How Does Fiscal Austerity Affect Political Support for the Government?

Evelyne Hübscher
Central European University
huebschere@ceu.hu

Achim Kemmerling
Central European University
kemmerlinga@ceu

Thomas Sattler
London School of Economics
t.sattler@lse.ac.uk

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Abstract

This paper reexamines the political foundation of the 'expansionary fiscal contractions' thesis. According to this thesis, fiscal austerity does not entail significant political costs because austerity does not reduce support for the government among citizens. This claim is contrary to recent anecdotal evidence that governments associate substantial electoral risk with austerity policies. We explain these inconsistent results with the effort of electorally vulnerable governments to strategically time and design fiscal consolidation packages to minimize electoral losses. Previous studies, therefore, underestimate the effect of fiscal consolidations and other economic reform policies on government support and election outcomes. We show that a) fiscal austerity has a substantial immediate negative effect on political support for the government; b) and this negative effect is larger when we account for governments' strategic behaviour such as the timing of reforms.

1 Introduction

The tremendous fiscal stress in Europe after the global financial crisis has revived the question how large fiscal imbalances should be addressed. An economic idea that has featured very prominently in the European crisis resolution process, the so-called 'expansionary fiscal contraction' (EFC) thesis, proposes that governments should opt for large fiscal cuts because such policies can address government debt problems without significant economic costs. In such a view, fiscal austerity can even have beneficial effects on economic growth because austerity rises confidence among economic actors who then increase private investment (Alesina et al., 1998; Giavazzi and Pagano, 1990). This idea is deeply embedded in policymaking institutions that play a major role for European crisis management, notably the European Central Bank.

While the economic mechanisms behind this thesis have spurred a considerable controversy(Devries et al., 2011; Chowdhury and Islam, 2012), its political part remains largely unmentioned in this debate. Yet, this political parallel story is a crucial pillar of the EFC thesis. In line with the projection that economic costs will be small, it suggests that fiscal austerity does not have political costs in form of lower reelection prospects. The proponents even conclude that the answer to the question whether consolidations negatively affect popularity is a "loud no" (Alesina et al., 1998, p.198). Related research in political science has come to similar conclusions that retrenchment does not lead to punishment by voters (e.g., Giger and Nelson, 2011). This is important for the postulated confidence effects, which can only occur if economic actors are certain that the retrenchment packages will not be reversed. But when fiscal austerity threatens the social cohesion and political stability of a country, austerity policies may not be politically sustainable and may be short-lived. It is therefore necessary to jointly rethink both the economic and political consequences of fiscal contractions for politically fragile governments.

Our analysis starts from the idea that governments face a trade-off between reducing the deficit and securing sufficient political support for their political survival. This trade-off arises from the less optimistic, recent findings that fiscal contractions generally lead to economic contractions (Guajardo, Leigh and Pescatori, 2011), and often concern popular social programs (Armingeon, Guthmann and Weisstanner, 2013). Especially electorally

vulnerable governments, therefore, hesitate to implement austerity measures. If economic pressure on fiscal budgets become too strong, governments carefully manage the political costs that are associated with these reforms (Hübscher and Sattler, 2014; Kemmerling and Truchlewski, 2015). They anticipate the distributive consequences of austerity measures and strategically timing them during the electoral cycle. This means that the austerity literature and the broader literature on economic reforms underestimate the relationship between fiscal retrenchment and government support.

In this analysis, we take a first step to address these challenges. We provide a unique data set for 16 OECD countries containing annual data for the popularity of main government and opposition parties, and combine it with information on episodes of fiscal consolidation from Devries et al. (2011). We estimate a series of time-series cross-section models using government popularity as the main dependent variable. We find that episodes of fiscal consolidation lead to a slump in political support for the government. These results are robust to different definitions of fiscal consolidation, and to different econometric specifications. We also take steps to address the possibility of non-random treatment and endogeneity problems in our analysis, which will be extended in the future. Overall, the results do cast serious doubt on previous, optimistic conclusion that fiscal consolidation has twin benefits for the economy and the government. Politicians do strategize on fiscal consolidation, and when they consolidate the budget, on average it does have negative effects on their popularity.

In the following, we will first review the literature and present our own argument why we believe the conventional story to be true, but difficult to observe. The next section presents our research design, operationalizations and data. In the fourth section, we show our econometric results and perform some robustness tests. The final section concludes with broader lessons for the political economy of fiscal consolidation.

2 Government political support and fiscal austerity

A widespread economic idea that has served as an intellectual basis of the ongoing crisis resolution strategy of the Eurozone countries claims that fiscal consolidation can lead to

anti-Keynesian growth effects (Alesina et al., 1998; Alesina, Ardagna and Trebbi, 2006; Alesina and Ardagna, 2010; Alesina, Carloni and Lecce, 2011). According to this powerful logic, reducing the public sectors' weight on private actors' decisions can boost demand for consumption and investment as well as stimulate the supply side of the economy. In line with this view, fiscal austerity then often does not lead to economic contractions, and can even be associated with economic expansions. In other words, the economic costs of fiscal austerity are low or even inexistent.

