess whether the respondent regards the outward shift of the budget constraint caused by the tax change to be temporary or permanent. First, we ask the respondents whether they expect future tax rate increases as a consequence of the current cut and, second, we ask if they think the current cut might lower pension payments in the future. In the regressions, we introduce a dummy variable taking on the value 1 in case either question is answered affirmatively, and 0 otherwise.

In dynamic models with intertemporally optimising consumers, the expected return on savings governs the intertemporal allocation of funds and is relevant for computing lifetime income. Some versions of the permanent income model predict that the consumption response to transitory changes in income is smaller in a low interest rate environment (Hall, 1978). In more general models of intertemporal optimization, the effect of interest rates on the consumption response to changes in income is ambiguous and may depend on specification of the utility function. In practice, the effects of interest rates on consumption and saving decisions are of interest because of widespread fears that current low interest rates are a major deterrent to saving. We measure the perceived attractiveness of saving in a historical perspective by asking respondents to state their perceptions of the current return on savings on a five-point scale ranging from 'much less than 10 years ago' to 'much more than 10 years ago' (Item 6 in Appendix A). This allows investigating the question of whether subjective perceptions of interest rate variations are relevant for households' consumption responses. In our regression, we include a dummy variable taking the value 1 in the event respondents perceive saving to be 'much less attractive' or 'less attractive'.

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[9] A multinominal logistic regression based on all three categories of our item ('spend', 'save', and 'repay debt') yields very similar conclusions for the spend category, but is not informative with respect to differences between 'save' and 'repay debt', which further supports our approach of combining these two categories.

Table 2: Variables and economic hypotheses

Concept	Hypothesis	Measurement
Temporary vs. permanent tax shocks	The permanent income model predicts that temporary tax changes have a smaller impact than permanent tax changes.	We measure whether the respondent perceives shift of the budget constraint as permanent or temporary by including a dummy variable that takes the value 1 if the respondent either expects a future rate increase or a future pension reduction.
Returns on savings	The permanent income model predicts that tax changes have a smaller impact on consumption when interest rates are low. More generally, the effect of interest rates on the consumption response to tax changes is ambiguous. The relation between interest rates and consumption and saving behaviour is relevant in policy debates because of wide-spread fears that current low interest rates negatively affect savings.	Respondents state their assessment of saving's profitability (much less than 10 years ago to much more than 10 years ago) on a five-point scale. For the regression, we include a dummy variable that takes the value 1 if a respondent perceives saving returns to be less or much less than 10 years ago.
Expectation on future economic situation	Intertemporally optimising economic agents expecting a worsening of their economic situation have a greater incentive to increase saving today, because the marginal utility of future income has increased. The 'animal spirits' hypothesis claims that more optimistic respondents are more free-spending.	Respondents state their expectation about their future economic situation ('much worse than today' to 'much better than today'). For the regression, we include a dummy variable that takes the value 1 if a respondent expects his or her future economic situation to be worse or much worse than today.
Discount factors	The consumer's Euler equation relates consumption decisions to a measure of time preferences β. In the behavioural economic literature, a great deal of emphasis is put on an additional parameter capturing short-run impatience.	Discount factors as well as the additional discount factors for short-run impatience are derived in behavioural experiments (Items 11 and 12 in the Appendix).
Risk propensity	More risk-loving people may have different consumption and saving behaviour, e.g., because of precautionary saving.	An indicator for risk propensity is derived in a behavioural experiment (Item 10 in the Appendix).
Ricardian consumers	Over the last years, Germany's debt strongly increased and respondents taking the intertemporal budget constraint of the government into account should have decreased spending and increased saving, respectively.	Respondents are asked whether they have adjusted their spending behaviour in response to the recent hike in public debt. We then include a dummy variable capturing 'Ricardian consumers'.
Economic knowledge	Dynamic optimisation requires agents to know the value of the real interest rates. Ricardian equivalence is based on a rational agent who takes the government's dynamic budget constraint into account. Blinder and Krueger (2004) show that economic knowledge affects individuals' opinions on economic policy.	Dummy variables indicating if respondents are able to choose, from a list of four, the correct previous year's budget deficit as well as the current rates of inflation and interest. Dummy variable indicating higher education as a proxy for information processing capability (at least university-entry diploma).
Income	Household income is added to test the Keynesian assumption that low-income households have a higher propensity to spend.	Respondents state their monetary net household income on an 11-point scale, which we collapse into three categories: low, medium, and high household income.
Socioeconomic controls	Various other variables control for potential influences outside the canonical model.	Dummy variables taking on the value 1 if the respondent is from East Germany, female, in a relationship, respectively. Number of children and age of respondent are also included.

We also investigate whether a respondent's expectations about future income are relevant for consumption responses. Intertemporally optimising economic agents expecting a worsening of their economic situation have a greater incentive to increase saving today because the marginal utility of future income has increased. Building on Keynes's (1936) 'animal spirits' idea, behavioural economics argues that waves of optimism and pessimism influence economic behaviour and, specifically, that optimistic consumers are more free-spending (Akerlof and Shiller, 2010; De Grauwe, 2012). To investigate the importance of income expectations to individual consumption decisions, we asked respondents to state their expected future economic situation on a five-point scale, ranging from 'much worse than today' to 'much better than today'. We include a dummy that takes the value 1 if a respondent expects his or her future economic situation to be worse or much worse than today.

Intertemporal preferences play an important role in intertemporal utility optimisation. Typical consumer Euler equations contain the agent's discount factor β. We derive a measure for β in a behavioural 'experiment'[10] (Item 12 in the Appendix). Specifically, the respondents could choose between a fixed payment of €1,000 in six months, or a higher payment in 12 months. The higher the payment in 12 months required to induce the respondent to forego the fixed payment in six months, the lower the discount factor.[11] Intertemporal optimisation predicts that the higher the discount factor β, the greater the incentive to save and, correspondingly, the smaller the incentive to consume the additional funds. We estimate the ordinary discount factor as

(1) $\beta = \frac{1000}{x_{12}}$,

where x_{12} is the amount the respondent requires in 12 months to forego payment of €1,000 in six months. Behavioural economists argue that a hyperbolic utility function that allows for additional short-run impatience is a better description of agents' utility (Ainslie, 1975; Thaler and Shefrin, 1981; Laibson, 1997; Angeletos et al., 2001). Hence, we include an additional discount factor measuring short-run impatience to control for deviations from standard economic theory. The additional measure of short-run impatience is estimated as

(2) $\delta = \frac{x_{12}}{x_6}$,

where x_6 is the amount the respondent requires in six months to forego payment of €1,000 today (Item 11 in the Appendix). A low value of δ implies that the agent requires a lower payment in 12 months to forego payment in six months than he or she does in six months to forego payment today, and hence expresses short-run impatience.

We also include a measure of risk propensity derived from a behavioural experiment in which respondents are repeatedly asked to choose between a safe payoff and a lottery (Item 10 in the Appendix). The higher the safe payoff required to forego the lottery, the greater the respondent's risk propensity. Theory does not give us clear guidance on this issue, but we expect that more risk-averse respondents save a greater share of the tax reduction because of a precautionary saving motive.

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[10] The question was asked in a hypothetical way and did not actually involve monetary payments. However, the 'experiments' are taken from the German Socioeconomic Panel (SOEP) questionnaire, where actual monetary payments were made. As the distribution of answers is similar to the SOEP data, the lack of incentivisation appears unproblematic, also see Hayo and Neumeier (2013).

[11] We focus on the time span from six to 12 months, rather than the time span from today to six months to avoid measurement error due to extreme short-run impatience or hyperbolic discounting (Ainslie, 1975; Thaler and Shefrin, 1981), also see Hayo and Neumeier (2013).

Over the last years, public debt in Germany has increased dramatically. Rational economic agents behaving in accordance with Ricardian theory (Barro, 1974, 1979) should increase private saving so as to be able to offset the likely future increase in taxation. The recent build-up of public debt can be interpreted as a natural experiment that may help us identify Ricardian consumers. We enquired into respondents' reaction to the recent increase in public debt. Specifically, we asked them to state whether they are spending less, spending more, or have not changed their spending and saving behaviour. We then include a dummy variable for 'Ricardian consumers' that takes the value 1 if respondents spend less and save more in reaction to the increased public debt. The payroll tax cut studied in this paper is a particularly interesting case because the budget of the statutory pension insurance system is somewhat more transparent than that of the general government. The pension insurance system is required to ensure that its current revenues match the level of predetermined pension benefits. Assuming that the defined pension benefits remain fixed, then either transfers from the general government budget to the pension budget or an increase in contribution rates will be necessary to offset demographic development toward an aging society.[12] Hence, Ricardian agents have a clear incentive to save in response to the recent rate cut so as to offset variations in their intertemporal consumption level.

A small literature studies how economic knowledge influences economic behaviour and opinions on economic policy. Walstad (1997) uses survey analysis to investigate the relationship between economic knowledge and opinions on economic topics and finds, *inter alia*, that respondents with more economic knowledge are more favourable to using fiscal stimulus to combat unemployment. Hayo (1999) analyses the relationship between objective knowledge about the EU and opinions about the European Monetary Union and finds that objective knowledge is positively associated with support for European monetary integration. Blinder and Krueger (2004) use survey methods to analyse the role of economic knowledge in shaping opinions and conclude that economic knowledge is less important than ideology, but more important than variables reflecting respondents' self-interest. Van der Cruijsen et al. (2013) use a household survey to study the relationship between economic knowledge and opinions about banking supervision. They conclude that more informed respondents have more realistic views on banking supervision and, hence, act in a more financially prudent manner. Lusardi and Mitchell (2007) and van Rooij et al. (2011) find that more knowledgeable persons tend to do more planning for retirement.

We add to this literature by investigating whether economic knowledge is systematically associated with consumption responses to tax changes. Intertemporal utility maximisation requires economic agents to know the actual value of real interest rates. Likewise, Ricardian equivalence is based on the idea that rational agents take the government's intertemporal budget constraint into account. Thus, both arguments require respondents to have information about macroeconomic variables. We test whether economic agents with correct knowledge about these variables react differently to the tax change than those with incorrect or no knowledge. We measure economic knowledge by asking respondents to choose—from four options—the correct last year's budget deficit, as well as current long-term interest and inflation rates (Items 7 to 9 in the Appendix). In the regression, we then include dummy variables measuring whether the knowledge questions were answered correctly. Pertaining to information processing capability, we also include a dummy for higher education that takes the value 1 if the respondent has at least a university-entry diploma. It

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[12] This is evident in the report of the responsible parliamentary committee referring to the law implementing the payroll tax change *(Gesetz zur Festsetzung der Beitragssätze in der gesetzlichen Rentenversicherung für das Jahr 2013).*

could be argued that economic knowledge will enable the respondent to better analyse macroeconomic conditions. If so, respondents able to correctly assess the currently low interest rates may show different consumption responses. Similarly, respondents who closely monitor budget deficits may be more worried about the government's intertemporal budget constraint and, hence, be less inclined to increase spending. Lusardi and Mitchell (2007) report that economic competence not only increases planning for retirement but is also associated with higher savings.

A better understanding of economic covariates associated with individual reactions could be helpful to economic policymakers in designing a business cycle stimulus. For example, there is debate about whether different income levels are associated with different propensities to consume. The common view, which is based on Keynes (1936), is that households with smaller income are more likely to spend the additional income (Shapiro and Slemrod, 2009). Thus, measures targeted at low-income households are often proposed as particularly effective approaches to business cycle stimulus.[13] To study the impact of income on responses to the tax change, we introduce a dummy variable for medium net income (more than 1€,500, but less than €3,500) and a dummy for high net income (more than €3,500).

We also control for a wide range of socio-demographic variables. The influence of socio-demographic variables on consumption responses has the potential to identify those individuals who will have a particularly sensitive reaction to tax changes. We include dummy variables for the respondent's sex, age, home region (East or West Germany), and being in a relationship.

4.2 Empirical Results

Table 3 contains the estimated average marginal effects. We find that variation in perception of the tax change as either temporary or permanent does not appear to matter, and our evidence suggests that temporary and permanent tax changes should have a similar impact. Although the proportion of spenders among those who perceive the rate cut to be temporary is greater (0.56) than among those who perceive the rate cut to be permanent (0.52), a Fisher exact test shows that the difference is not statistically significant. Comparing our findings to extant literature, we find that Shapiro and Slemrod (1995) report that 43 per cent of respondents increased spending after a temporary tax change, which supports our conclusion that temporary tax change can have a large impact. Likewise, Jappelli and Pistaferri (2012) find that consumers would on average spend 48 per cent of an unexpected transitory income change. Poterba (1988) estimates that up to 24 per cent of a temporary tax cut is consumed. Blinder (1981) concludes that temporary tax cuts have a much smaller impact than permanent ones, as do Watanabe et al. (2001), who study the consequences of Japanese tax changes.

Individuals assessing the current return on savings to be low have a 10 percentage point (pp) higher probability of stating that they plan to spend the additional money. The effect is significant at the 1 per cent level. In fact, respondents reporting the current attractiveness of savings as low spend the additional funds in 59 per cent of all cases, and the Fisher exact test finds the difference in

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[13] This argument is discussed in Shapiro and Slemrod (2009). For Germany, the draft bill of the *Gesetz zur Sicherung von Beschäftigung und Stabilität in Deutschland* contains an official justification for the measures enacted to combat the recession following the 2007 financial crisis. A good example is the reduction in the marginal tax rate for low incomes, which is justified as specifically strengthening the domestic demand of low and medium income households. The bill also contains a one-time €100 child benefit payment, which is justified similarly.

spending rates to be significantly different across answer categories (p-value 0.00).[14] This finding suggests that interest rates are an important determinant of consumption and saving decisions, and hence reinforces concerns that the current low level of interest rates causes lower savings. Given that the theoretical prediction was ambiguous, it is interesting that our survey evidence suggests that consumption responses to changes in income are stronger in a low interest rate environment. This finding is in contravention of permanent income models that predict consumption responses to transitory changes in income to be smaller under low interest rates.

Table 3: Consumption responses and covariates

	Marginal effects	Confidence intervals
Anticipating tax change as temporary	0.03	[-0.06, 0.11]
Perceiving current returns on savings as low	0.10***	[0.03, 0.18]
Expect worsening in economic situation	-0.01	[-0.11, 0.08]
Discount factor	-0.27***	[-0.47, -0.08]
Additional hyperbolic discount factor	-0.05	[-0.19, 0.09]
Index for risk propensity	-0.02	[-0.08, 0.03]
Ricardian consumer	-0.22***	[-0.34, -0.11]
Correct knowledge of budget deficit	0.04	[-0.07, 0.16]
Correct knowledge of interest rate	-0.03	[-0.10, 0.04]
Correct knowledge of inflation rate	-0.01	[-0.08, 0.07]
Household income	Base category 'Low income'	
Medium income	0.08	[-0.03, 0.18]
High income	0.14**	[0.01, 0.26]
East Germany	0.02	[-0.06, 0.10]
Female	0.04	[-0.03, 0.10]
Number of children	-0.04**	[-0.07, -0.0001]
Age	0.001	[-0.003, 0.004]
Higher education	-0.07	[-0.16, 0.01]
In relationship	0.01	[-0.07, 0.10]

Notes: Table shows average marginal effects of logistic regression with dependent variable 'increase spending' coded as 1, 'repay debt' or 'save' coded as 0 (Item 1 in Appendix A). Confidence interval based on 95% level of confidence. Based on 832 observations. ** significant at 5%, *** significant at 1%.

The respondents' expectations of future economic outcomes are statistically insignificant. Thus, variation in expected income over the business cycle does not affect the impact of tax changes.

Our indicator for the discount factor is statistically significant and suggests that economic agents who discount the future less heavily have a 27 pp lower probability of spending the additional funds. This is in line with intertemporal utility optimisation. Our indicator for the additional discount factor

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[14] One reason for this variation across respondents despite the same macroeconomic interest rate could be differences in personal investment opportunities. Another reason could be that respondents are not equally aware of the current interest rate situation, as only 36 per cent of respondents are able to identify the correct long-term interest rate from a list of four options.

reflecting short-run impatience, however, is not statistically significant, providing evidence that nonstandard utility functions may not be important in explaining consumption responses to tax changes. Our indicator for risk preferences is not statistically significant, either.

Respondents identified as Ricardian have a 22 pp lower probability of spending the additional funds, which is significant at the 1 per cent level. This supports the theoretical hypothesis. However, only 86 out of 1,025 respondents stated that they spent less and increased savings in response to the recent accumulation of public debt, suggesting that the Ricardian argument is of limited practical importance. Moreover, drawing on Mankiw's (2000) distinction of economic agents as either 'Savers' or 'Spenders', it could be argued that 'Savers' tend to save irrespective of Ricardian arguments.

All three knowledge variables, as well as the dummy variable indicating higher education, are insignificant. This suggests that economic knowledge is not associated with different consumption reactions to tax changes. Referring to the demands placed on consumers in typical rational expectations models, it is interesting to note that only around 9 per cent of respondents were able to correctly answer the question about last year's budget deficit, 36 per cent chose the correct long-term interest rate, and around 66 per cent selected the correct current rate of inflation. Based on these outcomes, it appears that respondents in Germany are not particularly well informed about macroeconomic variables that are highly relevant in widely used models, such as those building on intertemporal utility maximisation, permanent income theory, or Ricardian equivalence. We find that with an average of slightly below 40 per cent of correct answers across the three knowledge questions, we are at the lower end of the range reported in other studies. In Walstad (1997), 43 per cent of economic knowledge questions were answered correctly by respondents in the United States. A question referring to the size of the US federal deficit, however, was answered correctly by only 19 per cent of respondents. In Hayo (1999), around 48 per cent of knowledge questions were answered correctly by citizens of EU member countries. Walstad and Rebeck (2002) compare outcomes from five surveys on economic knowledge and conclude that on average, 48 per cent of all knowledge questions are answered correctly.

We find that high-income households have a 14 pp higher probability of increasing spending in response to tax changes, which is significant at the 1 per cent level. In fact, the proportion of respondents replying 'mostly spend' monotonically increases from 49 per cent in the low-income class to 57 per cent for medium income and 60 per cent for high income. This contradicts the conventional wisdom, based on Keynes (1936), which assumes a higher marginal propensity to consume for low-income households. However, Coronado et al. (2005) study self-reported qualitative consumption responses to the child credit rebate and the change in the withholding tax enacted in the United States in 2003 and also find that households with higher incomes are more likely to spend the additional money. Shapiro and Slemrod (2009) do not find strong evidence for variations in response patterns across income categories, but report a somewhat lower proportion of respondents who plan to spend the additional money in the lower income brackets. The finding in Shapiro and Slemrod (2003) is similar. Hence, tax multipliers appear higher in the case of tax reductions for high-income households.

In our set of socio-demographic variables, we find that households with children are 4 pp less likely to spend the additional funds. Similar to the result for income, this finding raises questions about the effectiveness of specific business cycle stimulus measures, such as the 2009 €100 increase in child benefits. However, the effects relating to income level and number of children are each significant only at the 5 per cent level. Other socio-demographic variables are insignificant.

5 Conclusion

The general conclusion from our analysis of a representative population survey is that the effect of typically sized tax reductions on aggregate consumption and economic activity is economically relevant in Germany, as 55 per cent of the respondents report that they want to spend the extra money. In our view, this reveals considerable potential for taxation to affect consumption and hence economic activity. One way of comparing our results with the macroeconometric literature on fiscal multipliers is to transform our estimate of the marginal propensity to consume into a traditional Keynesian tax multiplier –MPC/(1-MPC) of -1.13. Hayo and Uhl (2013) use narratively identified tax shocks for Germany to study the consequences of tax changes for GDP and consumption in a vector-autoregressive model and find peak effects of a unit increase in the tax-to-GDP ratio of -2.4 per cent on GDP and -1.8 per cent on consumption, which is not incompatible with the conclusions from our qualitative survey.