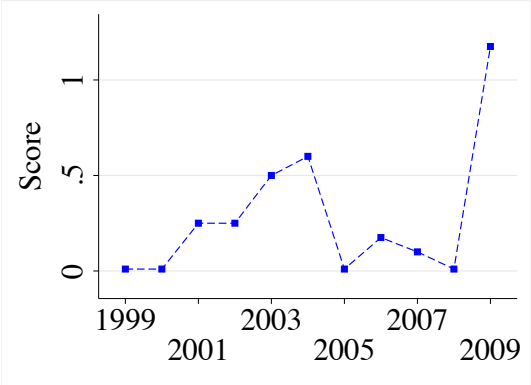

Figure 1: References to 'expansionary fiscal contraction' thesis in ECB *Monthly Bulletins*; Source: Fragin (2014).

This idea has become deeply embedded in influential policymaking institutions of Europe (Chowdhury and Islam, 2012; Blyth, 2013*a*,*b*). In particular, the ECB repeatedly refers to the idea that fiscal contractions promote economic expansions in its *Monthly Bulletin* (Fragin, 2014). Figure 1 captures how often the Monthly Bulletin refers to the EFC approach and either argues that growth is not harmed by fiscal consolidation or even directly refers to the relevant academic studies.[1] The figure not only shows how much ECB recommendations during the crisis were guided by the EFC thesis, but also that the ECB embraced the idea already long before the crisis.

[1]The coding of ECB Bulletins is 1 if it mentions of 'growth-oriented' fiscal consolidation strategies; 2 if more extensive statements about limiting negative short-term effects of contractions are made; and 3 if it includes mentions of expansionary consolidations. Explicit reference to EFC research increases the coding by an additional unit. The figure shows annual averages.

Recently, this so-called 'expansionary fiscal austerity' (EFC) thesis has spurred a controversial debate among (political) economists and is facing critique on theoretical and empirical grounds. Theoretically, the studies neglect a number of macro-economic factors that influence the success or failure of consolidation measures. Empirically, one of the main critiques concerns the way, in which episodes of consolidation are identified and measured (Devries et al., 2011; Guajardo, Leigh and Pescatori, 2011).[2]

In line with these claims, the literature finds that fiscal austerity measures not only have small economic costs, but that they also come with no political costs. Empirical findings suggest that fiscal austerity, as measured by this literature, is not associated with a higher probability of electoral defeat in the subsequent election (Alesina et al., 1998; Alesina, Carloni and Lecce, 2011). This political parallel story is an implicit but essential pillar of the economic 'expansionary fiscal contraction' thesis. Austerity can only promote consumer confidence as claimed by the thesis if economic actors can be confident that this policy will not be reversed in the future after they are ousted from office. If, however, such policies are unpopular and lead to the electoral defeat of the government, the credibility of these policies is low from the beginning because they are likely to be of short durability. Hence, the confidence effects, which play an important role for expansionary contractions, fade as soon as austerity is associated with substantial electoral risk.

These studies on the political implications of fiscal consolidation are closely related to a broader literature in political economy, which examines the political costs and the underlying politics of such reforms in greater detail. Recent research on the political costs of expenditure cuts and welfare reforms find no systematic punishment effect for governments that reduce welfare state entitlements (Armingeon and Giger, 2008; Giger and Nelson, 2011). Instead, some parties, such as religious and liberal parties, can even benefit electorally from welfare cutbacks during their incumbency (Giger, 2010). Other

[2]A large part of the literature defines fiscal consolidation episodes as those years, in which the cyclically adjusted fiscal balance improves by more than a predefined threshold (Alesina et al., 1998; Alesina, Carloni and Lecce, 2011; Ahrend, Catte and Price, 2006; Price, 2010). This threshold varies across studies. This operationalization has several problems. For instance, as an outcome measure it very much dominated by factors beyond the direct control of governments such as interest rates.

studies find that parties with a positive welfare image (socialist and religious parties) suffer from electoral losses while liberal and conservative parties are unaffected by this effect (Schumacher, 2013).

Yet, the dominant claim that voters do not punish governments for unpopular fiscal austerity measures is counterintuitive and goes against the background that fiscal austerity led to political turnover in many European countries during the European debt crisis (i.e. in Spain, Ireland, Greece, and Portugal). Moreover, the massive austerity programs contributed to the rise of new political parties whose programs take a critical approach towards the dominant austerity discourse (such as Syriza in Greece, Podemos in Spain) or are generally critical about the monetary union and the resulting domestic economic constraints (such as Cinque Stelle in Italy or the Front National in France). These parties now pose a significant electoral challenge to the mainstream parties in government. These developments confirm that austerity policies have a significant impact on the political sphere, both in terms of government outlook and party landscape. In addition to the experiences made by countries in the Euro-zone, there is also more general evidence that austerity packages often go hand in hand with detrimental levels of political stability when governments implement them (Hsieh, 2009; Ponticelli and Voth, 2011). Finally, micro studies find that voters who are financially adversely affected by the cuts are less likely to approve of the government (De Vries and Hobolt, 2012).[3]

A solution to these seemingly inconsistent findings comes from the literature on 'blame avoidance', which at first glance is also at odds with the currently dominant view that retrenchment has little electoral costs. In its earlier formulation, this literature predicted that "frontal assaults on the welfare states carry tremendous electoral risks" (Pierson, 1996, p. 179). A large body of research within this paradigm shows that governments fear unpopular reforms and generally try to avoid or postpone them or make use of various strategies to obfuscate the implications of the reforms in order to circumvent the political costs that are associated with them (Pierson, 1998, 2001; Ross, 2000; Green-Pedersen,

[3]Government approval, however, is significantly moderated by educational background, implying that people who are more politically sophisticated are less likely to disapprove of government actions that negatively affect them.

2002).[4] Still, the broader literature in this tradition also acknowledges that governments often do retrench and implement reforms (Vis, 2007, 2010). Much of this literature highlights the strategic behavior that is necessary to pass retrenchment packages, which will be undertaken when governments discover ways to minimize the political costs associated with such policies.

A clear focus on the strategic behavior of governments offers an explanation why existing studies in political economy do not find a systematic and negative effect of unpopular reforms for governments electoral prospects. The studies discussed above to a large extent ignore how governments systematically anticipate the political consequences of reforms and thereby make use of various types of strategic actions, which are at their disposal. Examples of such strategies are the shifting of the burden towards societal groups, which are less supportive of governmental parties; the implementation of incremental reforms; and the timing of consolidation measures at the beginning of the electoral term. Government actors use these strategies to minimize the electoral costs of austerity in order to increase the chances that they survive in government.[5] Taking strategic behavior into account, the electoral risk that is associated with austerity therefore should be larger than previous studies on election outcomes suggest.

In this paper, we highlight the importance of the timing of fiscal consolidation packages. Governments that are electorally vulnerable and only have a small electoral margin over their main competitor party are particularly likely to pass consolidation packages at the beginning of the legislative term (Hübscher and Sattler, 2014). While such strategic timing of unpopular reform helps to avoid punishment in future elections, such reforms still negatively affect government popularity in the medium run. We hence expect to find a systematic and negative effect of fiscal consolidation on the popularity of party governments. This negative effect, however, is unlikely to persist permanently because consolidation represents a temporary intervention that ends after one or a couple of years.

[4]Related to this,the literature on the determinants of government popularity and economic voting has amassed empirical evidence on the 'electoral costs of government' (Lewis-Beck and Stegmaier, 2013; Nannestad and Paldam, 2002, 1994).

[5]For a comprehensive discussion and a categorization of various types of strategies employed by governments see König and Wenzelburger (2014).

The literature on economic voting suggests that myopic voters usually have a memory of around one year (Lewis-Beck and Stegmaier, 2013). Hence, governments might be able to reach pre-consolidation popularity levels again, especially if a consolidation package is of limited size. Moreover, the economy may readjust over time to the new levels of fiscal policy. Friedrichsen and Zahn (2014), for instance, argue that economic policies which result in better economic performance will increase people's political support sociotropically via national economic performance and egotropically, when the effect materializes at the individual level. This is why the strategic use of timing becomes crucial. In order to allow enough time for the government to approximate pre-consolidation popularity levels, unpopular reforms should be initiated and implemented at the beginning of the electoral cycle. This leads to the following two hypotheses.

Hypothesis 1: Fiscal consolidation policies decrease political support for the government in the year in which the policy is implemented.

Hypothesis 2: Political support for the government gradually recovers after consolidation ends.

3 Research design, measurement and data

The previous discussion has important implications for the empirical analysis and its design. Most previous studies estimate the electoral risk associated with fiscal retrenchment by looking at election outcomes (Armingeon and Giger, 2008; Giger, 2010; Giger and Nelson, 2011; Schumacher, 2013). But an analysis of election outcomes that fails to model the strategic behavior of governments does not properly capture the electoral risk of fiscal austerity. When governments make up for the political losses until election time, then previous studies underestimate the immediate political costs from retrenchment. We therefore follow a different strategy and examine the effect of austerity on public support for government on an annual basis. This has the advantage that we can assess the political repercussions of unpopular fiscal policies throughout the legislative

term. The analysis covers sixteen countries between 1978 and 2009.[6]

It is possible that this design still underestimates the true level of electoral backlash in the aftermath of unpopular reforms. First of all, politicians recur to different strategies in the face of electoral punishment: next to timing unpopular reforms, the might also try to hide them, implement politically beneficial, but economically harmful reforms, or opt to avoid them completely. Moreover, for practical reasons, our analyses focussed on governments as the units of analysis. If we focussed on the survival of political parties in the aftermath of consolidation, we might even get larger and longer-lasting effects of drastic consolidation measures.