With the help of individual socio-demographic and economic variables, we investigate widely employed assumptions about consumption responses to tax changes, with several interesting results. First, we asked our respondents whether they perceive the current rate cut to be temporary or permanent. We find no significant difference in consumption responses across this dimension, which casts some doubt on a core premise of the permanent income hypothesis. Second, we discover that individual returns on savings have a significant effect on consumption spending after a tax reduction: if returns are considered to be relatively low, the consumption response is relatively stronger. This finding poses a challenge to permanent income models, which predict consumption responses to transitory changes in income to be smaller under low interest rates. Third, expectations about future economic situation are not significant, which is neither consistent with consumers' reacting to life-time income nor the behavioural economics concept of 'animal spirits'. Fourth, estimated discount factors have a significant effect on the decision about how to use the additional income. The lower the discount factor, the greater the likelihood that the additional income from the tax reduction is spent, which is in line with intertemporal utility maximisation. Our indicator for short-run impatience is not statistically significant, suggesting that the emphasis in behavioural economics on hyperbolic discounting (Thaler and Shefrin, 1981) may not be warranted in the present context. Fifth, variations in risk propensities are not statistically significant. Sixth, we find evidence that 'Ricardian consumers' spent significantly less of the tax reduction. However, only about 8 per cent of consumers are Ricardian, meaning that the practical relevance of this effect is small. Seventh, the various indicators for economic knowledge are neither individually nor jointly statistically significant, which suggests that economic knowledge is not associated with different consumption reactions to tax changes. Indeed, our results throw doubt on the practical relevance of rational expectation models, as the German population's degree of knowledge about important economic variables is fairly low. Eighth, it is often argued that targeting policy measures at low-income households is a particularly effective approach to business cycle stabilisation. In contrast, our evidence suggests that consumption responses are particularly pronounced at the upper end of the income distribution.

We see further scope for studying self-reported responses to tax changes using survey methods. Typically, investment is much more volatile than consumption and reacts far more sensitively to tax changes (Cloyne, 2013; Hayo and Uhl, 2013; Mertens and Ravn, 2012; Romer and Romer, 2010). Thus, investment responses appear to be particularly relevant in discovering macroeconomic responses to changes in taxation. Moreover, studying self-reported responses to tax changes at the firm level would be of interest.

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Appendix: Summary of the Survey Instrument

No	Item
Intro	At the beginning of 2013, contribution rates to the statutory pension system have been reduced. In effect, this reduces the overall tax burden. We are interested in your responses to the rate cut.
1	Thinking about your household's financial situation, will you use the additional budget mostly to increase spending, mostly to increase saving, or mostly to pay off debt? Reply: 'Increase spending', 'Repay debt', 'Increase savings'
2	Will the recent cut in pension insurance contribution rates lead to higher contribution rates in the future? Reply: 'Yes', 'No'
3	Will the recent cut in pension insurance contribution rates lead to lower pension payments? Reply: 'Yes', 'No'
4	How do you expect your economic situation to be in one year? Reply: 'Much worse than today' (–2) to 'Much better than today' (+2)
5	How profitable do you think savings are in Germany today compared with ten years ago? Reply: 'Much less than ten years ago' (–2) to 'Much more than ten years ago' (+2)
6	How large was the budget deficit of the federal government in 2012? Reply: '**1%**', '3%', '5%', '7%'
7	What is the current interest rate on long-term government bonds (maturity 10 years), approximately? Reply: '**1.5%**', '3%', '5.5%', '10%'
8	How large was the rate of inflation in 2012, approximately? Reply: '0%', '**2%**', '5%', '10%'
9	Between 2008 and 2012, we have seen a rapid acceleration of public debt. Did this increasing reliance on debt financing lead to changes in the way you spend or save? Reply: 'Yes, I now spend a smaller proportion of my income and save a larger proportion', 'Yes, I spend a larger proportion of my income and save a smaller proportion', 'No, I did not change my behaviour in consequence to the rapid increase in public debt'
10	In this experiment you can choose between a safe payment, and a lottery where you win €1,000 with 50% probability and nothing with 50% probability. You start with the amount '€0' and choose the safe amount for which you forego the lottery. Reply: '€0', '€100', '€200', '€300', '€400', '€500', '€600', '€700', '€800', '€900'

No	Item
11	In this experiment you can choose between a fixed amount of €1,000 paid immediately, and a higher amount paid to you in 6 months. You start with the amount '€1,000' and choose the amount for which you decide to take the payment in 6 months. Reply: '€1,000', '€1,010', '€1,020', '€1,030', '€1,050', '€1,075', '€1,100', '€1,150', '€1,200', '€1,300', '€1,400', '€1,500', '€1,750', '€2,000'
12	In this experiment you can choose between a fixed amount of €1,000 paid in 6 months, and a higher amount paid to you in 12 months. You start with the amount '€1,000' and choose the amount for which you decide to take the payment in 12 months. Reply: '€1,000', '€1,010', '€1,020', '€1,030', '€1,050', '€1,075', '€1,100', '€1,150', '€1,200', '€1,300€', '€1,400', '€1,500', '€1,750', '€2,000'

Notes: Items 4 and 5 have a five-point scale. In Items 6, 7, and 8, correct answers are in bold. To preserve space, Items 10, 11, and 12 are presented in slightly different form compared to the actual survey text. For a full documentation of the survey, including the German original of the survey instrument, see Hayo et al. (2014).

No. 38-2014

Bernd Hayo and Matthias Uhl

**Taxation and Labour Supply:
Evidence from a Representative Population Survey**

Taxation and Labour Supply:

Evidence from a Representative Population Survey[*]

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Taxation and Labour Supply:

Evidence from a Representative Population Survey

Abstract We study the influence of taxation on labour supply using a specifically designed representative survey of the German population. First, we investigate whether taxes generally matter for the labour supply decisions of our respondents. Around 41 per cent report taking taxes into consideration, which implies that the majority of the German population appears unresponsive to taxation. Second, we look at self-reported labour supply adjustments following a recently enacted payroll tax change. Only around 12 per cent of all respondents report an actual labour supply response, but we find evidence of an income, as well as a substitution, effect of the tax change. Our conclusion is that effects of taxes on labour supply in Germany are likely small. We analyse the correlation with economic and socio-demographic variables, and find that the self-employed are relatively more sensitive to taxation and that low interest rates reduce incentives for an expansion of the labour supply.

1 Introduction

The link between taxation and labour supply is of considerable interest to both academics and policymakers. For instance, labour supply responses to taxation are important for assessing the efficiency loss associated with distortive income taxation. Currently, there is also more interest in the impact of fiscal policy changes on economic activity, and tax changes may affect output through alterations in the labour supply. These issues are commonly analysed using macroeconomic or microeconomic approaches that attempt to estimate the reaction of labour supply indirectly based on observable economic variables.[1]

In this paper, we research self-reported labour supply responses to taxation using two items from a specifically designed, representative population survey. First, we ask our respondents whether taxation commonly matters for their labour supply decisions. We then use a 2013 payroll tax change to investigate specific labour supply responses to a real-world tax policy change.

In standard models, income taxation affects labour supply by inducing changes in net wages, which implies that the wage elasticity of hours supplied is a central concept. Borjas (2005) and Saez et al. (2012) claim that the wage elasticity of hours supplied is small, whereas Keane (2011) reports a small subset of studies estimating large wage elasticities (Hausman 1981; MaCurdy 1983; Imai and Keane 2004; see also Keane and Rogerson 2012). Hours of work supplied, however, is a narrow concept of labour supply, and labour market participation and effort per hour are likely important facets of real-world labour supply decisions. For example, female labour market participation is often found to be relatively responsive to taxation (Arrufat and Zabalza 1986; Eissa et al. 2008; Keane 2011). Feldstein (1995) reports large elasticities of taxable income, roughly between 1 and 3.1, whereas Gruber and Saez (2000) estimate a considerably smaller effect of around 0.4. To sum up, the majority of studies find that labour supply is only moderately responsive to tax changes, but some research discovers large effects, especially for certain subgroups of the population and when broader concepts than hours worked are used to measure labour supply.

We contribute to this discussion by providing evidence based on a nonstandard methodological approach. Rather than relying on indirect estimates of labour supply based on observable economic data, we use novel data from a specifically designed, representative survey of the German population. In the survey, we directly ask our respondents whether taxation matters for their labour supply decisions and, if so, how they have adjusted their labour supply in response to a recent payroll tax change in Germany. Our results indicate that taxation matters for around 41 per cent of our respondents, which implies that the majority is unresponsive to taxation. Moreover, only around 12 per cent of all respondents adjusted their labour supply in response to a small real-world payroll tax change. However, further analysis shows that some individuals report having reduced, and others having increased, their labour supply. Thus, the overall net labour supply effect of tax changes appears to be small. We find no evidence of significant variation across employment status, income, and gender, but taxation generally seems to be more relevant for the self-employed. We also find that low interest rates reduce incentives for labour supply expansion.

Directly asking respondents about the consequences of economic policy for their behaviour is nonstandard in economics, but has been done successfully for other research questions. For

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[1] Meghir and Phillips (2010), Keane (2011), Keane and Rogerson (2012), and Saez et al. (2012) review the literature on taxes and labour supply; Perotti (2007), Fontana (2009), and Parker (2011) survey the literature on the macroeconomic consequences of fiscal policy.

instance, Shapiro and Slemrod (1995, 2003, 2009) use survey methodology to study self-reported consumption responses to various US tax changes. Using self-reported labour supply responses to taxation allows us to make several contributions to the literature on labour supply and taxation as well as to the literature on the economic consequences of tax policy changes. First, providing estimates of the relative importance of different transmission channels of tax changes—such as labour supply, consumption, and investment—is relevant for the design of structural models of tax policy transmission. Second, aggregate time series approaches to the consequences of tax policy changes for economic activity, as well as conventional approaches to the estimation of labour supply elasticities, are based on untestable identification assumptions. Here, we circumvent this identification problem by using self-reported responses. A potential problem with our approach is that self-reported responses may be unreliable if respondents do not answer the questions accurately. However, in our view, economic research should diversify the risk that underlying untestable assumptions are false, and we regard our survey as a useful alternative approach to the extant literature. Third, policymakers are interested in the effects of tax policy shocks on labour markets and our approach provides estimates of the size of these effects. Fourth, our survey estimates labour supply responses to one specific form of taxation, namely, payroll taxation, which is in contrast to the usual approach of averaging across tax types and measures. Fifth, we can use cross-sectional variation in our survey sample to identify respondents who appear particularly sensitive to taxation. Such knowledge could allow targeting tax policy changes to specific social groups, which could make stabilisation policy more effective and would also be relevant for assessing the deadweight loss associated with different forms of taxation.

The remainder of the paper is organised as follows. Section 2 describes our survey instrument. Section 3 discusses the general importance of taxation for the labour supply decisions of our respondents and its variation across employment status, income, and gender. Section 4 analyses specific labour supply adjustments to the 2013 payroll tax change. Section 5 concludes.

2 Survey design and instrument

General information on the survey

The two questions on individual labour supply that we utilise here are from a larger research project measuring the German population's perceptions, attitudes, and reactions to fiscal policy. The background paper of Hayo et al. (2014) contains a full description of the survey. The survey, which took place between 15 February and 1 March 2013, was conducted on our behalf by GfK in the form of face-to-face interviews using pen pads. GfK is one of the largest private research companies in Germany working in the fields of market research and public opinion. The interviewers followed specific instructions described in the survey instrument. Our sample encompasses 2,042 representatively selected individuals from the German population aged 14 or above. Gfk uses quota sampling, where the sample distributions in terms of sex, age, household size, city size, occupation of head of household, and state of residence are made comparable to the population distribution. While this is a common sampling method, the resulting sample is not representative in the strict sense of being a completely random sample of the population. The correspondence between sample and population distributions is generally high (Hayo et al. 2014).

One part of our survey instrument explicitly refers to a recently enacted payroll tax change. Specifically, contribution rates to the statutory pension insurance were reduced from 19.6 per cent

to 18.9 per cent at the beginning of 2013, and we use this real-world event to study specific labour supply responses to a tax change. The German pension insurance system is a pay-as-you-go system, in which current contributions are used to finance current pension obligations. The system is financed by a proportional rate—half paid by the employer and half by the employee—on all monthly income up to €5,800 in West Germany and €4,900 in East Germany. Pension entitlements depend on the insurant's income, but not on the contribution rate. The contribution rate change was necessary because the pension insurance was generating surpluses, which is not generally allowed by law. Hence, the rate change was potentially anticipated.[2]

The German public pension insurance system is compulsory for the majority of the working-age population. Public servants, students, and retired workers are generally not subject to payroll taxation and we thus exclude these groups from our sample, meaning that it only includes the remaining working-age population. In general, all employees in the private sector are compulsorily insured in the public insurance system. All self-employed individuals can voluntarily contribute to the statutory pension insurance system and some are compulsorily insured. Insignificant employment (*Geringfügige Beschäftigung*) is a German labour market vehicle aimed at promoting certain low-income groups, and workers participating in this programme can voluntarily contribute to the statutory pension insurance. In both cases, we ask whether respondents participate in the statutory pension insurance. We also include unemployed workers in the survey, although they do not directly contribute to the statutory pension insurance, because the unemployed are expected to be subject to payroll taxation in the future and payroll taxation is likely to affect their reservation wage. Throughout the paper, we show the results using all employees, insignificantly employed, self-employed, and unemployed, but restricting the analysis to only those who contribute to the pension insurance yields similar conclusions.

In principle, it is possible that other tax changes or macroeconomic conditions around the time of implementing the payroll tax change affect the way our respondents answer the survey. At the beginning of 2013, there were some concerns about the stability of the financial system and about potential adverse consequences of the ongoing debt crisis in the euro area. Economic growth and labour market conditions, however, have been robust, and the German population has been little affected by the ongoing crisis. At the beginning of 2013, a different piece of tax legislation increased the tax-free amount from €7,834 to €8,130 to compensate for the influence of inflation in a progressive tax system.

The survey instrument and further methodological considerations

In a first step, we investigate whether taxation matters for the labour supply decisions of our respondents. Respondents could answer either ´Yes´ or ´No´.

Item 1: Does the tax burden usually matter when you determine extent and intensity of your work activities?

In our second item, we asked the subset of respondents who reported that taxation matters for their labour supply decision to state, on a five-point scale, whether they have increased or decreased

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[2] In the survey, we describe the tax change and explicitly link it to our survey question, so that we are not required to find (un)anticipated, exogenous variation to cleanly identify the effects of taxation. If the respondents reacted to the rate change before its announcement, our survey item should capture this.

their overall labour supply. A descriptive analysis of federal tax law changes in Germany between 1964 and 2010 in Uhl (2013) suggests that the tax change we study is representative of normal tax changes in terms of its revenue impact.

Item 2: *What impact does the contribution rate cut have on your general job-related activities?*

There are several advantages to this two-step procedure for measuring labour supply responses. First, both items contain relevant information. Our first item allows us to study the general responsiveness of labour supply to taxation, while the second item focuses on real-world labour supply elasticities. We also aim at reducing measurement error in the survey responses. In our pre-test of the questionnaire, many respondents reported that they work in fixed-hour contracts, and that the question of taxation is irrelevant to their labour supply decisions. Hence, applying our second item to the whole population would have introduced a great deal of statistical noise in the survey responses. Second, 'general job-related activities' is a broad concept, and we explicitly refer to both extent and intensity of labour supply. Thus, we believe our items cover several dimensions of labour supply decisions.

Nevertheless, our survey strategy is not perfect. First, the responses are subjective. The answer scale, for example, may have different meaning for different respondents and this makes it difficult to compute overall net effects of taxation on labour supply. Second, we cannot discover which specific component of labour supply has been adjusted. Third, the responses are qualitative in the sense that we cannot directly measure the size of the effect by a number.

Throughout the paper, we investigate correlations of our survey responses with standard socio-demographic variables and with other survey items. These survey items are explained and introduced throughout the text. The Appendix contains a short characterisation of the survey items relevant for the present paper. A detailed description of the survey instrument can be found in Hayo et al. (2014). Throughout the paper, we use unweighted observations, which is common in the economic literature. However, the results hold when using weighted observations, where the weights are the inverse probabilities of being included in the sample.[3] Standard errors are analytically derived, linearised standard errors in the cross-tabulates and robust to heteroscedasticity in the regressions.

In analysing correlations between survey responses and our main survey items as well as other variables, we mainly use cross-tabulates and descriptive statistics. The main advantage of cross-tabulates is that they do not require many assumptions about underlying distributions and functional relationships. These unconditional correlations can be interesting for policymakers. For example, if income is correlated with labour supply responses, the potential correlation with age or other variables is not relevant for policy decisions. The disadvantage of this approach is a potential omitted variable bias and we thus test the robustness of our results with a multivariate regression approach.

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[3] According to the six criteria mentioned previously—sex, age, household size, city size, occupation of head of household, and state of residence.

3 Do taxes matter for labour supply decisions?

Descriptive statistics

As shown in Table 1, around 41 per cent of respondents state that taxes are important for their labour supply decisions.

Table 1: Do taxes matter for labour supply decisions?

	Proportion	Standard error	Confidence interval	Frequency
Taxes are important	40.6	1.4	[38.2, 42.9]	494
Taxes are unimportant	59.4	1.4	[57.1, 61.8]	724

Notes: Confidence interval based on 90 per cent level of confidence using analytically derived standard errors.

This suggests that the majority of workers are unresponsive to taxation, which is in line with extant literature reporting labour supply elasticities close to zero for the majority of (male) workers (Borjas 2005; Saez et al. 2012). Our results provide only limited support for the intertemporal maximising macroeconomic model (Baxter and King 1993; Galí 2009), in which all individuals should take taxation into account when making labour supply decisions. However, 41 per cent of respondents do seem to react to tax changes, which could still generate large aggregate labour supply elasticities. Section 4 takes up this issue and analyses labour supply adjustment to a recent real-world payroll tax change.

For which individuals do taxes matter?

In a first step, we investigate differences in the importance of taxation for labour supply decisions across employees, apprentices, unemployed, self-employed, and insignificantly employed respondents (see Table 2). We expect self-employed respondents to react relatively more to taxation, as they are more independent in making labour supply decisions.

Table 2: The importance of taxation by occupation

		Do taxes matter for your labour supply decision?		
		Yes	No	Total
Occupational status	Employee	37.5	62.5	100.0
		[34.8, 40.2]	[59.8, 65.2]	N = 883
	Apprentice	35.9	64.1	100.0
		[23.1, 48.7]	[51.3, 76.9]	N = 39
	Unemployed	39.3	60.7	100.0
		[30.5, 48.1]	[51.9, 69.5]	N = 84
	Self-employed	61.2	38.9	100.0
		[54.7, 67.6]	[32.4, 45.3]	N = 157
	Insignificantly employed	36.4	63.6	100.0
		[25.6, 47.1]	[52.9, 74.4]	N = 55
	Total	40.6	59.4	100.00
		[38.2, 42.9]	[57.1, 61.8]	N = 1,218
	Fisher's exact test for independence: p-value = 0.00			

Notes: The table shows the importance of taxation for labour supply decisions (Item 1, see Appendix) by occupation. Cells show row-normalised proportions in per cent, 90 per cent confidence interval [in brackets], and frequency. Proportions may not sum to one due to rounding errors.

Fisher's exact test for independence suggests a significant difference in the proportion of respondents attaching importance to taxation across occupation. This result, however, is entirely driven by self-employed respondents, 61 per cent of whom report that taxes matter for their labour supply decisions. This suggests that taxing the self-employed is potentially associated with particularly large efficiency costs. Unemployed respondents do not report a significantly different importance of taxation and, hence, our survey evidence does not provide support for the view that taxation is more relevant at the extensive margin.

Differences in the disincentive effect of taxation for individuals at different levels of income receive a great deal of attention in the labour supply literature (Hausman 1985). One reason for this is that progressive taxation induces a differential burden across income groups, which has implications for the deadweight loss associated with certain forms of taxation. Another reason is that taxation is a potentially relevant policy instrument for fostering job market activity by low-income groups. Table 3 investigates the general importance of taxation across three levels of household income—low income (up to €1,499 net of taxes), middle income (€1,500 to €3,499), and high income (more than €3,500).