To measure political support for the government, we use aggregated vote intentions for political parties. We then match the vote intentions data with information about government composition from Andersson, Bergmann and Ersson (2012) to compute vote intentions for the government as a whole, which is the sum of vote intentions for individual government parties. The vote intentions data are built around Eurobarometer data for EU countries until 1999 and are complemented with data from a variety of sources, including a large range of country-specific surveys.To increase the consistency of the data over time, we prioritize sources that offer longer time series of vote intentions data for any given country. As a rule, the latest available data point in a year is selected to make sure that the respondents incorporated all government policy choices throughout the calendar year when evaluating government parties. For country-specific polls with a monthly frequency, we usually use the December value. For Eurobarometers, we use the results from the second survey in each year, which was usually collected in November.

The operationalization of fiscal consolidation and austerity has led to a fair amount of controversies among proponents of two different measures: the recently developed, so-called 'action-based' data by the IMF (Devries et al., 2011); and a measure based on the cyclically adjusted primary fiscal balance (Alesina, Carloni and Lecce, 2011; Ahrend, Catte and Price, 2006; Guichard et al., 2007). The action-based measure qualitatively identifies fiscal consolidation episodes and the magnitude of the retrenchment policies

[6]Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, United Kingdom and the United States.

from a variety of policy documents by governments and international organisations.[7] These documents "explicitly provide evidence of what policymakers believed at the time that the decisions were taken" (Devries et al., 2011, p. 4). The alternative and older measure of fiscal consolidation identifies consolidation periods as years, in which the cyclically adjusted primary fiscal balance (CAPB) improved more than a specific threshold. These thresholds that decide whether or not an improvement in the CAPB is classified as consolidation vary across studies and range between 0 and 1.5 percentage points.

Even though also the action-based measure faces questions of validity (Kemmerling and Truchlewski, 2015), in our view, it captures more adequately captures our concept of fiscal consolidation policies. Since our paper investigates the political repercussions of retrenchment, we want to isolate the relationship between government policy choices and government political support. The action-based measure directly reflects the conscious political decisions and announcements by governments to address fiscal problems. The consolidation events that the action-based data identify need to be legislated by the parliament, which means that they generally spur public debate. This provides the electorate with information to form an opinion about the desirability of austerity policy and their personal and national economic implications. In contrast, the cyclically adjusted fiscal balance can change for a variety of reasons, and policy is only one of them. Fiscal deficits, for instance, can shrink when broader macro-economic conditions improve even when current fiscal policies did not change. The traditional measure therefore represents a mix between policy and non-policy outcomes. However, for robustness checks we will also use the more traditional measure.

Table 1 shows the empirical association between the two operationalizations of fiscal consolidation in our dataset. The two are positively related indicating that they partially capture similar process, but this association is limited. The correlation does not exceed 0.46 and is highest among the dummy variables, which measure whether or not consolidation took place, but not how much a government consolidated. Figure 2 shows the empirical distribution of the two measures. The distributions of the two variables

[7]Specifically, information on consolidation policies is retrieved from budgetary speeches of government members, national budget reports, OECD Economic Surveys and IMF Staff reports. These include tax-based and spending-based consolidation measures (about one and two thirds, respectively).

Table 1: Correlation between new, action-based (A-B) and traditional, deficit-based (CAPB) consolidation measures

		Action-based; Dummy
Deficit-based; Dummy	ΔCAPB>0	0.41
	ΔCAPB>0.5	0.46
	ΔCAPB>1	0.38
		Action-based; Size
Deficit-based; Size	ΔCAPB>0	0.35
	ΔCAPB>0.5	0.35
	ΔCAPB>1	0.33

ΔCAPB indicates by how much the cyclically adjusted primary fiscal balance (CAPB) needs to improve to count as consolidation year.

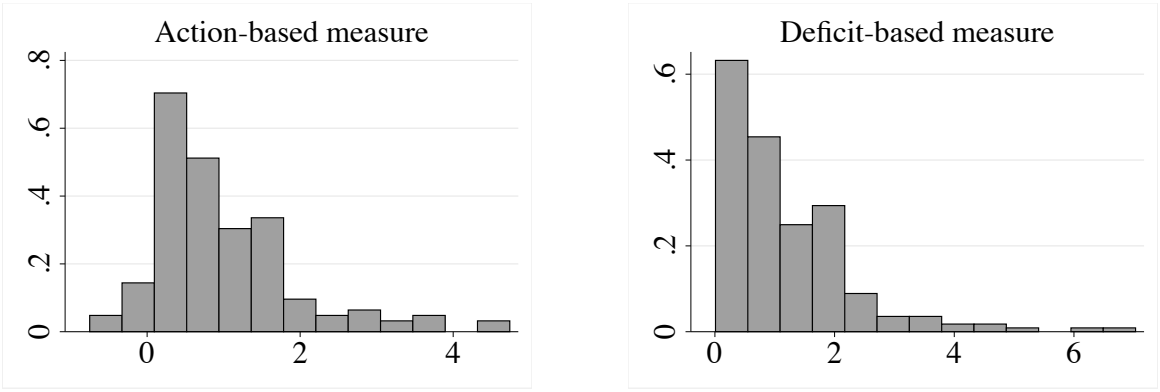

Figure 2: Distribution of action-based and deficit-based consolidation data.

are roughly similar with some more extreme values for the deficit-based measure. There are (very few) instances for the action-based measures when the announced consolidation policy led to greater deficits, which is not possible for the deficit-based measure by definition.

We rely on the theoretical and empirical literature on popularity functions and economic voting (Duch and Stevenson, 2008)(Lewis-Beck:2013) to identify the most important control variables. The economic variables are economic growth and consumer price inflation. Data for these variables is from (Armingeon et al., 2012). We also include a variable counting the years since the last election and its squared term. These variable

capture the possibility that support for the government first decreases after an election and then increases again when the next election approaches. Since the length of legislative terms varies, we divide this variable by the length of the particular term. Finally, we add a variable counting the number of years of the prime ministers' incumbency. This 'fatigue' variable captures the idea that support gradually decreases the longer the prime minister has been in office.

4 Empirical analysis

For this version of the paper, we use standard models for cross-section time series to estimate the effect of fiscal consolidation on political support for the government. Since we are primarily concerned with variation within a country over time, we use fixed-effects models. An AR(1) term captures the dynamic effect of fiscal consolidations on popular support, i.e. how a change in the explanatory variables affects support over time. Fixed-effects models with an AR(1) term yield biased estimates, but this bias disappears when the number of time periods is large, which is the case for our analysis. The model then is

$$\text{Support}_{i,t} = \alpha_0 + \alpha_1 \text{Support}_{i,t-1} + \alpha_2 \text{Consolidation}_{i,t} + \boldsymbol{\alpha_3}' \mathbf{X_{i,t}} + \mu_i + \epsilon_{i,t} \qquad (1)$$

where $\mathbf{X_{i,t}}$ is a vector with the control variables listed above, μ_i is a panel-specific constant and $\epsilon_{i,t}$ is an error term.

A question that arises is whether to use country or government fixed effects. Overall support varies from government to government depending on the number and types of parties included. But government panels are highly unbalanced because government time in office differs massively, between 1 and 18 years.[8]. A simple solution to this problem is to estimate (1) in differences. If we subtract $\text{Support}_{i,t-1}$ from both sides of the equation, we get a model without the panel-specific constant μ_i,

$$\Delta\text{Support}_{i,t} = \alpha_1 \Delta\text{Support}_{i,t} + \alpha_2 \Delta\text{Consolidation}_{i,t} + \boldsymbol{\alpha_3}' \boldsymbol{\Delta} \mathbf{X_{i,t}} + \Delta\epsilon_{i,t}$$

[8]For our purpose, government change is any instance in which a party enters or leaves the government independent of its role in government. The reason is that political support changes whenever a party enters or leaves the government even if the principal parties, prime minister and most important ministers stay the same.

In this model, the errors are autocorrelated of order one by design (Wooldridge, 2010, ch. 10). We therefore estimate the model using a Prais-Winston estimator that accounts for autocorrelation among the errors. For our analysis, we estimate a slightly less restrictive model that also includes a constant term,

$$\Delta\text{Support}_{i,t} = \beta_0 + \beta_1 \Delta\text{Support}_{i,t} + \beta_2 \Delta\text{Consolidation}_{i,t} + \boldsymbol{\beta_3}' \boldsymbol{\Delta X_{i,t}} + \Delta\epsilon_{i,t} \quad (2)$$

The results for equation (1) are in table 2. In the first column, we show the estimates from a simple model that only includes the AR(1) term and the consolidation variable. They show that fiscal consolidation has a strong and statistically significant negative effect on political support for the government. This means that the more a government consolidates, the more political support for the government among voters drops. The effect is quite substantial: a fiscal consolidation package of 1% of GDP leads to a decrease in support of 1 percentage point. Given that the median value of government popularity is around 44 percent, the loss of a few percentage points often decides about winning or loosing the next election. This is consistent with our argument that governments lose political support in years, in which they opt for austerity.