Table 3: The importance of taxation by income

		Do taxes matter for your labour supply decision?		
		Yes	No	Total
Income	Low income (up to €1,499€)	34.6 [29.1, 40.1]	65.4 [59.9, 70.9]	100.0 N = 205
	Middle income (€1,500 to €3,499)	42.3 [38.9, 45.6]	57.8 [54.4, 61.1]	100.0 N = 587
	High income (more than €3,500)	36.1 [30.4, 41.9]	63.9 [58.1, 69.6]	100.0 N = 191
	Total	39.5 [36.9, 42.0]	60.5 [58.0, 63.1]	100.00 N = 983
Fisher's exact test for independence: p-value = 0.09				

Notes: The table shows the importance of taxation for labour supply decisions (Item 1, see Appendix) by income groups. Cells show row-normalised proportions in per cent, 90 per cent confidence interval [in brackets], and frequency. Proportions may not sum to one due to rounding errors.

Taxes matter for 42 per cent of the middle-income group, which is higher than the proportion in the low-income group, where less than 35 per cent of all respondents report that taxes matter, and higher than the proportion in the high-income group (36 per cent). Fisher's exact test for independence is rejected, which suggests that the importance of taxation increases with income. However, the proportion of respondents stating that taxes matter does not increase monotonically. Moreover, when we investigate the robustness of our conclusions in a regression framework (see below), we no longer find a significant impact of income.

Borjas (2005), Keane (2011), and others report that women are more sensitive to taxation, particularly at the extensive margin. We investigate whether the self-reported importance of taxation for labour supply differs across gender, but find no significant difference (see Table 4).

Table 4: The importance of taxation by gender

| | Do taxes matter for your labour supply decision? | | |
	Yes	No	Total
Male	41.7	58.3	100.0
	[38.3, 45.0]	[55.0, 61.7]	N = 588
Female	39.5	60.5	100.0
	[36.3, 42.7]	[57.3, 63.7]	N = 630
Total	40.6	59.4	100.00
	[38.2, 42.9]	[57.1, 61.8]	N = 1,218
Fisher's exact test for independence: p-value = 0.45			

Notes: The table shows the importance of taxation for labour supply decisions (Item 1, see Appendix) by gender. Cells show row-normalised proportions in per cent, 90 per cent confidence interval [in brackets], and frequency. Proportions may not sum to one due to rounding errors.

In fact, the proportion of respondents attaching importance to taxes is somewhat larger for males (42 per cent) than it is for females (40 per cent). The labour supply literature predicts that subgroups of females will be particularly tax sensitive, such as the unemployed or females in relationships or with children (see, e.g., Eissa et al. 2008). However, looking at these subgroups does not change our conclusion (results available on request).

Robustness in a regression framework
We now estimate a multivariate logit regression model as a robustness check. The dependent variable measures the general importance of taxation for labour supply and is coded as 1, taxes are important, or 0, taxes are unimportant. In the empirical model, we include dummies indicating membership in specific occupational groups, household income in €1,000s, sex, whether the respondent is in a relationship, and number of children. Finally, we control for other socio-economic variables, namely, age, union membership, and whether the respondent has obtained higher education in the form of at least a university-entry diploma. Table 5 contains the estimation results.

The coefficients in the third column of Table 5 are average marginal effects. Our previous conclusions derived in the cross-tabulates hold, with the exception of income. Self-employed respondents have a 31 percentage point (pp) higher probability of stating that taxes are important for their labour supply decisions than do employees, which is a very large value. In addition, we estimate that union members have a 13 pp greater likelihood of finding taxes important. More educated respondents are 7 pp less likely to consider taxation relevant than are less-educated respondents. Finally, with each 10-year increase in age, the probability of answering that taxes are important declines by 3 pp. Note that the last two effects are significant only at a 10 per cent level.

Table 5: For whom do taxes matter?

	Coefficient	Marginal effect
Base category 'Employees'		
In apprenticeship	-0.19	-0.04
Unemployed	0.10	0.02
Self-employed	1.36***	0.31***
Insignificantly employed	-0.17	-0.04
Household income	-0.05	-0.01
Female	-0.04	-0.01
In relationship	0.19	0.04
Number of children	0.04	0.01
Highly educated	-0.31*	-0.07*
Age	-0.01*	-0.003*
Union member	0.58***	0.13***
Constant	-0.08	

Pseudo-R²	0.04	Log pseudolikelihood	-634.89
Significance of the model (p-value)	0.00		

Notes: The table shows results of logistic regression with dependent variable measuring the general importance of taxation for labour supply, coded as: 1, taxes are important, or 0, taxes are unimportant. Statistical tests based on robust standard errors. Marginal effects are average marginal effects. Based on 981 observations. *, **, *** indicates statistical significance at the 10 per cent, 5 per cent, 1 per cent level, respectively.

4 Labour supply adjustment to a tax change

Descriptive statistics

We asked the subset of respondents who reported that taxation matters for their labour supply decisions to state, on a five-point scale, whether they increased or decreased their labour supply in response to the recent 2013 payroll tax change. Table 6 shows that 17 per cent increased, and 12 per cent decreased, their labour supply.

Table 6: Labour supply response to the 2013 payroll tax change

	Proportion	Standard error	Confidence interval	Frequency
Strongly increased labour supply	3.2	0.8	[1.7, 4.8]	16
Increased labour supply	13.6	0.02	[10.5, 16.6]	67
Unchanged labour supply	70.9	2.0	[66.8, 74.9]	350
Reduced labour supply	8.9	1.5	[6.4, 11.4]	44
Strongly reduced labour supply	3.4	0.8	[1.8, 5.1]	17

Notes: Confidence interval based on 90 per cent level of confidence using analytically derived standard errors.

These results suggest that both income and substitution effects of tax changes appear to be of empirical relevance, which matches the consensus estimate for a wage elasticity of -0.1 reported in Borjas (2005); note that the negative sign implies that income effects are slightly dominant. Taken together, about 30 per cent of those respondents indicating that taxation is important for their labour supply decisions—and 12 per cent of all respondents—report an actual labour supply adjustment, but because income and substitution effects seem to balance out, the overall response of labour supply to the tax change is small.

Determinants of labour supply adjustment
Table 7 shows how labour supply responses vary across employment status and occupation.

Table 7: Labour supply responses by occupation

		Impact on general job-related efforts			
		Reduced labour supply	Unchanged	Increased labour supply	Total
Occupation	Employee	14.2	68.6	17.2	100.0
		[11.0, 17.4]	[64.4, 72.8]	[13.8, 20.6]	N = 331
	Apprentice	7.1	71.4	21.4	100.0
		[-4.6, 18.9]	[50.8, 92.1]	[2.7, 40.2]	N = 14
	Unemployed	24.2	69.7	6.1	100.0
		[11.8, 36.7]	[56.3, 83.1]	[-0.9, 13.0]	N = 33
	Self-employed	3.1	77.1	19.8	100.0
		[0.2, 6.1]	[70.0, 84.2]	[13.1, 26.5]	N = 96
	Insignificantly employed	10.0	80.0	10.0	100.0
		[-1.3, 21.3]	[64.9, 95.1]	[-1.3, 21.3]	N = 20
	Total	12.4	70.9	16.8	100.0
		[9.9, 14.8]	[67.5, 74.2]	[14.0, 19.6]	N = 494
Fisher's exact test for independence: p-value = 0.02					

Notes: The table shows labour supply responses to the 2013 payroll tax change (Item 2, see Appendix) by occupation. Cells show row-normalised proportions in per cent, 90 per cent confidence interval [in brackets] and frequencies. Proportions may not sum to one due to rounding errors.

Although Fisher's exact test for independence is rejected, in most cases the proportion of the total population reporting reduced, unchanged, or increased labour supply falls well within the confidence region reported for the respective proportions per occupation. It is hence unclear in what way these deviations are statistically meaningful individually. It appears, however, that the self-employed avoid reducing their labour supply, a result confirmed in the regression approach (see below).

Table 8 investigates the influence of income on labour supply responses. We find no significant differences across the three income groups.

Table 8: Labour supply responses by income

		Impact on general job-related efforts			
		Reduced labour supply	Unchanged	Increased labour supply	Total
Income	Low income (up to €1,499)	19.7 [11.9, 27.6]	67.6 [58.4, 76.8]	12.7 [6.1, 19.2]	100.0 N = 71
	Middle income (€1,500 to €3,499)	12.1 [8.7, 15.5]	68.6 [63.7, 73.4]	19.4 [15.2, 23.5]	100.0 N = 248
	High income (more than €3,500)	10.1 [4.1, 16.2]	72.5 [63.5, 81.4]	17.4 [9.8, 25.0]	100.0 N = 69
	Total	13.1 [10.3, 16.0]	69.1 [65.2, 72.9]	17.8 [14.6, 21.0]	100.0 N = 388
Fisher's exact test for independence: p-value = 0.37					

Notes: The table shows labour supply responses to the 2013 payroll tax change (Item 2, see Appendix) by income. Cells show row-normalised proportions in per cent, 90 per cent confidence interval [in brackets] and frequencies. Proportions may not sum to one due to rounding errors.

Borjas (2005) and Meghir and Phillips (2010) conclude that the effect of tax changes on women's hours worked is slightly stronger than it is for men. Table 9 indicates, however, that gender does not have a significant influence on labour supply responses in our data.

Table 9: Labour supply responses by gender

		Impact on general job-related efforts			
		Reduced labour supply	Unchanged	Increased labour supply	Total
Gender	Male	9.8 [6.7, 12.9]	71.4 [66.7, 76.2]	18.8 [14.7, 22.9]	100.0 N = 245
	Female	14.9 [11.1, 18.6]	70.3 [65.5, 75.1]	14.9 [11.1, 18.6]	100.0 N = 249
	Total	12.4 [9.9, 14.8]	70.9 [67.5, 74.2]	16.8 [14.0, 19.6]	100.0 N = 494
Fisher's exact test for independence: p-value = 0.16					

Notes: The table shows labour supply responses to the 2013 payroll tax change (Item 2, see Appendix) by gender. Cells show row-normalised proportions in per cent, 90 per cent confidence interval [in brackets] and frequencies. Proportions may not sum to one due to rounding errors.

Again, this continues to hold when considering interactions of female with employment status, number of children, and an indicator for whether the woman is in a relationship.

Table 10 focuses on whether perceiving the tax change as permanent or only temporary matters for labour supply reactions of our respondents. Life-cycle models predict that permanent and temporary tax changes will have different impacts and the matter is also of practical interest because many business cycle stimulus measures are temporary. We measure the respondents' perception of the tax change using two items from the survey. First, we ask whether respondents expected the current rate cut to be reversed in the future and, second, whether respondents expect lower pensions as a consequence of the payroll reduction. Respondents answering either question affirmatively are viewed as perceiving the tax change to be temporary.

Table 10: Do temporary tax changes have a different impact?

		Impact on general job-related efforts			
		Reduced labour supply	Unchanged	Increased labour supply	Total
Perception of tax change	Permanent	12.2 [5.9, 18.5]	63.5 [54.2, 72.8]	24.3 [16.1, 32.6]	100.0 N = 74
	Temporary	12.5 [9.5, 15.6]	71.0 [66.8, 75.1]	16.5 [13.1, 19.9]	100.0 N = 327
	Total	12.5 [9.7, 15.2]	69.6 [65.8, 73.4]	18.0 [14.8, 21.1]	100.0 N = 401
Fisher's exact test for independence: p-value = 0.28					

Notes: The table shows labour supply responses to the 2013 payroll tax change (Item 2, see Appendix) by perception of the tax change as either temporary or permanent (Items 3 and 4, see Appendix). Cells show row-normalised proportions in per cent, 90 per cent confidence interval [in brackets] and frequencies. Proportions may not sum to one due to rounding errors.

We find no statistically significant differences between respondents perceiving the tax change as permanent and those who view it as temporary. Note that the result also holds when studying each of the two items separately.

Table 11 investigates the importance of interest rates for labour supply adjustment.

Table 11: Labour supply responses by assessment of savings' profitability

		Impact on general job-related efforts			
		Reduced labour supply	Unchanged	Increased labour supply	Total
Assessment of savings' profitability	Less than 10 years ago	13.6 [10.2, 17.0]	72.0 [67.6, 76.5]	14.3 [10.9, 17.8]	100.0 N = 279
	Unchanged	11.0 [5.6, 16.4]	64.8 [56.5, 73.1]	24.2 [16.7, 31.6]	100.0 N = 91
	More than 10 years ago	6.5 [-0.9, 13.8]	61.3 [46.6, 76.0]	32.3 [18.2, 46.3]	100.0 N = 31
	Total	12.5 [9.7, 15.2]	69.6 [65.8, 73.4]	18.0 [14.8, 21.1]	100.0 N = 401
Fisher's exact test for independence: p-value = 0.05					

Notes: The table shows labour supply responses to the 2013 payroll tax change (Item 2, see Appendix) by assessment of savings' profitability (Item 5, see Appendix). Cells show row-normalised proportions in per cent, 90 per cent confidence interval [in brackets] and frequencies. Proportions may not sum to one due to rounding errors.

We asked our respondents how they perceive current returns to savings relative to a benchmark (see Item 5 in Appendix). Fisher's exact test lends some credibility to the view that individual perception of the current attractiveness of savings is related to differential labour supply responses. Respondents who find savings relatively unattractive are more likely to reduce labour supply than to increase labour supply. This suggests that returns on savings provide an incentive for labour supply expansion. One potential explanation for this is that in a life-cycle perspective, interest rates determine the marginal benefits of expanding or reducing labour supply.

Robustness in a regression framework

To analyse the robustness of our previous conclusions in a regression framework, we run an ordered logistic regression using as a dependent variable the answers to our second item collapsed into a three-point-scale. As explanatory variables, we include dummies for different occupational groups, household income in €1,000s, and indicator variables for sex and whether the respondent is in a relationship. Additionally, we include the respondent's age, the number of children, an indicator variable for whether the respondent has achieved at least a university-entrance diploma, and dummy variables indicating union membership, perception of the tax change as temporary, and assessment of savings' return as currently low. Table 12 contains the results.

Table 12: Covariates of labour supply adjustments

	Odd ratio	Marginal effects		
		Decreased labour supply	Unchanged	Increased labour supply
Base category 'All employees'				
In apprenticeship	1.03	-0.003	-0.001	0.004
Self-employed	1.69*	-0.058	-0.019	0.077*
Insignificantly employed	1.36	-0.033	-0.011	0.045
Household income	1.14	-0.014	-0.005	0.019
Female	0.82	0.022	0.007	-0.029
In relationship	0.55*	0.065*	0.022	-0.087*
Number of children	1.31*	-0.030*	-0.010	0.040*
Perceiving tax change as temporary	0.90	0.012	0.004	-0.016
Perceiving current returns on savings as low	0.49**	0.078**	0.026	-0.104**
Highly educated	1.67	-0.056	-0.019	0.075
Age	0.98	0.002	0.001	-0.003
Union member	0.89	0.012	0.004	-0.017
Pseudo-R^2	0.04	Log pseudolikelihood		-256.31
Significance of the model (p-value)	0.04			

Notes: The table shows results of an ordered logistic regression with dependent variable coded as: 1, reduced labour supply; 2, unchanged labour supply; and 3, increased labour supply. Statistical tests based on robust standard errors. Based on 317 observations. *, **, *** indicates statistical significance at the 10 per cent, 5 per cent, 1 per cent level, respectively.

The second column of Table 12 shows coefficients in the form of odd ratios, whereas columns 3 to 5 contain average marginal effects. Our results indicate that respondents who perceive interest rates as low and those who are in a relationship are 10 pp and 9 pp, respectively, less likely to increase their labour supply. The self-employed and those with two children have an 8 pp greater likelihood of exhibiting a more expansionary labour supply reaction.

5 Conclusion

We study self-reported labour supply responses to taxation using two questions from a specifically designed, representative survey of the German population. First, we investigate the extent to which the German population is sensitive to taxation. Around 41 per cent of our respondents state that taxation is generally relevant for their labour supply decisions. This suggests that taxation appears to

be unimportant in the everyday labour supply decisions of the majority of the German population. Second, we use a recently enacted payroll tax change to study specific labour supply responses to a real-world tax change. Around 12 per cent of all respondents report a labour supply adjustment. However, income and substitution effects of the tax change nearly cancel each other out, so that the net effect on labour supply is likely small.

We use our representative survey data to analyse the influence of socio-demographic and economic variables on labour supply responses to taxation. Around 61 per cent of the self-employed state that taxation is relevant for their labour supply decisions, which is significantly higher than the corresponding share of the total working population. However, responses do not vary significantly across employment status, gender, and income. Using our second research item, we find that around 12 per cent of all respondents report an actual labour supply adjustment to the 2013 payroll tax change. Again, this share does not vary across employment status, gender, and income. Instead, we find that respondents perceiving current interest rates as relatively low have a significantly reduced probability of expanding their labour supply.

Our results have several implications for economic modelling and policy making. First, we conclude that labour supply responses to tax changes are not a central element of the transmission mechanism of tax policy shocks in Germany. This is compatible with aggregate time series evidence from Hayo and Uhl (2014a), who, despite discovering a strong reaction of aggregate economic activity, do not find effects of tax changes on employment or hours worked over the medium term. Hence, consumption and investment responses to tax changes appear more important in the transmission of tax policy shocks (Hayo and Uhl 2014a, 2014b) and this result could guide future empirical and theoretical research. Our results also imply that the deadweight loss associated with taxation of labour income is low for all the income brackets covered by our survey data and that normal-sized tax policy changes have limited effects on labour markets.[4] However, we find self-employed respondents to be relatively more responsive to taxation. Hence, taxation of the self-employed appears to be associated with relatively large efficiency costs. Finally, if respondents perceive the current interest rates in Germany as low, they tend to reduce their labour supply.

Using self-reported responses to economic policy could supplement extant quantitative, econometric approaches in other applications, too. For example, investment is likely to be much more responsive to taxation than is labour supply (Mertens and Ravn 2012; Hayo and Uhl 2014a), and thus studying self-reported responses to tax changes at the firm level seems a promising endeavour.

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Appendix: Summary of the survey instrument

No	Item
Intro	At the beginning of 2013, contribution rates to the statutory pension system have been reduced. In effect, this reduces the overall tax burden. We are interested in your responses to the rate cut.
1	Does the tax burden usually matter when you determine extent and intensity of your work activities? Reply: 'Yes', 'No'
2	What impact does the contribution rate cut have on your general job-related activities? Reply: 'I substantially reduced my job-related activities' (–2) to 'I substantially expanded my job-related activities' (+2)
3	Will the recent cut in pension insurance contribution rates lead to higher contribution rates in the future? Reply: 'Yes', 'No'
4	Will the recent cut in pension insurance contribution rates lead to lower pension payments? Reply: 'Yes', 'No'
5	How profitable do you think savings are in Germany today compared with ten years ago? Reply: 'Much less than ten years ago' (–2) to 'Much more than ten years ago' (+2)

Notes: The table provides information on our main survey items. Items 2 and 5 have a five-point scale. Hayo et al. (2014) contains a full documentation of the survey instrument, as well as the original version of the questionnaire in German.

No. 12-2014

Bernd Hayo, Florian Neumeier and Matthias Uhl

Topics in Fiscal Policy: Evidence from a Representative Survey of the German Population

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Topics in Fiscal Policy:
Evidence from a Representative Survey of the German Population

Abstract This paper provides background information and basic descriptive statistics for a representative survey of the German population conducted on our behalf by *GfK* in the first quarter of 2013. The survey addresses important topics in fiscal policy, including: 1) public preferences on the composition of fiscal expenditure; 2) public preferences on public debt; 3) the effect of tax changes on consumption and savings; and 4) the effect of tax changes on labour market activities.

1. Introduction

This paper provides background information and basic descriptive statistics for a representative survey of the German population conducted on our behalf by *GfK* in the first quarter of 2013. The survey addresses important topics in fiscal policy, including: 1) public preferences on the composition of fiscal expenditures; 2) public preferences on public debt and different consolidation measures; 3) the effect of tax changes on consumption and savings; and 4) the effect of tax changes on labour market activities. The survey data are analysed in a series of research papers by the Macroeconomics Group of Marburg University, with the purpose of the present paper being to give full documentation of the survey.

Section 2 introduces the survey instrument and Appendix A contains the full questionnaire, both in the original German version as well as an English translation. Appendix B gives basic descriptive statistics for all survey items.

2. The survey instrument

The survey was conducted as part of an omnibus survey between February 15th, 2013 and March 1st, 2013, and administered by *GfK*. *GfK* is one of the largest private research companies in Germany, focusing on the fields of market research and public opinion. The sample consists of 2,042 representatively selected persons from the German population aged 14 or above. Methodologically, the survey is based on quota sampling. Table 1 compares important characteristics of our survey sample with those of the general population. The correspondence level is high, indicating that our survey sample is representative of the general population. The survey questions were implemented in face-to-face interviews using Pen-Pads. The interviewers followed specific instructions as described in the survey instrument. Appendix A contains the full text of the questionnaire, including comments for the interviewers, both in the original German version as well as an English translation.

The first part of the survey sheds light on the interviewees' preferences on public spending priorities. At the beginning of the survey, six major policy areas are listed and briefly described; the current amount of public spending on these areas is then given both in euros per capita as well as in relation to total public spending. We believe these relative measures to be more comprehensible to the respondents than absolute figures. The policy areas listed in the survey are those on which the German government currently spends the most: social security, public safety, education, infrastructure, economic development, and defence. The interviewees were asked about the policy areas the government should spend more (Item 1) or less (Item 2) money on according to their opinion. Multiple answers are possible. Interviewees who prefer spending hikes in at least one policy area are then asked about how additional spending should be financed (Item 1a), and those who prefer spending cuts in any area are asked about how the additional funds should be used (Item 2a). In both cases, three options are given: spending hikes (spending cuts) possibly financed through

(used for) a tax hike (tax cut); public borrowing (public debt reduction); or a decrease (increase) in public spending in any other policy area. Again, we allow for multiple answers.

Table 1 Comparison of sample to population

Property	Population distribution in %	Sample distribution in %	Frequency in sample	Property	Population distribution in %	Sample distribution in %	Frequency in sample
Gender				**Occupation of head of household**			
Male	49	49	996	Blue-collar worker	24	24	494
Female	51	51	1046	White-collar worker	32	32	653
				Public servant	4	4	82
Age				Self-employed	8	8	159
14 – 15	2	2	39	Non-working	32	32	653
16 – 19	5	5	104				
20 – 29	14	14	278	**State**			
30 – 39	13	13	270	Schleswig-Holstein	4	4	74
40 – 49	19	19	389	Hamburg	2	2	41
50 – 59	17	17	341	N.sachsen/Bremen	11	11	216
60 – 69	13	13	265	Nordrhein-Westfalen	22	21	439
70 +	17	17	356	Hessen	7	7	151
				R.-Pfalz/Saarland	6	6	127
Household size				B.-Wuerttemberg	13	13	261
1	22	22	457	Bayern	15	15	312
2	39	38	784	M.-Vorpommern	2	2	43
3	18	18	366	Sachsen-Anhalt	3	3	59
More	21	21	436	Brandenburg	3	3	65
				Thueringen	3	3	59
City size				Sachsen	5	6	112
- 4999	15	15	314	Berlin	4	4	82
5000 – 19999	27	27	549				
20000 – 99999	28	28	564				
100000 +	30	30	615				

Notes: Table compares the distribution of specific characteristics in the general population with the survey sample. Sample distribution is based on a total of 2,042 observations.

By directly relating public spending to public revenues, we compel the interviewees to take the public budget constraint into account when giving their answers, so as to circumvent the occurrence of the 'more-for-less paradox' (Welch, 1985). Note that the questionnaire is

constructed in such a way that interviewees have to answer consistently, e.g. interviewees who prefer an increase in public spending in any policy area and believe that the increase should be financed through a reduction in public spending in another area are obliged to name at least one policy area in which public spending should be cut. Note, however, that this set-up does not necessarily result in a balanced budget when considering actual financial flows. For instance, cuts in defence spending are unlikely to be sufficient for a notable increase in social security spending.

Item 3 refers to a tax estimation according to which the German government is going to increase revenues by €23 billion more than previously expected within the next four years. The estimate is provided by the Working Party on Tax Revenue Forecasting ('Arbeitskreis Steuerschätzung') and was published in October 2012, i.e. roughly four months before the survey was conducted (cf. BMF, 2012). The interviewees are asked how the state should use these additional revenues. The choice was between nine alternatives: decreasing taxes, reducing public debt, or increasing public spending on social security, public safety, education, infrastructure, economic development, defence, or other areas. The interviewees can voice a maximum of three preferences, which must also be ranked. In this specific scenario, money comes 'out of the blue', so that respondents do not have to take public budget constraints into account.

Item 4 studies the interviewees' attitudes toward public indebtedness. First, we asked the interviewees whether they think that the state should reduce public debt, keep the level of public debt unchanged, or incur additional public debt. Those who opt for a reduction of public debt are then asked about their preferred consolidation measure (Item 4a); those who favour an incurrence of additional public debt are asked what the additional funds should be used for (Item 4c). In both cases, the respondents can choose between eight different options: increase (decrease) taxes or decrease (increase) public spending on social security, public safety, education, infrastructure, economic development, defence, or other areas. Yet again, each interviewee can voice at most three alternatives, which must also be ranked.

Interviewees who state that public debt should be reduced are asked to answer an additional question. In Item 4b, we introduce three alternative (hypothetical) debt-reduction paths, and ask respondents which path they think the government should adopt. According to path A, debt reduction will be distributed *evenly* over the following years. Path B implies that a *smaller* amount of public debt will be reduced *in the near future* and a *larger* amount *in the far future*; according to path C, a *larger* amount of debt will be reduced *in the near future* and a *smaller* amount *in the far future*. The different debt-reduction paths are graphically illustrated on the interviewer's laptop by means of different stacks of money coins. The aim of this item is to analyse the intensity of the respondents' public debt aversion. We believe that respondents who chose path C can be considered more debt averse than those who prefer path A or B; respondents who chose path A may be considered more debt averse than those who opted for path B.

Item 5 elicits the interviewees' attitudes toward the German 'debt brake'. In 2009, the German constitution was amended, introducing a balanced budget rule. According to this rule, the German federal government is not allowed to run an annual structural deficit of more than 0.35% of GDP from 2016 onwards. To simplify matters for the respondents, we refrain from using the term 'structural deficit' along with the measure of 0.35% of GDP in the wording of the item. Instead, we state that the government can take on 'almost no additional public debt' from 2016 onwards. Exemptions are allowed only in case of economic crises or natural disasters. Respondents are asked to indicate whether they are (i) against the debt brake; (ii) in favour of the debt brake; or (iii) believe that the debt brake does not go far enough, i.e. that the government should not be allowed to incur additional public debt at all.

Item 6 is designed to qualitatively evaluate individual consumption responses to the accumulation of public debt. All interviewees were asked to indicate whether they (i) spent a larger proportion of their income; (ii) a smaller proportion of their income (in reaction to the government's increasing reliance on debt financing); or (iii) their behaviour was not affected by the public debt situation at all.

Items 7 to 9 are included for assessing the interviewees' risk and time preferences, respectively. Within the context of these questions, non-incentivised 'experiments' were conducted involving financial decisions. All three items emulate incentivised experiments conducted within the 2006 wave of the German Socio-Economic Panel (SOEP). In particular, the wording of the instructions for both the interviewer and the interviewee, the structure of the payoff tables, and the sequence of actions is the same as in the SOEP experiments (cf. TNS-Infratest Sozialforschung, 2011a; 2011b). We modify the payoffs in column A of Item 7, respective column B of Item 8 and 9, to show that, as in the SOEP data, the distribution of answers is strongly convex, i.e. only a few people choose small payoffs, while many people choose large payoffs. Two experiments are conducted to assess the respondents' time preferences (Items 8 and 9) in order to account for the fact that many people are observed to have time-inconsistent preferences, meaning that they are more patient in the long run than in the short run. By varying the timing of the payoffs across Items 8 and 9, we allow individual discount rates between two equidistant periods to vary with the timing of the earliest possible payoff.

For the remaining items, the laptop is handed over to the interviewee. The interviewer is not able to monitor what the interviewee enters, and provides assistance only in the case of questions. That way, we want to make sure that each interviewee answers the following questions honestly.

Item 10 contains five couples of contradictory statements. For each couple of statements, the interviewee is asked to indicate with which statement he or she agrees. The first four statement couples assess different dimensions of (dis)trust in politicians. With the help of the last couple of statements, we are able to evaluate whether a respondent holds an egalitarian attitude. In Item 11, we ask which political party the respondent would vote for if

elections were held next Sunday. Altogether, we consider seven major German parties. In Item 12, respondents are asked to indicate whether they are union members. In Item 13, we ask whether the interviewee has children, and if so, how many. Item 14 evaluates the interviewees' satisfaction with their current economic situation. This item is based on a question from the German General Social Survey (GGSS/ALLBUS; cf. Terwey and Baltzer, 2013), the only exception being that we refer to the 'economic' situation, whereas respondents in the GGSS are asked about their 'personal' situation.

Item 15 is designed for studying the extent of the respondents' economic knowledge. We are particularly interested in their factual knowledge about debt-related economic indicators. Using multiple choice questions, we ask about (i) the German federal government's budget deficit in 2012 (correct answer: 1% of GDP); (ii) the current interest rate on government bonds with a maturity of 10 years (correct answer: 1.5%); and (iii) the inflation rate in 2012 (correct answer: 2%). All figures were released a couple of weeks before the survey was conducted and widely reported by the media.

Items 16 to 24 study consumption and labour supply responses to a recent payroll tax change in Germany. Specifically, at the beginning of 2013, contribution rates to the statuary pension insurance system in Germany were reduced from 19.6% to 18.9%, thereby lessening the overall tax burden for employees and employers. This payroll tax reduction is explicitly mentioned at the start of our survey on consumption and labour supply responses to tax changes.

The payroll tax change that forms the basis of our analysis affects only a subsample of the general German population. All employees contribute to the statutory pension insurance system. In addition, certain employers, freelancers, and the insignificantly employed pay into the government's pension insurance system, some doing so voluntary. The *Bundesagentur für Arbeit*, the German federal job centre, directly pays pension insurance contribution rates for the unemployed, whereas public servants and those not part of the labour force – including pensioners and inactive working-age population – are not subject to payroll taxation. Adequate filtering is in place to ensure that only respondents that are subject to payroll taxation are confronted with our questions. Thus, we ask all employees and those employers, freelancers, and insignificantly employed who state that they contribute to the statutory pension insurance system for their consumption responses. When observing labour supply effects, we also add unemployed persons. Items 16 and items 17 contain the corresponding filter questions.

Item 18 is designed for measuring consumption responses. The main references for this question are Sahm et al. (2012) and Shapiro and Slemrod (1995, 2003, 2009). We measure consumption responses using a qualitative approach, assuming that respondents are more likely to accurately answer a qualitative question rather than a quantitative one. Item 19 and item 20 are constructed for capturing whether the payroll tax change is perceived to be temporary or permanent. Item 21 builds on ideas proposed in Shapiro and Slemrod (2003), and is designed to measure the specific budgeting approach taken by the household. Item 22

is a statement battery intended to capture interviewees' perceptions of the macroeconomic environment. Specifically, it measures expectations about the future economic situation, inflation expectations, as well as assessments of savings' security and their profitability.

Items 23 and 24 measure interviewees' labour supply responses. In a pretest, many respondents were confused by being asked about their labour supply responses, as they seemed to think in terms of a fixed labour supply, with work organised in fixed-hour contracts. Accordingly, we opt for a two-stage approach, with the aim of reducing measurement error. First, we ask all respondents whether taxation matters for their labour supply decisions. We then ask the subset of respondents who have indicated that taxation is important for their labour supply decisions to state on a five-point scale whether they have increased or decreased labour supply following the 2013 payroll tax change.

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Die folgende Tabelle zeigt, wie viel Geld der Staat für verschiedene Aufgabenbereiche in der Vergangenheit pro Jahr ausgegeben hat und zwar sowohl in Euro pro Einwohner als auch als Anteil an den gesamten öffentlichen Ausgaben. Berücksichtigt wurden dabei die Aufgabenbereiche, für die der Staat am meisten ausgegeben hat.

Interviewer: Bitte geben Sie dem Befragten Zeit, die Tabelle aufmerksam zu betrachten!

Politikbereich	Ausgabenposten	Ausgaben pro Einwohner	Anteil an Gesamtausgaben
Soziale Sicherung	u.a. Arbeitslosenunterstützung, Sozialhilfe, Familien- und Jugendhilfe	7.660€	56,6%
Bildung	u.a. öffentliche Schulen und Hochschulen	1.125€	8,3%
Öffentliche Sicherheit und Ordnung	u.a. Polizei, Rechtsschutz	455€	3,3%
Infrastruktur	u.a. Straßen- und Städtebau	350€	2,6%
Wirtschaftsförderung	u.a. Mittelstandsförderung, Investitionszuschüsse an Unternehmen, Finanzhilfen an strukturschwache Regionen	335€	2,5%
Verteidigung	u.a. Militärausrüstung, Wehrsold, Bundeswehrverwaltung	335€	2,5%
Zusammen		10.260€	75,8%

Angenommen, Sie könnten die öffentlichen Ausgaben und Einnahmen nach Ihren Wünschen verändern. Beispielsweise könnten Sie die Ausgaben in einem Politikbereich erhöhen, müssten dafür aber entweder zusätzliche Kredite aufnehmen, die Steuern erhöhen, oder aber die Ausgaben in einem anderen Bereich senken. Oder aber Sie senken die Ausgaben in einem Politikbereich und nutzen die frei werdenden Mittel zum Abbau der öffentlichen

Schulden, zur Senkung der Steuern, oder zur Erhöhung der Ausgaben in einem anderen Politikbereich. Geben Sie im Folgenden bitte an, für welche der oben genannten Bereiche der Staat in Zukunft mehr und für welche er weniger ausgeben sollte. Geben Sie bitte auch an, auf welche Weise gewünschte Ausgabenerhöhungen finanziert werden sollten bzw. was mit frei werdenden Mitteln im Falle von Ausgabenkürzungen geschehen sollte.

Interviewer: Bitte klären Sie, ob der Befragte die Aufgabenstellung verstanden hat! Wenn nicht, bitte wiederholen und erläutern.

1 Für welche Politikbereiche sollte der Staat Ihrer Meinung nach in Zukunft **mehr** Geld ausgeben?

Der Staat sollte mehr Geld ausgeben für (Mehrfachnennungen möglich)…	
… Soziale Sicherung	□
… Bildung	□
… Öffentliche Sicherheit und Ordnung	□
... Infrastruktur	□
… Wirtschaftsförderung	□
… Verteidigung	□
… andere, hier nicht genannte Bereiche	□
Der Staat sollte in Zukunft <u>nicht</u> **mehr** Geld ausgeben	□

*Hinweis: Wird „Der Staat sollte in Zukunft <u>nicht</u> **mehr** Geld ausgeben" gewählt ist keine weitere Nennung zulässig!*

*[Automatische Filterung: Die folgende Frage war nur dann zu beantworten, wenn in irgendeinem Politikbereich **höhere Ausgaben** bevorzugt wurden]*

1A Die Ausgabenerhöhung(en) soll(en) finanziert werden durch (Mehrfachnennungen möglich)…

… Steuererhöhungen	□
… öffentliche Kreditaufnahme	□
… eine Kürzung der Ausgaben in anderen Bereichen (siehe unten)	□

2 Für welche Politikbereiche sollte der Staat Ihrer Meinung nach in Zukunft **weniger** Geld ausgeben?

Der Staat sollte weniger Geld ausgeben für (Mehrfachnennungen möglich)…	
… Soziale Sicherung	☐
… Bildung	☐
… Öffentliche Sicherheit und Ordnung	☐
… Infrastruktur	☐
… Wirtschaftsförderung	☐
… Verteidigung	☐
… andere, hier nicht genannte Bereiche	☐
Der Staat sollte in Zukunft <u>nicht</u> **weniger** Geld ausgeben	☐

*Hinweis: Wird „Der Staat sollte in Zukunft <u>nicht</u> **weniger** Geld ausgeben" gewählt ist keine weitere Nennung zulässig!*

*[Automatische Filterung: Die folgende Frage war nur dann zu beantworten, wenn in irgendeinem Politikbereich **geringere Ausgaben** bevorzugt wurden]*

2A Die frei werdenden Mittel sollen genutzt werden (Mehrfachnennungen möglich)…

… für Steuersenkungen	☐
… zum Abbau öffentlicher Schulden	☐
… zur Erhöhung der Ausgaben in anderen Bereichen (siehe oben)	☐

Interviewer: Bitte auf Konsistenz der Antworten achten! Wünscht ein Befragter beispielsweise in einem Bereich zusätzliche Ausgaben und gibt dabei in Frage 1A gleichzeitig an, dass diese durch Kürzungen der Ausgaben in anderen Bereichen finanziert werden sollte, impliziert das mindestens eine Nennung in den ersten sieben Kategorien bei Frage 2!

3 Die letzte Steuerschätzung hat ergeben, dass der Staat über die nächsten 4 Jahre hinweg insgesamt etwa 23 Milliarden Euro mehr einnehmen wird als zunächst erwartet worden war. Was sollte der Staat Ihrer Meinung nach mit diesen zusätzlichen 23 Milliarden Euro tun? Geben Sie bitte maximal drei Alternativen an, die Sie am stärksten befürworten.

	Befürworte ich am **stärksten**	Befürworte ich am **zweitstärksten**	Befürworte ich am **drittstärksten**
Die Steuern senken	☐	☐	☐
Öffentliche Schulden abbauen	☐	☐	☐
Die öffentlichen Ausgaben erhöhen für…			
… Soziale Sicherung	☐	☐	☐
… Öffentliche Sicherheit und Ordnung	☐	☐	☐
… Bildung	☐	☐	☐
… Infrastruktur	☐	☐	☐
… Wirtschaftsförderung	☐	☐	☐
… Verteidigung	☐	☐	☐
… andere, hier nicht genannte Bereiche	☐	☐	☐
Keine Angabe	☐	☐	☐

Hinweis: In jeder Spalte ist jeweils nur eine Nennung zulässig!

4 Ende 2012 lag die Staatsverschuldung in Deutschland bei über 2 Billionen Euro. Das sind etwa 26.000 Euro pro Einwohner bzw. 80% des Bruttoinlandsprodukts. Wenn es nach Ihnen ginge: Sollte der Staat seine Schulden abbauen, sie auf dem derzeitigen Niveau belassen, oder sogar noch zusätzliche Schulden aufnehmen?

Schulden abbauen	☐
Schulden auf derzeitigem Niveau halten	☐
Zusätzliche Schulden aufnehmen	☐

4A Was sollte der Staat am ehesten tun, um die Schulden abzubauen? Geben Sie bitte maximal drei Alternativen an, die Sie am stärksten befürworten.

	Befürworte ich am **stärksten**	Befürworte ich am **zweitstärksten**	Befürworte ich am **drittstärksten**
Die Steuern erhöhen	☐	☐	☐
Die öffentlichen Ausgaben kürzen für…			
… Soziale Sicherung	☐	☐	☐
… Öffentliche Sicherheit und Ordnung	☐	☐	☐
… Bildung	☐	☐	☐
… Infrastruktur	☐	☐	☐
… Wirtschaftsförderung	☐	☐	☐
… Verteidigung	☐	☐	☐
… andere, hier nicht genannte Bereiche	☐	☐	☐
Keine Angabe	☐	☐	☐

Hinweis: Bei dieser Frage ist in jeder Spalte jeweils nur eine Nennung zulässig!