This result holds when we control for a variety of effects, including economic circumstances and deterministic political trend. Economic growth has a robust and strong effect on political support with more growth leading to higher support. The effect of inflation is not statistically significant in any of the models. This is consistent with theoretical models of economic voting arguing that growth is more important for popular evaluations of governments (Duch and Stevenson, 2008, ch. 5). The results also do not provide evidence that political support varies with the electoral cycle. This is plausible when we consider that elections can be called freely in some of the countries, but not in others (Schleiter and Morgan-Jones, 2009; Schleiter and Tavits, 2014). Electoral cycles in popularity therefore should be more pronounced in particular countries, e.g. the United States. There is evidence that government popularity gradually decreases, the longer the prime minister has been is office.

The results for the simpler, consolidation dummy variable that ignores the size of fiscal consolidation packages are shown in the fourth column. The coefficient on this variable is consistently negative for all kinds of specifications, but it is not statistically significant.

It therefore matters how much a government consolidates. Consolidations per se may not be politically harmful for the government if the consolidation packages are small. This explains some of the differences between our and earlier results about the political effects of consolidation and broader economic reforms. At the same time, small consolidations do not solve the problem of large fiscal imbalances and therefore do not correspond to the recommendations by the expansionary fiscal contraction thesis.

Finally, the last two columns show the results for the traditional consolidation measure based on the cyclically adjusted primary fiscal balance (CAPB). The specification in the fifth column uses the raw changes in the CAPB. This means that greater improvements or lower deteriorations in the fiscal balance count as greater consolidation effort. For the last column, we use a dummy variable that captures whether the balance actually improved (i.e. lower deficits or greater surpluses), which are classified as consolidation. Deteriorations in the fiscal balance count non-consolidation periods. The coefficients on these variables are always negative, which is consistent with our previous findings. But only the effect of the changes in the CAPB is weakly statistically significant.

The results in table 3 show the results for the same specifications estimated with variables in first differences. The results are straightforward. The consolidation variable has a strong and statistically significant negative effect on political support for the government. The estimated impact of consolidation is even stronger than in the previous table. The effect of the consolidation dummy is also as before. Consolidation episodes alone do not have a statistically significant effect if the size of consolidation is ignored. However, the alternative operationalizations of fiscal consolidation have a strong and statistically significant effect on government political support when the model is estimated with differenced variables. Overall, this is strong support against the thesis that fiscal consolidation does not reduce political support for the government among voters and confirms our theoretical expectations.

To fully assess the substantive effect of fiscal austerity, we explore the dynamic effects of a consolidation package on political support over multiple years. In a dynamic model like (1), a policy intervention affects political support not only in the same year, but also in the subsequent years through the autoregressive component of the model. This

Table 2: Fiscal consolidation and government popularity: Popularity_t

	Simple	Econ	Trends	Dummy	Deficit	Def-Dum
Popularity_{t-1}	0.723***	0.706***	0.704***	0.703***	0.709***	0.710***
	(0.049)	(0.051)	(0.056)	(0.057)	(0.055)	(0.055)
Consolidation_t	-1.156***	-0.871**	-0.862**			
	(0.348)	(0.353)	(0.341)			
ConsDummy_t				-0.970		
				(0.668)		
$\text{Consolidation}_t^{alt}$					-0.332*	
					(0.158)	
ConsDummy_t^{alt}						-0.536
						(0.531)
Growth_t		0.613***	0.646***	0.687***	0.739***	0.715***
		(0.169)	(0.175)	(0.172)	(0.179)	(0.169)
Inflation_t		-0.001	-0.024	-0.015	0.001	-0.009
		(0.103)	(0.112)	(0.116)	(0.126)	(0.125)
Ecount_t			-1.780	-1.745	-1.600	-1.801
			(1.297)	(1.359)	(1.291)	(1.300)
Ecount_t^2			0.548	0.531	0.431	0.569
			(0.468)	(0.492)	(0.455)	(0.471)
PMcount_t			-0.198**	-0.195**	-0.183**	-0.173**
			(0.081)	(0.089)	(0.079)	(0.077)
Constant	12.203***	11.339***	13.017***	12.920***	12.015***	12.354***
	(2.323)	(2.143)	(2.635)	(2.790)	(2.505)	(2.531)
F	153.46	105.12	200.60	230.35	160.63	164.49
p	0.000	0.000	0.000	0.000	0.000	0.000
N	425	425	419	419	417	417

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Fiscal consolidation and government popularity: $\Delta\text{Popularity}_t$