4B Angenommen, Sie könnten zwischen drei Strategien zum Schuldenabbau wählen (Stellen Sie sich vor, die unten dargestellten Münzstapel verdeutlichen den Schuldenabbau. Ein kleiner Münzstapel bedeutet, dass wenige Schulden abgebaut werden, ein großer Stapel bedeutet, dass viele Schulden abgebaut werden.):

Option A: Der Schuldenabbau wird gleichmäßig über alle Jahre verteilt, d.h. **in jedem Jahr** wird ein in etwa **gleich großer Teil** des Schuldenbergs abgetragen.
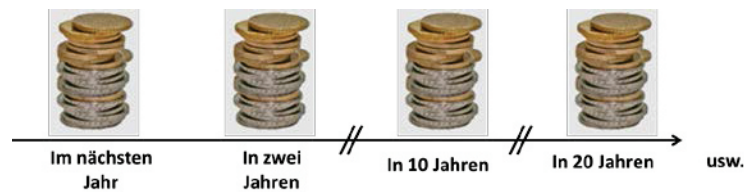
Option B: Das Ausmaß des Schuldenabbaus wird über die Jahre hinweg Stück für Stück erhöht, d.h. **in naher Zukunft** wird **ein kleinerer Teil** des Schuldenbergs abgebaut und **in ferner Zukunft ein größerer Teil**.

Option C: Das Ausmaß des Schuldenabbaus wird über die Jahre Stück für Stück verringert, d.h. **in naher Zukunft** wird **ein größerer Teil** des Schuldenbergs abgebaut und **in ferner Zukunft ein kleinerer Teil**.

Für welche dieser Optionen würden Sie sich am ehesten entscheiden?

Option A: **In jedem Jahr** sollte **ein etwa gleich großer Teil** des Schuldenbergs abgebaut werden	□
Option B: **In naher Zukunft** sollte **ein kleinerer Teil** des Schuldenbergs abgebaut werden und **in ferner Zukunft ein größerer Teil**	□
Option C: **In naher Zukunft** sollte **ein größerer Teil** des Schuldenbergs abgebaut werden und **in ferner Zukunft ein kleinerer Teil**	□
Keine Angabe	□

4C Wofür sollte der Staat am ehesten zusätzliche Schulden aufnehmen? Geben Sie bitte maximal drei Alternativen an, die Sie am stärksten befürworten.

	Befürworte ich am **stärksten**	Befürworte ich am **zweitstärksten**	Befürworte ich am **drittstärksten**
Die Steuern senken	☐	☐	☐
Die öffentlichen Ausgaben erhöhen für…			
… Soziale Sicherung	☐	☐	☐
… Öffentliche Sicherheit und Ordnung	☐	☐	☐
… Bildung	☐	☐	☐
… Infrastruktur	☐	☐	☐
… Wirtschaftsförderung	☐	☐	☐
… Verteidigung	☐	☐	☐
… andere, hier nicht genannte Bereiche	☐	☐	☐
Keine Angabe	☐	☐	☐

Hinweis: Bei dieser Frage ist in jeder Spalte jeweils nur eine Nennung zulässig!

5 Ab 2016 tritt auf Bundesebene die Schuldenbremse in Kraft. Diese sieht vor, dass der Bund so gut wie keine zusätzlichen Schulden mehr aufnehmen darf. Ausnahmen sind nur bei schlechter wirtschaftlicher Entwicklung oder bei Auftreten von Naturkatastrophen zulässig. Was ist Ihre Meinung zur Schuldenbremse?

Ich bin gegen die Schuldenbremse, die Kreditaufnahme des Bundes sollte nicht beschränkt werden	☐
Ich befürworte die Schuldenbremse in der oben beschriebenen Form	☐
Die Schuldenbremse geht nicht weit genug, der Bund sollte überhaupt keine Kredite aufnehmen dürfen	☐
Keine Angabe	☐

6 Der Schuldenstand des Staates ist zwischen 2008 und 2012 deutlich gewachsen. Hat die zunehmende Kreditfinanzierung der öffentlichen Ausgaben in den vergangenen Jahren etwas an Ihrem Ausgabe- und Sparverhalten geändert?

Ja, ich gebe **einen geringeren Teil** meines Einkommens aus und spare dafür **einen größeren Teil**	☐
Ja, ich gebe **einen größeren Teil** meines Einkommens aus und spare dafür **einen geringeren Teil**	☐
Nein, ich habe mein Verhalten infolge der wachsenden Staatsverschuldung nicht geändert	☐

7 Als nächstes möchten wir gerne einige kurze Verhaltensexperimente durchführen, bei denen es um finanzielle Entscheidungen geht. Beim ersten Experiment treffen Sie Ihre Entscheidungen anhand dieser Tabelle (untenstehende Liste vorlegen). In jeder Zeile sehen Sie zwei Alternativen. Sie können wählen zwischen einem festen Geldbetrag, den Sie „sicher" ausbezahlt bekommen und einer Lotterie nach dem Prinzip „Alles oder nichts": hier können Sie mit 50% Wahrscheinlichkeit 1.000 Euro gewinnen und mit 50% Wahrscheinlichkeit nichts.

Sie beginnen bitte mit Zeile 1 und gehen dann von Zeile zu Zeile weiter. In jeder Zeile entscheiden Sie sich bitte zwischen der sicheren Auszahlung (Spalte A) und der Lotterie (Spalte B). Die Lotterie bleibt in allen Zeilen gleich. Nur der Betrag der sicheren Auszahlung (links) steigt von Zeile zu Zeile.

	Sie erhalten…		Sie erhalten…
	Sicher		**1.000€ oder nichts**
			Gewinnchance 50:50
	A	**oder**	**B**
1	0 € sicher		Gewinnchance 1.000€ / 0€
2	100 € sicher		Gewinnchance 1.000€ / 0€
3	200 € sicher		Gewinnchance 1.000€ / 0€
4	300 € sicher		Gewinnchance 1.000€ / 0€
5	400 € sicher		Gewinnchance 1.000€ / 0€
6	500 € sicher		Gewinnchance 1.000€ / 0€
7	600 € sicher		Gewinnchance 1.000€ / 0€
8	700 € sicher		Gewinnchance 1.000€ / 0€
9	800 € sicher		Gewinnchance 1.000€ / 0€
10	900 € sicher		Gewinnchance 1.000€ / 0€

Interviewer: Starten Sie bitte mit Zeile 1 und der Frage: „Wie entscheiden Sie sich? 0€ sicher oder Gewinnchance 1.000€ / 0€?". Entscheidet sich der Befragte für Option B, geht es weiter mit Zeile zwei und der Frage „Wie entscheiden Sie sich? 100€ sicher oder Gewinnchance 1.000€ / 0€?" usw. Das Experiment ist beendet, sobald der Befragte sich das erste Mal für Option A entscheidet. Bitte notieren Sie die Nummer der Zeile, in der sich der Befragte das erste Mal für Option A entschieden hat.

Option A wurde gewählt in Zeile Nummer: ☐

8 Im nächsten Experiment treffen Sie Ihre Entscheidungen anhand dieser Tabelle (untenstehende Liste vorlegen). In jeder Zeile sehen Sie zwei Alternativen. Sie können wählen zwischen einem festen Betrag von 1.000€, den Sie **sofort** ausgezahlt bekommen und einem etwas höheren Betrag, der Ihnen aber erst **in 6 Monaten** ausgezahlt wird.

Sie beginnen bitte mit Zeile 1 und gehen dann von Zeile zu Zeile weiter. In jeder Zeile entscheiden Sie sich bitte zwischen den 1.000€ **sofort** (Spalte A) und dem höheren Betrag **in 6 Monaten** (Spalte B). Der Betrag links bleibt in allen Zeilen gleich, nur der Betrag rechts steigt von Zeile zu Zeile.

	Sie erhalten… **Heute** A	oder	Sie erhalten… **In 6 Monaten** B
1	1.000 €		1.000 €
2	1.000 €		1.010 €
3	1.000 €		1.020 €
4	1.000 €		1.030 €
5	1.000 €		1.050 €
6	1.000 €		1.075 €
7	1.000 €		1.100 €
8	1.000 €		1.150 €
9	1.000 €		1.200 €
10	1.000 €		1.300 €
11	1.000 €		1.400 €
12	1.000 €		1.500 €
13	1.000 €		1.750 €
14	1.000 €		2.000 €

Interviewer: Starten Sie bitte mit Zeile 1 und der Frage: „Wie entscheiden Sie sich? 1.000€ heute oder 1.000€ in 6 Monaten?". Entscheidet sich der Befragte für Option A, geht es weiter mit Zeile zwei und der Frage „Wie entscheiden Sie sich? 1.000€ heute oder 1.010€ in 6 Monaten?" usw. Das Experiment ist beendet, sobald der Befragte sich das erste Mal für Option B entscheidet. Bitte notieren Sie die Nummer der Zeile, in der sich der Befragte das erste Mal für Option B entschieden hat.

Option B wurde gewählt in Zeile Nummer:

9 Im letzten Experiment treffen Sie Ihre Entscheidungen anhand dieser Tabelle (untenstehende Liste vorlegen). In jeder Zeile sehen Sie wieder zwei Alternativen. Sie können wählen zwischen einem festen Betrag von 1.000€, den Sie **in 6 Monaten** ausgezahlt bekommen und einem etwas höheren Betrag, der Ihnen aber erst **in 12 Monaten** ausgezahlt wird.

Sie beginnen bitte mit Zeile 1 und gehen dann von Zeile zu Zeile weiter. In jeder Zeile entscheiden Sie sich bitte zwischen den 1.000€ **in 6 Monaten** (Spalte A) und dem höheren Betrag **in 12 Monaten** (Spalte B). Der Betrag links bleibt in allen Zeilen gleich, nur der Betrag rechts steigt von Zeile zu Zeile.

| | Sie erhalten… | | Sie erhalten… |
| | **In 6 Monaten** | | **In 12 Monaten** |
	A	**oder**	**B**
1	1.000 €		1.000 €
2	1.000 €		1.010 €
3	1.000 €		1.020 €
4	1.000 €		1.030 €
5	1.000 €		1.050 €
6	1.000 €		1.075 €
7	1.000 €		1.100 €
8	1.000 €		1.150 €
9	1.000 €		1.200 €
10	1.000 €		1.300 €
11	1.000 €		1.400 €
12	1.000 €		1.500 €
13	1.000 €		1.750 €
14	1.000 €		2.000 €

Interviewer: Starten Sie bitte mit Zeile 1 und der Frage: „Wie entscheiden Sie sich? 1.000€ in 6 Monaten oder 1.000€ in 12 Monaten?". Entscheidet sich der Befragte für Option A, geht es weiter mit Zeile zwei und der Frage „Wie entscheiden Sie sich? 1.000€ in 6 Monaten oder 1.010€ in 12 Monaten?" usw. Das Experiment ist beendet, sobald der Befragte sich das erste Mal für Option B entscheidet. Bitte notieren Sie die Nummer der Zeile, in der sich der Befragte das erste Mal für Option B entschieden hat.

Option B wurde gewählt in Zeile Nummer: ☐

Für die folgenden Fragen würde ich Ihnen jetzt gerne das Gerät übergeben und Sie bitten, die entsprechenden Antworten selbst auszufüllen. Bitte antworten Sie ganz ehrlich. Ich versichere Ihnen, dass Ihre Angaben absolut vertraulich und anonym behandelt werden. Die Auswertung der Daten wird nur auf Basis aller durchgeführten Interviews erfolgen, eine Zuordnung Ihrer Angaben zu Ihrer Person ist nicht möglich.

Bei Fragen stehe ich Ihnen gerne zur Verfügung.

Interviewer: Bitte für diesen Komplex das Gerät zum Selbstausfüllen an die Befragte übergeben!

10 Sie finden weiter unten eine Gegenüberstellung einiger gegensätzlicher Aussagen über Staat und Politik. Bitte geben Sie jeweils an, welcher der Aussagen sie am ehesten zustimmen.

Den Politikern in Deutschland kann man im Großen und Ganzen vertrauen	☐	☐	☐	☐	☐	Ich habe überhaupt kein Vertrauen in die Politiker in Deutschland
Die meisten Politiker in Deutschland handeln im Sinne des Allgemeinwohls	☐	☐	☐	☐	☐	Die meisten Politiker in Deutschland bedienen lediglich die Interessen einzelner Gruppen
Den meisten Politikern geht es bei Ihren Entscheidungen darum, was langfristig am besten für das Land ist	☐	☐	☐	☐	☐	Die meisten Politiker denken bei ihren Entscheidungen nur bis zur nächsten Wahl
Der Staat geht gewissenhaft mit Steuergeldern um	☐	☐	☐	☐	☐	Der Staat verschwendet Steuergelder
Der Staat sollte für gleichwertige Lebensverhältnisse sorgen	☐	☐	☐	☐	☐	Der Staat sollte in die Lebensverhältnisse der Menschen nicht eingreifen

11 Wenn am kommenden Sonntag Bundestagswahl wäre, welche Partei würden Sie dann mit Ihrer Zweitstimme wählen?

CDU/CSU	☐
SPD	☐
Bündnis 90/Die Grünen	☐
FDP	☐
Piraten	☐
Linkspartei/PDS	☐
NPD	☐
Andere Partei	☐
Würde nicht wählen	☐

12 Sind Sie Mitglied in einer Gewerkschaft?

Ja	☐
Nein	☐

13 Haben Sie Kinder? Wenn ja, wie viele?

Ja	☐	Bitte Anzahl eingeben: ____
Nein	☐	

14 Wie zufrieden sind Sie, alles in allem, mit Ihrer wirtschaftlichen Situation?

Ganz und gar zufrieden	☐	☐	☐	☐	☐	Ganz und gar unzufrieden

15 Anschließend würden wir Ihnen gerne einige Wissensfragen stellen. Bitte kreuzen Sie diejenige Antwort an, die Sie für richtig halten.

Wie hoch war 2012 die Neuverschuldung des Bundes in Prozent des Bruttoinlandsprodukts ungefähr?	1% ☐	3% ☐	5% ☐	7% ☐
Wie hoch ist derzeit der Zins auf langfristige Staatsanleihen (Laufzeit: 10 Jahre) ungefähr?	1,5% ☐	3% ☐	5,5% ☐	10% ☐
Wie hoch war die Inflationsrate in 2012 ungefähr?	0% ☐	2% ☐	5% ☐	10% ☐

Anfang 2013 wurde der Beitragssatz zur gesetzlichen Rentenversicherung gesenkt. Im Ergebnis sinkt dadurch die Abgabenbelastung. Wir möchten Ihnen nun einige Fragen zu Ihrer Reaktion auf die Beitragssatzsenkung stellen.

16 Um Ihnen im Folgenden die passenden Fragen stellen zu können, benötigen wir eine Information zu Ihrer beruflichen Situation. Was trifft auf Sie am ehesten zu?

Arbeiter(in) oder Angestellte(r)	☐
Auszubildende(r)	☐
Arbeitssuchende(r)	☐
Unternehmer(in), Selbstständige(r) oder Freiberufler(in)	☐
Beamter/in	☐
Schüler(in) oder Student(in)	☐
Geringfügig oder unregelmäßig Beschäftigte(r)	☐
Rentner(in) oder Pensionär(in)	☐
Sonstiges	☐

17 Zahlen Sie zurzeit in die gesetzliche Rentenversicherung ein, um für sich selber Rentenversicherungsansprüche zu erwerben?

Ja □

Nein □

18 Wenn Sie an die Finanzsituation Ihres Haushaltes denken, wofür verwenden Sie das durch die Beitragssatzsenkung zusätzlich bereitgestellte Haushaltseinkommen am ehesten? Um zusätzliche Ausgaben zu tätigen, um Schulden abzubauen oder um zu sparen?

Um Ausgaben zu tätigen □

Um Schulden abzubauen □

Um zu sparen □

19 Was denken Sie, wird die aktuelle Senkung der Rentenversicherungsbeiträge in Zukunft zu höheren Rentenversicherungsbeiträgen führen?

Ja □

Nein □

20 Und denken Sie, dass die aktuelle Senkung der Rentenversicherungsbeiträge in Zukunft zu niedrigeren Renten aus der gesetzlichen Rentenversicherung führen wird?

Ja □

Nein □

21 Haushalte haben verschiedene Arten, Ihr Haushaltsbudget zu planen. Was würde Ihre Vorgehensweise am ehesten beschreiben?

Ich versuche, monatlich einen festen Betrag zu sparen oder zum Rückzahlen von Schulden zu verwenden.	☐
Ich versuche, monatlich einen festen Betrag für Ausgaben zu verwenden.	☐
Nichts davon	☐

22 Wir möchten Ihnen noch einige allgemeine Fragen stellen.

Was denken Sie, wie wird Ihre eigene wirtschaftliche Lage in einem Jahr sein?	Wesentlich schlechter als heute				Wesentlich besser als heute
	☐	☐	☐	☐	☐
Was denken Sie, wie wird die Inflation in Deutschland in den nächsten fünf Jahren sein?	Wesentlich niedriger als heute				Wesentlich höher als heute
	☐	☐	☐	☐	☐
Was denken Sie, wie sicher sind Sparanlagen heute in Deutschland im Vergleich zu vor zehn Jahren?	Wesentlich unsicherer als vor zehn Jahren				Wesentlich sicherer als vor zehn Jahren
	☐	☐	☐	☐	☐
Was denken Sie, wie sehr lohnen sich Sparanlagen heute in Deutschland im Vergleich zu vor zehn Jahren?	Wesentlich weniger als vor zehn Jahren				Wesentlich mehr als vor zehn Jahren
	☐	☐	☐	☐	☐

[Automatische Filterung: Die folgende Frage war nur dann zu beantworten, wenn bei Frage 16 „Arbeiter(in) oder Angestellte(r)", „Auszubildende(r)", „Arbeitssuchende(r)", „Unternehmer(in), Selbstständige(r) oder Freiberufler(in)" oder „Geringfügig oder unregelmäßig Beschäftigte(r)" angegeben wurde]

23 Wenn Sie über Umfang und Intensität Ihres beruflichen Engagements entscheiden, spielt dabei im Allgemeinen die Steuer- und Abgabenbelastung eine Rolle?

Ja ☐

Nein ☐

[Automatische Filterung: Die folgende Frage war nur dann zu beantworten, wenn bei Frage 23 „Ja" angegeben wurde]

24 Ganz allgemein gesprochen, welchen Einfluss hat die Senkung der Rentenversicherungsbeiträge auf Ihr berufliches Engagement?

Mein berufliches Engagement ist jetzt wesentlich kleiner	☐	☐	☐	☐	☐	Mein berufliches Engagement ist jetzt wesentlich größer

Bitte übergeben Sie das Gerät wieder an die Interviewerin / den Interviewer!

A.2 The questionnaire (English translation)

The following table contains information on annual public expenditures by policy areas in euros per capita, and also as proportion of total state expenditures. The table focuses on important spending categories.

Interviewer: Please give the interviewee sufficient time to study the table attentively.

Policy area	Description	Spending per capita	Proportion on total
Social security	e.g. unemployment compensation, social welfare, family and youth welfare	7,660€	56.6%
Education	e.g. public schools and universities	1,125€	8.3%
Public safety	e.g. police, justice system	455€	3.3%
Infrastructure	e.g. road and town construction	350€	2.6%
Economic development	e.g. promotion of small- and medium-sized companies, investment allowances, financial support for disadvantaged regions	335€	2.5%
Defence	e.g. military equipment, service pay, defence administration	335€	2.5%
Total		10,260€	75.8%

Assume that you could modify public expenditures and revenues according to your wishes. For example, presume that you could increase public spending in any particular policy area. In this case, however, you would need either to incur additional public debts, increase taxes, or cut public spending in another policy area. Or in order to decrease public spending in a policy area, you must either reduce public debts, decrease taxes, or increase public spending in another policy area. In the following, please state for which of the aforementioned policy areas should public spending be increased or decreased. Also state how a potential increase in public spending should be financed or for what the excess funds should be used.

Interviewer: Please make sure that the interviewee has understood the task. Otherwise, please repeat and explain.

1 In which policy areas should the state spend **more**?

The state should spend more on (check as many as apply)…	
… social security	☐
… education	☐
… public safety	☐
… infrastructure	☐
… economic development	☐
… defence	☐
… other areas	☐
The state should <u>not</u> spend **more**	☐

*Note: If 'The state should <u>not</u> spend **more**' is checked then no other option can be mentioned.*

*[Automatic filtering: The following question is only applicable if the respondent would like to **increase** public spending in at least one policy area.]*

1A The increase in public spending should be financed via (check as many as apply)…

… a tax increase	☐
… incurrence of public debt	☐
… a decrease in public spending in another policy area (see below)	☐

2 In which policy areas should the state spend **less**?

The state should spend less on (check as many as apply)…	
… social security	☐
… education	☐
… public safety	☐
… infrastructure	☐
… economic development	☐
… defence	☐
… other areas	☐
The state should <u>not</u> spend **less**	☐

*Note: If 'The state should <u>not</u> spend **less**' is checked than no other option can be mentioned.*

[Automatic filtering: The following question is only applicable if the respondent would like to **decrease** *public spending in at least one policy area.*]

2A The excess funds should be used for (check as many as apply)…

… a tax decrease	☐
… a reduction of public debt	☐
… an increase in public spending in another policy area (see above)	☐

Interviewer: Please control for the consistency of replies. If a respondent opts for additional spending in one area and answers in question 1A that this increase in spending should be financed by cutting expenditures in another area, this implies that one of the first seven options in question 2 need to be chosen.

3 According to the latest tax estimation, the state is going to increase revenues by a further €23 billion within the next four years. In your opinion, how should the state use the additional revenues? Please name at maximum those three alternatives you prefer the most.

	1st choice	2nd choice	3rd choice
Decrease taxes	☐	☐	☐
Reduce public debt	☐	☐	☐
Increase public spending on …			
… social security	☐	☐	☐
… public safety and order	☐	☐	☐
… education	☐	☐	☐
… infrastructure	☐	☐	☐
… economic development	☐	☐	☐
… defence	☐	☐	☐
… other areas	☐	☐	☐
No response	☐	☐	☐

Note: Please check only one box per column

4 At the end of 2012 the outstanding amount of public debt in Germany was above €2 trillion. This equals €26,000 per inhabitant or 80% of gross domestic product (GDP), respectively. In your opinion, should the state reduce public debts, keep the amount of public debt at its current level, or incur additional public debts?

Reduce debt	☐
Keep debt at current level	☐
Incur additional debt	☐

*[Automatic filtering: The following question is only applicable if the interviewed person would like to **reduce public debt**]*

4A What should the state do to reduce public debt? Please name a maximum of three alternatives you prefer the most.

	1st choice	2nd choice	3rd choice
Increase taxes	☐	☐	☐
Cut public spending on …			
… social security	☐	☐	☐
… public safety	☐	☐	☐
… education	☐	☐	☐
… infrastructure	☐	☐	☐
… economic development	☐	☐	☐
… defense	☐	☐	☐
… other areas	☐	☐	☐
No response	☐	☐	☐

Note: Please check only one box per column

*[Automatic filtering: The following question is only applicable if the interviewed person would like to **reduce public debt**]*

4B Assume you could choose between three alternatives for public debt reduction (suppose that the reduction of public debt is illustrated by means of the money piles shown below. A small money pile means that little debt is reduced, a big money pile means that much debt is reduced):

Option A: Debt reduction is distributed evenly over the next years, i.e., **in each year a similar amount of debt** is reduced.
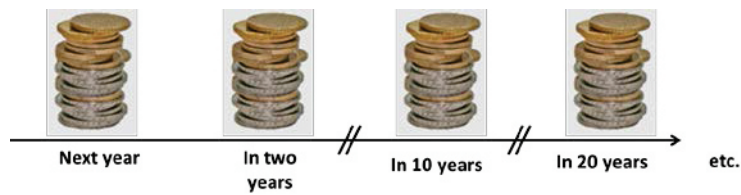
Option B: The extent of debt reduction increases over the next years, i.e., **in the near future a smaller part of debt** is reduced and **in the far future a larger part of debt** is reduced.

Option C: The extent of debt reduction decreases over the next years, i.e., **in the near future a larger part of debt** is reduced and **in the far future a smaller part of debt** is reduced.
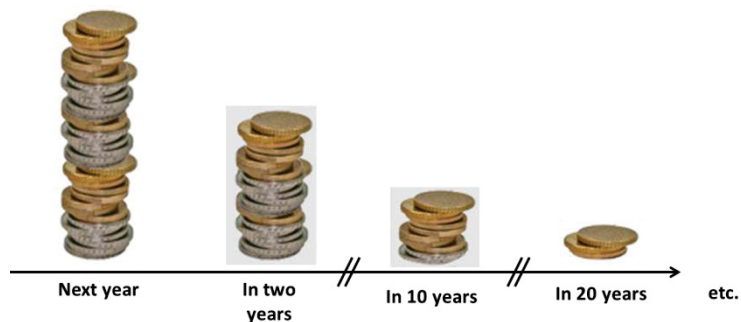
For which option would you decide?

Option A: **In each year a similar amount of debt** should be reduced	□
Option B: **In the near future a smaller part of debt** should be reduced and **in the far future a larger part of debt** should be reduced	□
Option C: **In the near future a larger part of debt** should be reduced and **in the far future a smaller part of debt** should be reduced	□
Don't know	□

*[Automatic filtering: The following question was only applicable if the interviewed expressed that the state should **take on additional public debt**]*

4C What should the state do with the additional funds? Please name a maximum of three alternatives you prefer the most.

	1st choice	2nd choice	3rd choice
Decrease taxes	☐	☐	☐
Increase public spending on …			
… social security	☐	☐	☐
… public safety	☐	☐	☐
… education	☐	☐	☐
… infrastructure	☐	☐	☐
… economic development	☐	☐	☐
… defence	☐	☐	☐
… other areas	☐	☐	☐
No response	☐	☐	☐

Note: Please check only one box per column

5 In 2016 the federal debt brake comes into force. From this moment on, the federal government can take on almost no additional public debt. Exemptions are allowed only in times of economic crises or natural disasters. What is your opinion on the debt brake?

I am against the debt brake – the incurrence of public debt should not be restricted	☐
I am in favour of the debt brake in the aforementioned form	☐
The debt brake is still not enough – the government should not be allowed to incur public debt at all	☐
No response	☐

6 Between 2008 and 2012, we have seen a rapid acceleration of public debt. Did this increasing reliance on debt financing lead to changes in the way you spend or save?

Yes, I now spend **a smaller proportion** of my income and save **a larger proportion**	□
Yes, I spend **a larger proportion** of my income and save **a smaller proportion**	□
No, I did not change my behaviour in consequence to the rapid increase in public debt	□

7 Next, we would like to conduct some experiments concerned with financial decisions. In the first experiment, you make your decisions according to the following table *(Interviewer: please show the table below)*. In each row you see two alternatives. You can choose between a certain payoff and participation in a lottery, which follows the principle 'all or nothing': You have a 50% chance of winning €1,000 and a 50% chance of winning €0.

You start in row 1 and then proceed row by row. In each row, please choose between the certain payoff (column A) and participation in the lottery (column B). The lottery remains the same in all rows. Only the certain payoff increases from row to row.

	You get… **Safe**	or	You get… **1,000€ or nothing** Chance of winning 50:50
	A	**or**	**B**
1	€0		Chance of winning €1,000/€0
2	€100		Chance of winning €1,000/€0
3	€200		Chance of winning €1,000/€0
4	€300		Chance of winning €1,000/€0
5	€400		Chance of winning €1,000/€0
6	€500		Chance of winning €1,000/€0
7	€600		Chance of winning €1,000/€0
8	€700		Chance of winning €1,000/€0
9	€800		Chance of winning €1,000/€0
10	€900		Chance of winning €1,000/€0

Interviewer: Please start with row 1 and the question 'What do you choose? €0 safe or chance of winning €1,000/€0?'. If the interviewee chooses option B, please proceed to row 2 and the question 'How do you choose? €100 safe or chance of winning €1,000/€0?'. The experiment ends when the interviewee chooses option A for the first time. Please write down the number of the row where the respondent chose option A for the first time.

Option A was first chosen in row number: ☐

8 In the next experiment you decide according to the following table (*Interviewer: please show the table below*). In each row, you see two alternatives. You can choose between a certain payoff of €1,000, which is paid to you **immediately** and a higher certain payoff, which will be paid to you **in 6 months**.

You start in row 1 and then proceed row by row. In each row, please choose between the payoff of €1,000 to be paid **immediately** (column A) and the higher payoff to be paid **in 6 months** (column B). The payoff on the left remains the same in all rows. Only the payoff on the right increases from row to row.

	You get… Immediately	or	You get… In 6 month
	A	**or**	**B**
1	€1,000		€1,000
2	€1,000		€1,010
3	€1,000		€1,020
4	€1,000		€1,030
5	€1,000		€1,050
6	€1,000		€1,075
7	€1,000		€1,100
8	€1,000		€1,150
9	€1,000		€1,200
10	€1,000		€1,300
11	€1,000		€1,400
12	€1,000		€1,500
13	€1,000		€1,750
14	€1,000		€2,000

Interviewer: Please start with row 1 and the question 'What do you choose? €1,000 immediately or €1,000 in 6 months?'. If the interviewee chooses option A, please proceed to row 2 and the question 'What do you choose? €1,000 immediately or €1,010 in 6 months?'. The experiment ends when the interviewee chooses option B for the first time. Please write down the number of the row where the interviewee chose option B for the first time.

Option B was first chosen in row number: ☐

9 In the last experiment, you decide according to the following table (*Interviewer: please show the table below*). In each row, you see two alternatives. You can choose between a certain payoff of €1,000, which is paid to you **in 6 months** and a higher certain payoff, which will be paid to you **in 12 months**.

You start in row 1 and then proceed row by row. In each row, please choose between the payoff of €1,000 to be paid **in 6 months** (column A) and the higher payoff to be paid **in 12 months** (column B). The payoff on the left remains the same in all rows. Only the payoff on the right increases from row to row.

	You get… **In 6 month** **A**	**or**	You get… **In 12 month** **B**
1	€1,000		€1,000
2	€1,000		€1,010
3	€1,000		€1,020
4	€1,000		€1,030
5	€1,000		€1,050
6	€1,000		€1,075
7	€1,000		€1,100
8	€1,000		€1,150
9	€1,000		€1,200
10	€1,000		€1,300
11	€1,000		€1,400
12	€1,000		€1,500
13	€1,000		€1,750
14	€1,000		€2,000

Interviewer: Please start with row 1 and the question 'What do you choose? €1,000 in 6 months or €1,000 in 12 months?'. If the interviewee chooses option A, please proceed to row 2 and the question 'What do you choose? €1,000 in 6 months or €1,010 in 12 months?'. The experiment ends when the interviewee chooses option B for the first time. Please write down the number of the row in which the interviewee chose option B for the first time.

Option B was first chosen in row number:

For the following questions I will hand you the console so that you can answer the questions on your own. Please answer honestly. I assure you that all your answers are treated confidentially and anonymously. Data evaluation will be based on all interviews so that nobody will be able to associate your answers with you.

If you have questions, I would be happy to offer my help.

Interviewer: Please hand over the console to the interviewee.

10 Below you find a battery of contradictory statements about the state and politics. Please indicate with which statement you agree the most.

All in all, I have confidence in politicians in Germany	□	□	□	□	□	I do not have any confidence in politicians in Germany
Most politicians in Germany act in line with the general public's interest	□	□	□	□	□	Most politicians in Germany only serve the interests of particular groups
Most politicians are concerned about the country's long-term well-being	□	□	□	□	□	Most politicians are only concerned about the next elections
The government manages tax revenues conscientiously	□	□	□	□	□	The government wastes tax revenues
The state should ensure equal living conditions	□	□	□	□	□	The state should not interfere with people's living conditions

11 Which party would you vote for if federal elections were held this Sunday?

CDU/CSU	□
SPD	□
Bündnis 90/Die Grünen	□
FDP	□
Piraten	□
Linkspartei/PDS	□
NPD	□
Other party	□
I would not vote	□

12 Are you a union member?

Yes □

No □

13 Do you have children? If yes, how many children do you have?

Yes □   Please state how many: ____

No □

14 How satisfied are you with your overall economic situation?

Absolutely satisfied	□	□	□	□	□	Absolutely dissatisfied

15 We would now like to ask some questions related to knowledge. Please indicate the answer you deem correct.

How large was the budget deficit of the federal government in 2012?	1% ☐	3% ☐	5% ☐	7% ☐
What is the current interest rate on long-term government bonds (maturity 10 years), approximately?	1.5% ☐	3% ☐	5.5% ☐	10% ☐
How large was the inflation rate in 2012, approximately?	0% ☐	2% ☐	5% ☐	10% ☐

At the beginning of 2013, contribution rates to the statutory pension system have been reduced. In effect, this reduces the overall tax burden. We are interested in your responses to the rate cut.

16 To ask you the correct questions, we need information on your employment situation. Which answer best applies to you?

Employee	☐
Apprentice	☐
Unemployed	☐
Employer	☐
Public servant	☐
Pupil	☐
Insignificantly employed	☐
Pensioner	☐
Other	☐

[Automatic filtering: the following question is only applicable if question 16 was answered by 'Employer' or 'Insignificantly employed']

17 Do you currently contribute to the public pension system in order to acquire your own pension entitlements?

Yes ☐

No ☐

[Automatic filtering: questions 18 to 22 are only applicable if question 16 was answered by 'Employee' or 'Apprentice' or question 17 was answered by 'Yes']

18 Thinking about your household's financial situation, will you use the additional budget mostly to increase spending, mostly to increase saving, or mostly to pay off debt?

Increase spending ☐

Repay debt ☐

Increase savings ☐

19 Will the recent cut in pension insurance contribution rates lead to higher contribution rates in the future?

Yes ☐

No ☐

20 Will the recent cut in pension insurance contribution rates lead to lower pension payments?

Yes ☐

No ☐

21 Some households have different approaches to household budgeting. What best describes yours?

I try to use a fixed amount to save or to repay debt	☐
I try to use a fixed amount for expenditures	☐
Something else	☐

22 We would now like to ask you some general questions.

How do you expect your economic situation to be in one year?	Much worse than today				Much better than today
	☐	☐	☐	☐	☐

In your opinion, how will inflation develop over the next five years?	Much lower than today				Much higher than today
	☐	☐	☐	☐	☐

How secure do you think savings are in Germany today in comparison to ten years ago?	Much more insecure than ten years ago				Much more secure than ten years ago
	☐	☐	☐	☐	☐

How profitable do you think savings are in Germany today compared with ten years ago?	Much less than ten years ago				Much more than ten years ago
	☐	☐	☐	☐	☐

[Automatic filtering: The following question is only applicable if question 16 was answered by 'Employee', 'Apprentice', 'Unemployed', 'Employer' or 'Insignificantly employed']

23 Does the tax burden usually matter for your job-related decisions?

Yes ☐

No ☐

[Automatic filtering: The following question is only applicable if question 23 was answered 'Yes']

24 What impact does the contribution rate cut have on your general job-related efforts?

I substantially decreased my job-related efforts	☐	☐	☐	☐	☐	I substantially increased my job-related efforts

Please hand the console back to the interviewer.

Appendix B: Descriptive statistics[1]

Item 1: On which policy areas should the state spend more?

	Proportion	S.E.	C.I.	Count
Social security	0.427	0.011	[0.406, 0.449]	872
Education	0.606	0.011	[0.585, 0.627]	1,238
Public security and order	0.316	0.010	[0.296, 0.337]	646
Infrastructure	0.179	0.008	[0.162, 0.195]	365
Economic development	0.208	0.009	[0.190, 0.225]	424
Defense	0.016	0.003	[0.011, 0.022]	33
Other areas	0.101	0.007	[0.088, 0.114]	206
State should not spend more	0.155	0.008	[0.139, 0.170]	316
No response	0.000			0

Notes: Multiple answers were possible. Table is based on 2,042 responses.

Item 1A: How should the increase in public spending be financed?

	Proportion	S.E.	C.I.	Count
Tax increase	0.098	0.007	[0.084, 0.113]	170
Incurrence of public debt	0.122	0.008	[0.107, 0.138]	211
Decrease in public spending	0.858	0.008	[0.842, 0.875]	1,481
No response	0.000			0

Notes: Multiple answers were possible. Table is based on 1,726 responses.

[1] Tables report standard errors (S.E.) and confidence intervals (C.I.) for proportions. Confidence intervals are based on 95 percent level of confidence. Proportions may not sum to one due to rounding error, or because multiple answers were possible.

Item 2: On which policy areas should the state spend less?

	Proportion	S.E.	C.I.	Count
Social security	0.120	0.007	[0.106, 0.135]	246
Education	0.009	0.002	[0.005, 0.013]	19
Public security and order	0.026	0.004	[0.019, 0.033]	54
Infrastructure	0.069	0.006	[0.058, 0.080]	140
Economic development	0.159	0.008	[0.143, 0.175]	325
Defense	0.615	0.011	[0.594, 0.636]	1,256
Other areas	0.362	0.011	[0.341, 0.383]	739
State should not spend less	0.105	0.007	[0.092, 0.118]	214
No response	0.000			0

Notes: Multiple answers were possible. Table is based on 2,042 responses.

Item 2A: How should the excess funds be used?

	Proportion	S.E.	C.I.	Count
Tax decrease	0.354	0.011	[0.332, 0.376]	647
Reduction of public debt	0.483	0.012	[0.460, 0.506]	883
Increase in public spending	0.503	0.012	[0.480, 0.526]	919
No response	0.000			0

Notes: Multiple answers were possible. Table is based on 1,828 responses.

Item 3: How should the state use the additional 23 bn €? (Proportions)

	1st choice	2nd choice	3rd choice
Decrease taxes	0.302	0.137	0.118
Reduce public debt	0.200	0.203	0.138
Increase public spending on …			
… social security	0.121	0.136	0.108
… public safety and order	0.055	0.115	0.103
… education	0.218	0.211	0.143
… infrastructure	0.018	0.047	0.079
… economic development	0.027	0.064	0.080
… defense	0.006	0.011	0.021
… other areas	0.021	0.028	0.095
No response	0.032	0.049	0.115
Total	1.000	1.000	1.000

Item 3: How should the state use the additional 23 bn €? (S.E.)

	1st choice	2nd choice	3rd choice
Decrease taxes	0.010	0.008	0.007
Reduce public debt	0.009	0.009	0.008
Increase public spending on …			
… social security	0.007	0.008	0.007
… public safety and order	0.005	0.007	0.007
… education	0.009	0.009	0.008
… infrastructure	0.003	0.005	0.006
… economic development	0.004	0.005	0.006
… defense	0.002	0.002	0.003
… other areas	0.003	0.004	0.006
No response	0.004	0.005	0.007
Total			

Item 3: How should the state use the additional 23 bn €? (C.I.)

	1st choice	2nd choice	3rd choice
Decrease taxes	[0.282, 0.322]	[0.122, 0.152]	[0.104, 0.132]
Reduce public debt	[0.182, 0.217]	[0.185, 0.220]	[0.123, 0.153]
Expand public expenditures on …			
… social security	[0.107, 0.136]	[0.121, 0.151]	[0.095, 0.122]
… public safety and order	[0.045, 0.065]	[0.101, 0.128]	[0.090, 0.117]
… education	[0.200, 0.236]	[0.193, 0.228]	[0.128, 0.158]
… infrastructure	[0.012, 0.024]	[0.038, 0.056]	[0.068, 0.091]
… economic development	[0.020, 0.034]	[0.053, 0.074]	[0.069, 0.092]
… defense	[0.003, 0.009]	[0.006, 0.015]	[0.014, 0.027]
… other areas	[0.014, 0.027]	[0.021, 0.036]	[0.082, 0.108]
No response	[0.024, 0.039]	[0.040, 0.059]	[0.101, 0.128]
Total			

Item 3: How should the state use the additional 23 bn €? (Counts)

	1st choice	2nd choice	3rd choice
Decrease taxes	617	279	240
Reduce public debt	408	414	282
Increase public spending on …			
… social security	248	278	221
… public safety and order	113	234	211
… education	445	430	292
… infrastructure	37	96	162
… economic development	55	130	164
… defense	12	22	42
… other areas	42	58	194
No response	65	101	240
Total	2,042	2,042	2,042

Item 4: What should the state do with public debt?