	Simple	Econ	Trends	Dummy	Deficit	Def-Dum
$\Delta\text{Consolidation}_t$	-1.621***	-1.482**	-1.582***			
	(0.586)	(0.588)	(0.586)			
$\Delta\text{ConsDummy}_t$				-0.952		
				(0.731)		
$\Delta\text{Consolidation}_t^{alt}$					-0.543***	
					(0.185)	
$\Delta\text{ConsDummy}_t^{alt}$						-1.835***
						(0.659)
ΔGrowth_t		0.451**	0.469**	0.529***	0.585***	0.555***
		(0.188)	(0.193)	(0.196)	(0.190)	(0.190)
$\Delta\text{Inflation}_t$		0.124	0.163	0.212	0.251	0.234
		(0.192)	(0.196)	(0.194)	(0.212)	(0.212)
ΔEcount_t			-1.113	-1.225	-0.860	-0.852
			(1.032)	(1.063)	(1.070)	(1.073)
ΔEcount_t^2			-0.024	0.076	-0.115	-0.056
			(0.498)	(0.500)	(0.508)	(0.509)
$\Delta\text{PMcount}_t$			-0.230	-0.212	-0.217	-0.198
			(0.142)	(0.144)	(0.146)	(0.142)
Constant	-1.093***	-0.991***	-0.906***	-0.893***	-0.918***	-0.905***
	(0.315)	(0.308)	(0.314)	(0.318)	(0.315)	(0.320)
DW stat	1.89	1.89	1.85	1.84	1.84	1.85
F	7.64	4.45	3.19	2.64	4.19	4.36
p	0.006	0.004	0.005	0.016	0.000	0.000
N	425	425	415	415	410	410

Results are from Prais-Winston regressions. Robust standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

dynamic aspect is important to understand the political strategies of governments that plan and time a consolidation package because it tells us how persistent the negative effect of consolidations on political support is.

Figure 3 shows the results from a simulation exercise that illustrates how political support evolves in the years after the government implemented a consolidation package of 1% of GDP. The simulation is based on the results in the second column of table 2. For the simulation, we assume that government political support is at the 'long-term equilibrium' level that prevails if the government does not consolidate in the year before the consolidation $(t-1)$. The long-term equilibrium is a state in which the series does not have an inherent tendency to change (De Boef and Keele, 2008, p.191).[9] To compute this equilibrium value, we set the control variables at their means and the consolidation variable at zero.[10] This yields an equilibrium value for government political support of 43.9%, which is the starting point of the simulation in $t-1$. We then assume that the consolidation variable takes the value 1 in period t and returns to 0 for periods $t+1$ onwards and compute the corresponding predictions for political support in t, $t+1$ etc..

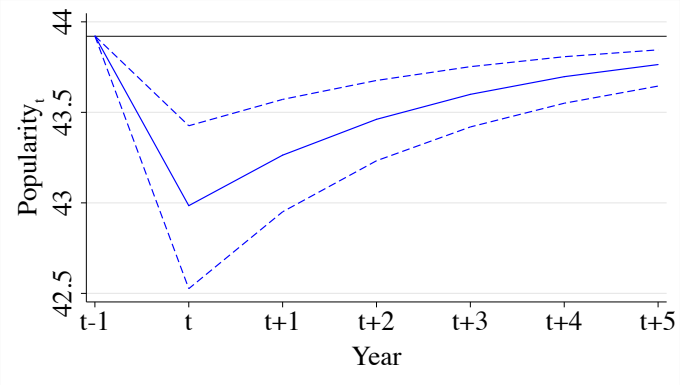

Figure 3: Simulated dynamic effect of a fiscal consolidation package of 1% of GDP in year t on government popularity; dashed lines denote 90% confidence interval.

[9]Technically, it represents the expected value of political support to which the series converges in the long run.

[10]Suppose $E[s_t] = s^*$, $E[c_t] = c^*$ and $E[x_t] = x^*$. In equilibrium, we then have $s^* = \alpha_0 + \alpha_1 s^* + \alpha_2 c^* + \alpha_3 x^*$, which is equivalent to $s^* = \frac{\alpha_0}{1-\alpha_1} + \frac{\alpha_2}{1-\alpha_1} c^* + \frac{\alpha_3}{1-\alpha_1} x^*$. For our simulation, we are interested in the equilibrium value for non-consolidation periods and therefore set $c^* = 0$. The control variables are set at their means.

The figure shows that political support drops by about 1 percentage point in period t and gradually returns back to the equilibrium value in the long term. In the medium term, however, political support remains at a reduced level, which is ca. 0.5 (0.3) percentage points below the original value two (three) years after the consolidation. This is the effect of an average consolidation package (the mean consolidation size is exactly 1% of GDP). The effect almost doubles if we assume a consolidation package that is one standard deviation above the mean (the standard deviation is 0.92). Also, the results are for governments that only consolidate in one period because we assumed that consolidation is zero in periods $t+1$ and later. But consolidations often are spread over multiple periods. In that case, the dynamic effect would be much larger. To illustrate, the equilibrium political support under a hypothetical situation with permanent consolidation of 1% of GDP is 40.7%, and hence 3.2 percentage points lower than without consolidation. Finally, it is worth noting that the estimated immediate effect is more than 50% larger for the model in differences in table 3. The dynamic effect would increase accordingly.

These results suggest that it makes sense for governments to strategically time the implementation of consolidation packages if the government cannot afford to lose many votes to survive in office. This is consistent with the finding by Huebscher and Sattler (2014) that governments with small electoral margins tend to implement consolidation packages early in the legislative term. The results, however, are not consistent with the widely held view that austerity policies do not have significant negative effects on the electoral prospects of governments.