	Proportion	S.E.	C.I.	Count
Reduce debt	0.747	0.010	[0.728, 0.766]	1,525
Keep debt at current level	0.237	0.009	[0.219, 0.255]	484
Take on additional debt	0.016	0.003	[0.011, 0.022]	33
No response	0.000			0
Total	1.000			2,042

Item 4A: How should the state reduce public debt? (Proportions)

	1st choice	2nd choice	3rd choice
Increase taxes	0.049	0.041	0.117
Cut public spending on …			
… social security	0.110	0.055	0.064
… public safety and order	0.018	0.040	0.030
… education	0.023	0.025	0.018
… infrastructure	0.018	0.066	0.052
… economic development	0.075	0.138	0.073
… defense	0.410	0.201	0.058
… other areas	0.165	0.210	0.161
No response	0.133	0.224	0.428
Total	1.000	1.000	1.000

Item 4A: How should the state reduce public debt? (Standard errors)

	1st choice	2nd choice	3rd choice
Increase taxes	0.006	0.005	0.008
Cut public spending on …			
… social security	0.008	0.006	0.006
… public safety and order	0.003	0.005	0.004
… education	0.004	0.004	0.003
… infrastructure	0.003	0.006	0.006
… economic development	0.007	0.009	0.007
… defense	0.013	0.010	0.006
… other areas	0.009	0.010	0.009
No response	0.009	0.011	0.013
Total			

Item 4A: How should the state reduce public debt? (Confidence intervals)

	1st choice	2nd choice	3rd choice
Increase taxes	[0.038, 0.059]	[0.031, 0.051]	[0.101, 0.133]
Cut public spending on …			
… social security	[0.094, 0.125]	[0.044, 0.067]	[0.051, 0.076]
… public safety and order	[0.012, 0.025]	[0.030, 0.050]	[0.021, 0.038]
… education	[0.015, 0.030]	[0.017, 0.033]	[0.012, 0.025]
… infrastructure	[0.011, 0.024]	[0.053, 0.078]	[0.041, 0.064]
… economic development	[0.062, 0.088]	[0.121, 0.156]	[0.060, 0.086]
… defense	[0.386, 0.435]	[0.181, 0.221]	[0.046, 0.069]
… other areas	[0.146, 0.183]	[0.189, 0.230]	[0.143, 0.180]
No response	[0.116, 0.150]	[0.203, 0.245]	[0.403, 0.452]
Total			

Item 4A: How should the state reduce public debt? (Count)

	1st choice	2nd choice	3rd choice
Increase taxes	74	62	178
Cut public spending on …			
… social security	167	84	97
… public safety and order	28	61	45
… education	35	38	28
… infrastructure	27	100	80
… economic development	114	211	111
… defense	626	307	88
… other areas	251	320	246
No response	203	342	652
Total	1,525	1,525	1,525

Item 4B: How should the burden of debt reduction be distributed over time?

	Proportion	S.E.	C.I.	Count
Evenly	0.622	0.012	[0.598, 0.647]	949
First less, then more	0.108	0.008	[0.092, 0.123]	164
First more, then less	0.205	0.010	[0.184, 0.225]	312
No response	0.066	0.006	[0.053, 0.078]	100
Total	1.000			1,525

Item 4C: For what purpose should the state incur additional debt? (Proportions)

	1st choice	2nd choice	3rd choice
Cut taxes	0.303	0.061	0.091
Increase public spending on …			
… social security	0.303	0.212	0.091
… public safety and order		0.182	0.091
… education	0.242	0.182	0.152
… infrastructure		0.091	0.030
… economic development	0.030	0.121	0.152
… defense			0.030
… other areas	0.030	0.061	0.212
No response	0.091	0.091	0.152
Total	1.000	1.000	1.000

Item 4C: For what purpose should the state incur additional debt? (Standard errors)

	1st choice	2nd choice	3rd choice
Cut taxes	0.081	0.042	0.051
Increase public spending on …			
… social security	0.081	0.072	0.051
… public safety and order		0.068	0.051
… education	0.076	0.068	0.063
… infrastructure		0.051	0.030
… economic development	0.030	0.058	0.063
… defense			0.030
… other areas	0.030	0.042	0.072
No response	0.051	0.051	0.063
Total			

Item 4C: For what purpose should the state incur additional debt? (Confidence intervals)

	1st choice	2nd choice	3rd choice
Cut taxes	[0.138, 0.469]	[-0.025, 0.147]	[-0.013, 0.194]
Increase public spending on …			
… social security	[0.138, 0.469]	[0.065, 0.359]	[-0.013, 0.194]
… public safety and order		[0.043, 0.321]	[-0.013, 0.194]
… education	[0.088, 0.397]	[0.043, 0.321]	[0.022, 0.281]
… infrastructure		[-0.013, 0.194]	[-0.031, 0.092]
… economic development	[-0.031, 0.092]	[0.004, 0.239]	[0.022, 0.281]
… defense			[-0.031, 0.092]
… other areas	[-0.031, 0.092]	[-0.025, 0.147]	[0.065, 0.359]
No response	[-0.013, 0.194]	[-0.013, 0.194]	[0.022, 0.281]
Total			

Item 4C: For what purpose should the state incur additional debt? (Counts)

	1st choice	2nd choice	3rd choice
Cut taxes	10	2	3
Increase public spending on …			
… social security	10	7	3
… public safety and order	0	6	3
… education	8	6	5
… infrastructure	0	3	1
… economic development	1	4	5
… defense	0	0	1
… other areas	1	2	7
No response	3	3	5
Total	33	33	33

Item 5: What is your opinion on the debt brake?

	Proportion	S.E.	C.I.	Count
I am against the debt brake	0.081	0.006	[0.069, 0.093]	165
I am in favor of the debt brake	0.606	0.011	[0.585, 0.627]	1,238
The debt brake is still not enough	0.170	0.008	[0.154, 0.187]	348
No response	0.143	0.008	[0.127, 0.158]	291
Total	1.000			2,042

Item 6: Did the recent increase in public induce changes in your spending behavior?

	Proportion	S.E.	C.I.	Count
Spend less/save more	0.070	0.006	[0.059, 0.081]	143
Spend more/save less	0.176	0.008	[0.160, 0.193]	360
No change	0.754	0.010	[0.735, 0.772]	1,539
No response	0.000			0
Total	1.000			2,042

Item 7: Which safe amount do you require to forego the 50/50 chance to win 1,000 €?

	Proportion	S.E.	C.I.	Count
0 € safe	0.088	0.006	[0.076, 0.100]	180
100 € safe	0.131	0.007	[0.117, 0.146]	268
200 € safe	0.067	0.006	[0.056, 0.078]	137
300 € safe	0.075	0.006	[0.063, 0.086]	153
400 € safe	0.071	0.006	[0.060, 0.082]	145
500 € safe	0.177	0.008	[0.161, 0.194]	362
600 € safe	0.036	0.004	[0.028, 0.044]	74
700 € safe	0.030	0.004	[0.023, 0.038]	62
800 € safe	0.019	0.003	[0.013, 0.024]	38
900 € safe	0.256	0.010	[0.237, 0.275]	523
Never accept	0.049	0.005	[0.040, 0.058]	100
No response	0.000			0
Total	1.000			2,042

Item 8: For which amount paid in six month are you willing to forego payment today?

	Proportion	S.E.	C.I.	Count
1,000 €	0.000			0
1,010 €	0.034	0.004	[0.026, 0.042]	69
1,020 €	0.016	0.003	[0.010, 0.021]	32
1,030 €	0.015	0.003	[0.010, 0.020]	31
1,050 €	0.025	0.003	[0.019, 0.032]	52
1,075 €	0.019	0.003	[0.013, 0.024]	38
1,100 €	0.047	0.005	[0.037, 0.056]	95
1,150 €	0.019	0.003	[0.013, 0.024]	38
1,200 €	0.046	0.005	[0.036, 0.055]	93
1,300 €	0.046	0.005	[0.036, 0.055]	93
1,400 €	0.030	0.004	[0.023, 0.038]	62
1,500 €	0.079	0.006	[0.068, 0.091]	162
1,750 €	0.013	0.003	[0.008, 0.018]	27
2,000 €	0.413	0.011	[0.392, 0.435]	844
Never accept	0.199	0.009	[0.181, 0.216]	406
No response	0.000			0
Total	1.000			2,042

Item 9: For which amount paid in twelve month would you forego payment in six month?

	Proportion	S.E.	C.I.	Count
1,000 €	0.000			0
1,010 €	0.025	0.003	[0.019, 0.032]	52
1,020 €	0.022	0.003	[0.015, 0.028]	44
1,030 €	0.018	0.003	[0.012, 0.023]	36
1,050 €	0.022	0.003	[0.016, 0.028]	45
1,075 €	0.019	0.003	[0.013, 0.025]	39
1,100 €	0.025	0.003	[0.019, 0.032]	52
1,150 €	0.020	0.003	[0.014, 0.026]	41
1,200 €	0.038	0.004	[0.029, 0.046]	77
1,300 €	0.042	0.004	[0.033, 0.051]	86
1,400 €	0.026	0.004	[0.019, 0.033]	53
1,500 €	0.105	0.007	[0.092, 0.119]	215
1,750 €	0.016	0.003	[0.011, 0.022]	33
2,000 €	0.449	0.011	[0.427, 0.470]	916
Never accept	0.173	0.008	[0.156, 0.189]	353
No response	0.000			0
Total	1.000			2,042

Item 10: Please rate the following (Proportions)

	-2	-1	0	1	2	
I have confidence in politicians	0.309	0.298	0.222	0.147	0.024	I do not have confidence in politicians
Most politicians serve general public interest	0.300	0.319	0.216	0.139	0.026	Most politicians only serve particular interest
Most politicians are concerned about the country's well-being	0.369	0.262	0.228	0.119	0.022	Most politicians are only concerned about the next elections
The state manages tax revenues conscientiously	0.450	0.302	0.179	0.060	0.008	The state is wasteful with tax revenues
The state should ensure equal living conditions	0.080	0.091	0.245	0.277	0.308	The state should not ensure equality

Notes: Table is based on 2,042 responses.

Item 10: Please rate the following (Standard errors)

	-2	-1	0	1	2	
I have confidence in politicians	0.010	0.010	0.009	0.008	0.003	I do not have confidence in politicians
Most politicians serve general public interest	0.010	0.010	0.009	0.008	0.004	Most politicians only serve particular interest
Most politicians are concerned about the country's well-being	0.011	0.010	0.009	0.007	0.003	Most politicians are only concerned about the next elections
The state manages tax revenues conscientiously	0.011	0.010	0.008	0.005	0.002	The state is wasteful with tax revenues
The state should ensure equal living conditions	0.006	0.006	0.010	0.010	0.010	The state should not ensure equality

Notes: Table is based on 2,042 responses.

Item 10: Please rate the following (Confidence intervalls)

	-2	-1	0	1	2	
I have confidence in politicians	[0.288, 0.329]	[0.278, 0.318]	[0.204, 0.240]	[0.132, 0.162]	[0.018, 0.031]	I do not have confidence in politicians
Most politicians serve general public interest	[0.280, 0.320]	[0.299, 0.340]	[0.199, 0.234]	[0.124, 0.154]	[0.019, 0.033]	Most politicians only serve particular interest
Most politicians are concerned about the country's well-being	[0.348, 0.390]	[0.243, 0.281]	[0.210, 0.246]	[0.105, 0.133]	[0.015, 0.028]	Most politicians are only concerned about the next elections
The state manages tax revenues conscientiously	[0.428, 0.472]	[0.282, 0.322]	[0.163, 0.196]	[0.050, 0.071]	[0.004, 0.012]	The state is wasteful with tax revenues
The state should ensure equal living conditions	[0.068, 0.092]	[0.078, 0.103]	[0.226, 0.264]	[0.257, 0.296]	[0.288, 0.328]	The state should not ensure equality

Notes: Table is based on 2,042 responses.

Item 10: Please rate the following (Counts)

	-2	-1	0	1	2	
I have confidence in politicians	630	609	453	300	50	I do not have confidence in politicians
Most politicians serve general public interest	612	652	442	283	53	Most politicians only serve particular interest
Most politicians are concerned about the country's well-being	754	535	466	243	44	Most politicians are only concerned about the next elections
The state manages tax revenues conscientiously	919	617	366	123	17	The state is wasteful with tax revenues
The state should ensure equal living conditions	163	185	500	565	629	The state should not ensure equality

Notes: Table is based on 2,042 responses.

Item 11: Opinion poll: Which party would you vote for?

	Proportion	S.E.	C.I.	Count
CDU/CSU	0.225	0.009	[0.207, 0.243]	459
SPD	0.243	0.009	[0.224, 0.262]	496
Bündnis 90/Die Grünen	0.137	0.008	[0.122, 0.152]	280
FDP	0.037	0.004	[0.029, 0.045]	76
Piraten	0.017	0.003	[0.012, 0.023]	35
Die Linke	0.059	0.005	[0.049, 0.069]	120
NPD	0.009	0.002	[0.005, 0.013]	19
Other party	0.048	0.005	[0.039, 0.057]	98
I would not vote	0.225	0.009	[0.207, 0.243]	459
No response	0.000			0
Total	1.000			2,042

Item 12: Are you a member of a labor union?

	Proportion	S.E.	C.I.	Count
Yes	0.091	0.006	[0.896, 0.921]	186
No	0.909	0.006	[0.079, 0.104]	1,856
No response	0.000			0
Total	1.000			2,042

Item 13: How many children do you have?

	Proportion	S.E.	C.I.	Count
0	0.363	0.011	[0.342, 0.384]	741
1	0.223	0.009	[0.205, 0.241]	455
2	0.300	0.010	[0.280, 0.320]	613
3	0.082	0.006	[0.070, 0.094]	167
4	0.025	0.003	[0.018, 0.032]	51
5	0.004	0.001	[0.001, 0.007]	8
6	0.003	0.001	[0.001, 0.005]	6
7	0.000	0.000	[0.000, 0.001]	1
No response	0.000			0
Total	1.000			2,042

Item 14: How satisfied are you with your overall economic situation?

	Proportion	S.E.	C.I.	Count
Very satisfied	0.071	0.006	[0.060, 0.074]	146
Satisfied	0.349	0.011	[0.328, 0.157]	712
Neutral	0.375	0.011	[0.354, 0.396]	765
Dissatisfied	0.142	0.008	[0.127, 0.157]	290
Very dissatisfied	0.063	0.005	[0.053, 0.074]	129
No response	0.000			0
Total	1.000			2,042

Item 15: Knowledge questions (Proportions)

How large was the budget deficit of the federal government in 2012?	**1%**	3%	5%	7%
	0.090	0.428	0.315	0.167
What is the current interest rate on long-term government bonds (maturity 10 years) approximately?	**1.5%**	3%	5.5%	10%
	0.371	0.375	0.209	0.045
How large was inflation in 2012 approximately?	0%	**2%**	5%	10%
	0.015	**0.636**	0.287	0.062

Notes: Correct answers in bold letters. Table is based on 2,042 responses.

Item 15: Knowledge questions (Standard errors)

How large was the budget deficit of the federal government in 2012?	**1%**	3%	5%	7%
	0.006	0.011	0.010	0.008
What is the current interest rate on long-term government bonds (maturity 10 years) approximately?	**1.5%**	3%	5.5%	10%
	0.011	0.011	0.009	0.005
How large was inflation in 2012 approximately?	0%	**2%**	5%	10%
	0.003	**0.011**	0.010	0.005

Notes: Correct answers in bold letters. Table is based on 2,042 responses.

Item 15: Knowledge questions (Confidence intervals)

How large was the budget deficit of the federal government in 2012?	1%	3%	5%	7%
	[0.078, 0.103]	[0.407, 0.449]	[0.295, 0.335]	[0.151, 0.183]
What is the current interest rate on long-term government bonds (maturity 10 years) approximately?	1.5%	3%	5.5%	10%
	[0.350, 0.392]	[0.354, 0.396]	[0.191, 0.226]	[0.036, 0.054]
How large was inflation in 2012 approximately?	0%	2%	5%	10%
	[0.010, 0.020]	[0.615, 0.657]	[0.267, 0.307]	[0.052, 0.073]

Notes: Correct answers in bold letters. Table is based on 2,042 responses.

Item 15: Knowledge questions (Counts)

How large was the budget deficit of the federal government in 2012?	1%	3%	5%	7%
	184	874	643	341
What is the current interest rate on long-term government bonds (maturity 10 years) approximately?	1.5%	3%	5.5%	10%
	758	766	426	92
How large was inflation in 2012 approximately?	0%	2%	5%	10%
	31	1,298	586	127

Notes: Correct answers in bold letters. Table is based on 2,042 responses.

Item 16: What is your employment situation?

	Proportion	S.E.	C.I.	Count
Employee	0.432	0.011	[0.411, 0.454]	883
Apprentice	0.019	0.003	[0.013, 0.025]	39
Unemployed	0.041	0.004	[0.033, 0.050]	84
Employer	0.077	0.006	[0.065, 0.088]	157
Public servant	0.023	0.003	[0.016, 0.029]	46
Pupil	0.063	0.005	[0.053, 0.074]	129
Insignificantly employed	0.027	0.004	[0.020, 0.034]	55
Pensioner	0.283	0.010	[0.264, 0.303]	578
Other	0.035	0.004	[0.027, 0.043]	71
No response	0.000			0
Total	1.000			2,042

Item 17: Do you currently contribute to the public pension scheme?

	Proportion	S.E.	C.I.	Count
Yes	0.486	0.034	[0.418, 0.554]	103
No	0.514	0.034	[0.446, 0.582]	109
No response	0.000			0
Total	1.000			212

Item 18: How do you use the additional budget?

	Proportion	S.E.	C.I.	Count
Spend	0.551	0.016	[0.521, 0.582]	565
Repay debt	0.179	0.012	[0.155, 0.202]	183
Save	0.270	0.014	[0.243, 0.297]	277
No response	0.000			0
Total	1.000			1,025

Item 19: Do you think the current cut will lead to higher contribution rates in the future?

	Proportion	S.E.	C.I.	Count
Yes	0.581	0.015	[0.551, 0.612]	596
No	0.419	0.015	[0.388, 0.449]	429
No response	0.000			0
Total	1.000			1,025

Item 20: Do you think the current cut will lead to lower pensions in the future?

	Proportion	S.E.	C.I.	Count
Yes	0.703	0.014	[0.675, 0.731]	721
No	0.297	0.014	[0.269, 0.325]	304
No response	0.000			0
Total	1.000			1,025

Item 21: Approach to household budgeting

	Proportion	S.E.	C.I.	Count
Fixed saving	0.453	0.016	[0.422, 0.483]	464
Fixed spending	0.331	0.015	[0.302, 0.360]	339
Other	0.217	0.013	[0.191, 0.242]	222
No response	0.000			0
Total	1.000			1,025

Item 22: Statement battery (Proportions)

How do you expect your economic situation to be in one year?	Much worse				Much better
	0.033	0.134	0.607	0.194	0.032
What do you think, how is inflation going to be over the next five years?	Much lower				Much higher
	0.025	0.110	0.242	0.489	0.134
What do you think, how secure are savings in Germany today in comparison to ten years ago?	Much more insecure				Much more secure
	0.237	0.388	0.252	0.101	0.021
What do you think, how profitable are savings in Germany today compared with ten years ago?	Much less				Much more
	0.411	0.311	0.208	0.060	0.010

Notes: Table is based on 1,025 observations.