The theoretical discussion prompts two important concerns with the previous empirical analysis. First, the treatment is clearly not random. Governments will avoid those types and times of reforms that are especially painful in terms of electoral outcomes. The resulting bias is not discussed in previous empirical analyses (Alesina et al., 1998; Giger and Nelson, 2011). Second, Alesina et al. (1998) point out that there is little reason to be afraid of reverse causality. However, this contradicts the extensive literature on the electoral costs of government and unpopular reforms. We should therefore make sure that the previous results are not sensitive to problems of endogeneity in the fiscal consolidation measure.

We tackle the first problem by the use of matching analysis. In particular we follow (Persson and Tabellini, 2003) who use propensity score matching to 'prune' the sample and exclude those cases that have little overlap and support. This is consistent with the recommendations by (Ho et al., 2007) who propose to reduce model dependence with the help of a matching model. We proceed in three steps. We first run a fixed-effects logit model with variables that have previously been identified in the literature as important determinants of fiscal consolidation (Huebscher and Sattler 2014; also Persson and Tabellini 2003). In the second step, we use the predicted probabilities of the logit regression to perform a matching analysis. In this way, we get weights that select or deselect cases from the control group 'no fiscal consolidations'. In the final analysis, we reestimate the previous regression models for first differences in government popularity, using only the selected cases in the reduced sample.

To address the second problem, endogeneity, we use an instrumental variables approach. For now, the instrument of fiscal consolidation that we chose is fiscal consolidations that happened at the same time in all other countries. This instrument should not be directly related to government popularity, but indirectly related as it increases the odds of implementing fiscal consolidation.[11]. Hansen's J-statistc of overidentification shows that we cannot reject the null hypothesis of valid instruments.

A look at table 4 shows that our results hold when we address non-random treatment and endogeneity. The first model uses the reduced sample - after the matching analysis has been performed - and replicates the third column of table 3. The coefficient on the fiscal consolidation measure is somewhat smaller in the reduced sample. The smaller sample size leads also to a larger standard errors, but the effect is still significant on the 10% level. Including the other covariates in the next column of table 4 shows even less differences with the equivalent model in table 3. The next three models show different variants of instrumental variable regressions. The fourth column replicates again the 'econ' model of table 3. Once we include the other regressors, the results get even more similar to those in table 3. The last model of table 4 only differs from the previous one

[11]We include fixed effects and use standard errors that are robust to heteroskedasticity and autocorrelation.

Table 4: Fiscal consolidation and government popularity: robustness checks

	Match I	Match II	IVREG I	IVREG II	IVREG III
ΔConsolidation$_t$	-1.294*	-1.449**	-0.865**	-1.040***	-1.046**
	(0.668)	(0.697)	(0.418)	(0.378)	(0.431)
ΔGrowth$_t$	1.038***	1.124***	0.349**	0.375**	0.401*
	(0.280)	(0.290)	(0.168)	(0.160)	(0.239)
ΔInflation$_t$	0.322	0.433	0.151	0.219	0.128
	(0.281)	(0.322)	(0.284)	(0.305)	(0.214)
ΔEcount$_t$		-0.742		-0.937	-0.919
		(1.649)		(1.226)	(1.128)
ΔEcount$_t^2$		-1.281		-0.351	-0.278
		(1.398)		(0.548)	(0.493)
ΔPMcount$_t$		-0.126		-0.255*	-0.265*
		(0.176)		(0.142)	(0.142)
Constant	-0.946**	-0.771*			
	(0.461)	(0.452)			
F	6.45	4.17	3.67	5.55	3.11
p	0.000	0.001	.	.	.
N	172	168	316	309	309

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

in that it accounts for heteroskedasticity. The previous model uses country-clustered standard errors, whereas the last model uses a general form of robust standard errors also robust to autocorrelation. The differences between these two columns are small

5 Conclusion

This paper examines the question whether fiscal austerity negatively affects political support for the government. The answer to this question is not a 'loud no' as previous research suggests (Alesina et al., 1998, p.198), but rather a 'solid yes'. We find that annual political support for the government drops significantly in the year, in which the austerity policy was implemented. Support then gradually recovers in the subsequent years if no further consolidation policies are passed. This explains why previous studies that focus on elections do not find a robust association between austerity and election outcomes. When electorally vulnerable governments strategically time consolidations sufficiently long before the next election, then the political effect of these policies is underestimated

when the strategic behavior by governments is ignored.

In our future research, we will extend the analysis in this paper is multiple ways. First, we will address endogeneity between political support and the implementation of fiscal consolidation procedures using an instrumental variables approach. We will also provide a reassessment of the empirical association between consolidation and election outcomes by taking into account the strategic timing of consolidations. In the more long term, we plan to code the distributive design of the consolidation packages that we examine in this paper and study the political implications of these redistributive effects.

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