Item 22: Statement battery (Standard errors)

How do you expect your economic situation to be in one year?	Much worse				Much better
	0.006	0.011	0.015	0.012	0.006
What do you think, how is inflation going to be over the next five years?	Much lower				Much higher
	0.005	0.010	0.013	0.016	0.011
What do you think, how secure are savings in Germany today in comparison to ten years ago?	Much more insecure				Much more secure
	0.013	0.015	0.014	0.009	0.005
What do you think, how profitable are savings in Germany today compared with ten years ago?	Much less				Much more
	0.015	0.014	0.013	0.007	0.003

Notes: Table is based on 1,025 observations.

Item 22: Statement battery (Confidence intervals)

How do you expect your economic situation to be in one year?	Much worse				Much better
	[0.022, 0.044]	[0.113, 0.155]	[0.577, 0.637]	[0.170, 0.218]	[0.021, 0.043]
What do you think, how is inflation going to be over the next five years?	Much lower				Much higher
	[0.016, 0.035]	[0.091, 0.129]	[0.216, 0.268]	[0.458, 0.519]	[0.113, 0.155]
What do you think, how secure are savings in Germany today in comparison to ten years ago?	Much more insecure				Much more secure
	[0.211, 0.263]	[0.358, 0.418]	[0.225, 0.278]	[0.083, 0.120]	[0.013, 0.030]
What do you think, how profitable are savings in Germany today compared with ten years ago?	Much less				Much more
	[0.381, 0.441]	[0.283, 0.340]	[0.183, 0.233]	[0.046, 0.075]	[0.004, 0.016]

Notes: Table is based on 1,025 observations.

Item 22: Statement battery (Counts)

How do you expect your economic situation to be in one year?	Much worse				Much better
	34	137	622	199	33
What do you think, how is inflation going to be over the next five years?	Much lower				Much higher
	26	113	248	501	137
What do you think, how secure are savings in Germany today in comparison to ten years ago?	Much more insecure				Much more secure
	243	398	258	104	22
What do you think, how profitable are savings in Germany today compared with ten years ago?	Much less				Much more
	421	319	213	62	10

Notes: Table is based on 1,025 observations.

Item 23: Do taxes matter for your general job-related efforts?

	Proportion	S.E.	C.I.	Count
Yes	0.406	0.014	[0.567, 0.622]	494
No	0.594	0.014	[0.378, 0.433]	724
No response	0.000			0
Total	1.000			1,218

Item 24: Which influence did the recent payroll tax change have on your job-related efforts?

	Proportion	S.E.	C.I.	Count
I substantially decreased my job-related efforts	0.034	0.008	[0.018, 0.051]	17
I decreased my job-related efforts	0.089	0.013	[0.064, 0.114]	44
Neutral	0.709	0.020	[0.668, 0.749]	350
I increased my job-related efforts	0.136	0.015	[0.105, 0.166]	67
I substantially increased my job-related efforts	0.032	0.008	[0.017, 0.048]	16
No response	0.000			0
Total	1.000			494

Item 25: East/West

	Proportion	S.E.	C.I.	Count
East	0.222	0.009	[0.204, 0.240]	454
West	0.778	0.009	[0.760, 0.796]	1,588
No response	0.000			0
Total	1.000			2,042

Item 26: State

	Proportion	S.E.	C.I.	Count
Schleswig-Holstein	0.036	0.004	[0.028, 0.044]	74
Hamburg	0.021	0.003	[0.014, 0.027]	42
Bremen	0.009	0.002	[0.005, 0.013]	18
Lower Saxony	0.102	0.007	[0.089, 0.116]	209
North Rhine-Westphalia	0.186	0.009	[0.169, 0.202]	379
Hesse	0.083	0.006	[0.071, 0.095]	169
Rhineland-Palatinate	0.043	0.004	[0.034, 0.051]	87
Saarland	0.012	0.002	[0.007, 0.017]	25
Baden-Württemberg	0.121	0.007	[0.107, 0.135]	247
Bavaria	0.166	0.008	[0.149, 0.182]	338
Mecklenburg-West Pomerania	0.023	0.003	[0.017, 0.030]	47
Saxony-Anhalt	0.030	0.004	[0.023, 0.038]	62
Brandenburg	0.039	0.004	[0.030, 0.047]	79
Thuringia	0.031	0.004	[0.023, 0.038]	63
Saxony	0.057	0.005	[0.047, 0.067]	117
Berlin	0.042	0.004	[0.033, 0.051]	86
No response	0.000			0
Total	1.000			2,042

Item 27: Current occupation of interviewed person

	Proportion	S.E.	C.I.	Count
Unskilled labor	0.045	0.005	[0.036, 0.054]	91
Skilled tradesman	0.097	0.007	[0.084, 0.110]	198
Employee without managerial authority	0.181	0.009	[0.164, 0.198]	370
Employee with managerial authority	0.090	0.006	[0.078, 0.103]	184
Senior executive	0.026	0.004	[0.019, 0.033]	54
Public servant in the lower grade of the civil service	0.009	0.002	[0.005, 0.013]	19
Public servant in the middle grade of the civil service	0.006	0.002	[0.003, 0.010]	13
Public servant in the higher grade of the civil service	0.004	0.001	[0.001, 0.007]	8
Self-employed	0.052	0.005	[0.043, 0.062]	107
Self-employed farmer	0.001	0.001	[0.000, 0.003]	3
Freelancer	0.022	0.003	[0.016, 0.028]	45
No response	0.465	0.011	[0.444, 0.487]	950
Total	1.000			2,042

Item 28: Current occupation of head of household

	Proportion	S.E.	C.I.	Count
Blue-collar worker	0.163	0.008	[0.147, 0.179]	333
White-collar worker	0.345	0.011	[0.325, 0.366]	705
Public servant	0.031	0.004	[0.023, 0.038]	63
Self-employed	0.101	0.007	[0.088, 0.114]	207
Farmer	0.002	0.001	[0.000, 0.005]	5
No occupation/unemployed	0.357	0.011	[0.336, 0.378]	729
No response	0.000			0
Total	1.000			2,042

Item 29: Occupational situation of interviewed person

	Proportion	S.E.	C.I.	Count
Full time occupation	0.392	0.011	[0.371, 0.413]	801
Part time occupation	0.143	0.008	[0.127, 0.158]	291
Currently unemployed	0.057	0.005	[0.047, 0.067]	117
Non-working (E.g. pensioners)	0.279	0.010	[0.260, 0.299]	570
Housewife/househusband	0.044	0.005	[0.035, 0.053]	90
In apprenticeship/compulsory military service	0.017	0.003	[0.011, 0.022]	34
Visiting school/university	0.067	0.006	[0.056, 0.077]	136
No response	0.001	0.001	[0.000, 0.003]	3
Total	1.000			2,042

Item 30: Occupational situation of head of household

	Proportion	S.E.	C.I.	Count
Full time occupation	0.585	0.011	[0.563, 0.606]	1,194
Part time occupation	0.052	0.005	[0.043, 0.062]	107
Currently unemployed	0.050	0.005	[0.041, 0.060]	103
Non-working (E.g. pensioners)	0.287	0.010	[0.267, 0.307]	586
Housewife/househusband	0.008	0.002	[0.004, 0.012]	17
In apprenticeship/compulsory military service	0.005	0.002	[0.002, 0.008]	10
Visiting school/university	0.012	0.002	[0.007, 0.017]	25
No response	0.000			0
Total	1.000			2,042

Item 31: Family status

	Proportion	S.E.	C.I.	Count
Single	0.219	0.009	[0.201, 0.237]	448
Unmarried, but living together with partner	0.096	0.007	[0.083, 0.109]	196
Married	0.505	0.011	[0.484, 0.527]	1,032
Widowed/divorced/separated	0.179	0.008	[0.163, 0.196]	366
No response	0.000			0
Total	1.000			2,042

Item 32: Gender

	Proportion	S.E.	C.I.	Count
Male	0.469	0.011	[0.447, 0.491]	958
Female	0.531	0.011	[0.509, 0.553]	1,084
No response	0.000			0
Total	1.000			2,042

Item 33: Size of household

	Proportion	S.E.	C.I.	Count
1 person	0.244	0.010	[0.225, 0.263]	498
2 person	0.400	0.011	[0.378, 0.421]	816
3 person	0.165	0.008	[0.149, 0.181]	337
4 person	0.143	0.008	[0.128, 0.159]	293
5 or more persons	0.048	0.005	[0.039, 0.057]	98
No response	0.000			0
Total	1.000			2,042

Item 34: Is respondent mainly responsible for the household?

	Proportion	S.E.	C.I.	Count
Yes	0.610	0.011	[0.589, 0.631]	1,246
No	0.390	0.011	[0.369, 0.411]	796
No response	0.000			0
Total	1.000			2,042

Item 35: Is respondent head of household?

	Proportion	S.E.	C.I.	Count
Yes	0.608	0.011	[0.587, 0.629]	1,241
No	0.392	0.011	[0.371, 0.413]	801
No response	0.000			0
Total	1.000			2,042

Item 36: Internet access

	Proportion	S.E.	C.I.	Count
At home	0.745	0.010	[0.726, 0.764]	1,522
At work	0.224	0.009	[0.206, 0.242]	458
At school/university	0.047	0.005	[0.037, 0.056]	95
Mobile access	0.152	0.008	[0.137, 0.168]	311
Other	0.050	0.005	[0.041, 0.060]	103
No internet access	0.219	0.009	[0.201, 0.237]	447
No response	0.000			0

Notes: Multiple answers in row 1 to 5 were possible. Table is based on 2,042 responses.

Item 37: Internet use

	Proportion	S.E.	C.I.	Count
Daily	0.369	0.011	[0.348, 0.390]	754
More than once a week	0.278	0.010	[0.258, 0.297]	567
Once a week	0.057	0.005	[0.047, 0.067]	116
Two- or three times a month	0.028	0.004	[0.021, 0.036]	58
Once a month	0.006	0.002	[0.003, 0.010]	13
Less than once a month	0.026	0.004	[0.019, 0.033]	53
Never	0.236	0.009	[0.217, 0.254]	481
No response	0.000			0
Total	1.000			2,042

Item 38: Children below 15 living in the household

	Proportion	S.E.	C.I.	Count
1 children	0.136	0.008	[0.121, 0.151]	278
2 children	0.082	0.006	[0.070, 0.094]	167
3 or more children	0.019	0.003	[0.013, 0.024]	38
None	0.763	0.009	[0.745, 0.782]	1,559
No response	0.000			0
Total	1.000			2,042

Item 39: Net income of interviewed person

	Proportion	S.E.	C.I.	Count
0 to 499 €	0.115	0.007	[0.101, 0.128]	234
500 to 749 €	0.047	0.005	[0.038, 0.056]	96
750 to 999 €	0.131	0.007	[0.117, 0.146]	268
1,000 to 1,249 €	0.076	0.006	[0.064, 0.087]	155
1,250 to 1,499 €	0.159	0.008	[0.143, 0.175]	325
1,500 to 1,999 €	0.123	0.007	[0.109, 0.138]	252
2,000 to 2,499 €	0.082	0.006	[0.070, 0.094]	168
2,500 to 2,999 €	0.024	0.003	[0.017, 0.030]	48
3,000 to 3,499 €	0.017	0.003	[0.012, 0.023]	35
3,500 to 3,999 €	0.005	0.002	[0.002, 0.009]	11
More than 4,000 €	0.017	0.003	[0.011, 0.022]	34
No response	0.204	0.009	[0.186, 0.221]	416
Total	1.000			2,042

Item 40: Net household income

	Proportion	S.E.	C.I.	Count
0 to 499 €	0.015	0.003	[0.009, 0.020]	30
500 to 749 €	0.015	0.003	[0.010, 0.020]	31
750 to 999 €	0.050	0.005	[0.041, 0.060]	103
1,000 to 1,249 €	0.035	0.004	[0.027, 0.043]	71
1,250 to 1,499 €	0.095	0.006	[0.082, 0.107]	193
1,500 to 1,999 €	0.100	0.007	[0.087, 0.113]	205
2,000 to 2,499 €	0.143	0.008	[0.128, 0.159]	293
2,500 to 2,999 €	0.104	0.007	[0.091, 0.117]	212
3,000 to 3,499 €	0.099	0.007	[0.086, 0.112]	202
3,500 to 3,999 €	0.040	0.004	[0.031, 0.048]	81
More than 4,000 €	0.084	0.006	[0.072, 0.096]	172
No response	0.220	0.009	[0.202, 0.238]	449
Total	1.000			2,042

Item 41: Town size

	Proportion	S.E.	C.I.	Count
0 to 1,999	0.058	0.005	[0.048, 0.068]	118
2,000 to 2999	0.045	0.005	[0.036, 0.054]	91
3,000 to 4999	0.065	0.005	[0.054, 0.076]	133
5,000 to 9999	0.113	0.007	[0.099, 0.127]	231
10,000 to 19,999	0.148	0.008	[0.133, 0.164]	303
20,000 to 49,999	0.211	0.009	[0.193, 0.228]	430
50,000 to 99,999	0.069	0.006	[0.058, 0.080]	141
100,000 to 199,999	0.060	0.005	[0.050, 0.071]	123
200,000 to 499,999	0.060	0.005	[0.050, 0.071]	123
More than 500,000	0.171	0.008	[0.155, 0.187]	349
No response	0			0
Total	1.000			2,042

Item 42: Education of interviewed person

	Proportion	S.E.	C.I.	Count
No certified apprenticeship training	0.064	0.005	[0.054, 0.075]	131
Certified apprenticeship	0.296	0.010	[0.276, 0.316]	604
Secondary school	0.421	0.011	[0.400, 0.443]	860
University-entrance diploma	0.104	0.007	[0.091, 0.118]	213
University degree	0.091	0.006	[0.078, 0.103]	185
No response	0.024	0.003	[0.017, 0.031]	49
Total	1.000			2,042

Item 43: Education of head of household

	Proportion	S.E.	C.I.	Count
No certified apprenticeship training	0.042	0.004	[0.033, 0.051]	86
Certified apprenticeship training	0.330	0.010	[0.309, 0.350]	673
Secondary school	0.411	0.011	[0.390, 0.432]	839
University-entrance diploma	0.093	0.006	[0.080, 0.106]	190
University degree	0.121	0.007	[0.107, 0.136]	248
No response	0.003	0.001	[0.001, 0.005]	6
Total	1.000			2,042

Item 44: Social class

	Proportion	S.E.	C.I.	Count
Highest	0.142	0.008	[0.126, 0.157]	289
2nd highest	0.171	0.008	[0.155, 0.187]	349
Average	0.459	0.011	[0.437, 0.480]	937
2nd lowest	0.182	0.009	[0.165, 0.199]	372
Lowest	0.047	0.005	[0.037, 0.056]	95
No response	0.000			0
Total	1.000			2,042

Item 45: Interest on new trends

	Proportion	S.E.	C.I.	Count
I am highly interested in new trends	0.236	0.009	[0.217, 0.254]	481
New trends do not interest me particularly	0.488	0.011	[0.466, 0.509]	996
I do not care about new trends	0.277	0.010	[0.257, 0.296]	565
No response	0.000			0
Total	1.000			2,042

Item 46: Living conditions

	Proportion	S.E.	C.I.	Count
Owner-occupied house	0.457	0.011	[0.436, 0.479]	934
Owner-occupied flat	0.070	0.006	[0.058, 0.081]	142
On rent	0.473	0.011	[0.451, 0.495]	966
No response	0.000			0
Total	1.000			2,042

Item 47: Age

	Proportion	S.E.	C.I.	Count
14	0.011	0.002	[0.007, 0.016]	23
15	0.009	0.002	[0.005, 0.013]	19
16	0.007	0.002	[0.004, 0.011]	15
17	0.010	0.002	[0.006, 0.015]	21
18	0.008	0.002	[0.004, 0.012]	17
19	0.008	0.002	[0.004, 0.012]	17
20	0.006	0.002	[0.003, 0.010]	13
21	0.006	0.002	[0.003, 0.010]	13
22	0.013	0.003	[0.008, 0.018]	27
23	0.012	0.002	[0.007, 0.016]	24
24	0.011	0.002	[0.007, 0.016]	23
25	0.015	0.003	[0.009, 0.020]	30
26	0.011	0.002	[0.006, 0.015]	22
27	0.012	0.002	[0.007, 0.017]	25
28	0.010	0.002	[0.006, 0.014]	20
29	0.012	0.002	[0.007, 0.017]	25
30	0.015	0.003	[0.009, 0.020]	30
31	0.012	0.002	[0.007, 0.016]	24
32	0.010	0.002	[0.006, 0.015]	21
33	0.008	0.002	[0.004, 0.012]	17
34	0.011	0.002	[0.007, 0.016]	23
35	0.012	0.002	[0.007, 0.017]	25
36	0.015	0.003	[0.010, 0.020]	31

	Proportion	S.E.	C.I.	Count
37	0.010	0.002	[0.006, 0.014]	20
38	0.014	0.003	[0.009, 0.019]	29
39	0.014	0.003	[0.009, 0.019]	29
40	0.016	0.003	[0.011, 0.022]	33
41	0.016	0.003	[0.010, 0.021]	32
42	0.021	0.003	[0.015, 0.027]	43
43	0.015	0.003	[0.009, 0.020]	30
44	0.023	0.003	[0.016, 0.029]	46
45	0.024	0.003	[0.017, 0.030]	48
46	0.024	0.003	[0.017, 0.030]	48
47	0.025	0.003	[0.019, 0.032]	52
48	0.020	0.003	[0.014, 0.026]	40
49	0.024	0.003	[0.017, 0.030]	48
50	0.029	0.004	[0.022, 0.037]	60
51	0.024	0.003	[0.017, 0.031]	49
52	0.020	0.003	[0.014, 0.026]	41
53	0.022	0.003	[0.015, 0.028]	44
54	0.016	0.003	[0.010, 0.021]	32
55	0.019	0.003	[0.013, 0.025]	39
56	0.018	0.003	[0.012, 0.023]	36
57	0.016	0.003	[0.010, 0.021]	32
58	0.013	0.003	[0.008, 0.018]	27
59	0.016	0.003	[0.010, 0.021]	32
60	0.019	0.003	[0.013, 0.024]	38
61	0.012	0.002	[0.007, 0.017]	25
62	0.017	0.003	[0.011, 0.022]	34
63	0.017	0.003	[0.012, 0.023]	35
64	0.017	0.003	[0.011, 0.022]	34
65	0.012	0.002	[0.007, 0.017]	25
66	0.019	0.003	[0.013, 0.025]	39
67	0.009	0.002	[0.005, 0.013]	18
68	0.013	0.002	[0.008, 0.018]	26

	Proportion	S.E.	C.I.	Count
69	0.013	0.003	[0.008, 0.018]	27
70	0.018	0.003	[0.012, 0.023]	36
71	0.016	0.003	[0.010, 0.021]	32
72	0.018	0.003	[0.012, 0.023]	36
73	0.013	0.002	[0.008, 0.018]	26
74	0.015	0.003	[0.010, 0.020]	31
75	0.019	0.003	[0.013, 0.024]	38
76	0.011	0.002	[0.006, 0.015]	22
77	0.007	0.002	[0.003, 0.010]	14
78	0.009	0.002	[0.005, 0.013]	18
79	0.008	0.002	[0.004, 0.012]	17
80	0.006	0.002	[0.003, 0.009]	12
81	0.005	0.002	[0.002, 0.009]	11
82	0.009	0.002	[0.005, 0.013]	19
83	0.003	0.001	[0.001, 0.005]	6
84	0.003	0.001	[0.001, 0.006]	7
85	0.003	0.001	[0.001, 0.005]	6
86	0.002	0.001	[0.000, 0.004]	4
87	0.001	0.001	[0.000, 0.003]	3
88	0.000	0.000	[0.000, 0.001]	1
89	0.001	0.001	[0.000, 0.003]	3
90	0.000	0.000	[0.000, 0.001]	1
91	0.000	0.000	[0.000, 0.001]	1
92	0.001	0.001	[0.000, 0.002]	2
No response	0.000			0
Total	1.000			2,042