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**Varieties of Capitalism and Varieties of Macroeconomic Policy**  
Are Some Economies More Procyclical Than Others?

Bruno Amable and Karim Azizi



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## Abstract

The role of macroeconomic policy in the different varieties of capitalism has been largely ignored. Recent contributions to the literature have argued that nonliberal economies should be expected to have less accommodating (i.e., less countercyclical) macroeconomic policies than liberal varieties. Using time-series cross-section data on 18 OECD countries between 1980 and 2002, this paper tests that hypothesis and, more particularly, whether the reaction of discretionary fiscal policy to macroeconomic shocks is conditioned by variables that differentiate liberal from nonliberal varieties of capitalism: the degree of generosity of the social protection system, the degree of coordination of wage bargaining, and the fragmentation of the political party system. The test results do not support the conclusion that nonliberal economies' macroeconomic policy would be less countercyclical than that of liberal economies. On the contrary, discretionary fiscal policy has been more countercyclical in countries with a fragmented political system or a generous social protection system.

## Zusammenfassung

Die Rolle makroökonomischer Politik in unterschiedlichen kapitalistischen Systemen wurde bisher nur selten eingehend untersucht. Eine neuere Argumentation vertritt die These, dass die makroökonomische Politik in nichtliberalen Ökonomien weniger antizyklisch ausfällt als in liberalen Ökonomien. Das Papier prüft diese These anhand einer gekreuzten Längs- und Querschnittanalyse für 18 OECD-Länder im Zeitraum von 1980 bis 2002. Dabei widmet es sich im Besonderen der Frage, inwieweit finanzpolitische Reaktionen auf makroökonomische Schocks von jenen Variablen beeinflusst werden, die liberale von nichtliberalen Ökonomien unterscheiden: die Generosität des Wohlfahrtsystems, das Ausmaß der Koordinierung von Lohnverhandlungen und der Grad der Fragmentierung des Parteiensystems. Das Ergebnis bestätigt die These nicht, sondern zeigt, dass eine diskretionäre Fiskalpolitik in jenen Ländern antizyklischer ausfällt, die über ein fragmentiertes Parteiensystem oder ein generöses Wohlfahrtssystem verfügen.

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# Varieties of Capitalism and Varieties of Macroeconomic Policy: Are Some Economies More Procyclical Than Others?

## 1 Introduction

The varieties of capitalism (VoC) literature (Hall/Soskice 2001) differentiates developed economies according to a certain number of institutional characteristics: industrial relations, education and vocational training, corporate governance, inter-firm relations and intra-firm coordination. It distinguishes two types of capitalism, liberal market economies (LMEs) and coordinated market economies (CMEs), which differ not only in their institutional features but also in certain macroeconomic characteristics, most notably comparative advantage and industrial specialization.

This literature has mainly focused on long-term, slowly-changing institutional differences between the two archetypal varieties and has paid relatively little attention to short-term policies (Amable 2009). Would LMEs and CMEs be clearly distinguishable in terms of macroeconomic policy, either budgetary or monetary? In recent contributions, Soskice (2007), Carlin and Soskice (2009) and Iversen and Soskice (2010) have presented some theoretical and empirical elements in favor of a clear differentiation between the varieties of capitalism with respect to their aggregate demand management regimes (ADMRs). More precisely, they argue that liberal economies such as the US would conduct a more accommodating and more countercyclical macroeconomic policy than nonliberal capitalist economies such as Germany. Faced with the same adverse macroeconomic shock, a CME would implement a restrictive budget policy in order to limit the deficit, whereas an LME would choose an expansionary budget deficit to limit the effects of the negative shock on the level of activity or unemployment. This differentiation of ADMRs would not be random but would correspond to a systemic requirement for each type of capitalism. Because of the presence of a strong welfare state, nonliberal varieties would have built-in automatic stabilizers that would make economic policy interventions less necessary. Their political systems, based on proportional representation and leading to coalition governments, would also make it necessary to adopt a rule-based policy instead of using their own discretion, in order to prevent soaring deficits and to send a signal to trade unions that wage hikes that could threaten competitiveness would not be accommodated by the fiscal or monetary authorities.

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There would thus be some complementarity between the production regimes (which can be either liberal or nonliberal), the type of welfare state (generous or limited), the nature of the political system (majoritarian or consensual) and the aggregate demand management regimes (accommodating or conservative). This complementarity would then help to explain why some countries' macroeconomic policies would react more strongly to macroeconomic shocks and be countercyclical, whereas others' would be procyclical. The liberal/nonliberal differentiation of the varieties of capitalism approach could therefore apply more widely and include the ADMRs: liberal varieties of capitalism would imply accommodating macroeconomic policies; nonliberal varieties would be associated with conservative policies.

The aim of this paper is to investigate these matters by testing whether one could differentiate the discretionary fiscal policy implemented by developed economies conditional on variables characterizing liberal and nonliberal varieties of capitalism. In particular, the paper tests how the discretionary component of fiscal policy reacts to macroeconomic shocks, depending on the degree of generosity of the social protection system, the fragmentation of the political system, and a transformed indicator of the degree of coordination of the wage-bargaining system. These tests are carried out using data from a panel of 18 OECD countries for the 1980–2002 period. By inserting interactions between the macroeconomic shock and institutional variables, we were able to characterize the differentiated reactions of macroeconomic policy to a given shock according to the type of capitalism considered. Contrary to expectations, our results do not show that the fiscal policy of liberal economies would be systematically more accommodating than that of nonliberal economies. In fact, a countercyclical policy seems to be characteristic of nonliberal varieties of capitalism: the budget policy is expansive in the slump and restrictive in the boom. By contrast, the more liberal market economies seem to adopt a less countercyclical stance: their fiscal policy is restrictive in the slump and expansionary in the boom.

The paper is organized as follows: the section below presents the political economy determinants of budget policy and the argument relating aggregate demand management regimes to the varieties of capitalism that are distinguished by their social protection and wage-bargaining systems. The section that follows presents the methodology for the tests: data sources, variables used, and estimators. Results are then presented in Section 4, and their interpretation is discussed. A short conclusion follows.

## 2 Macroeconomics and models of capitalism

### The political economy of fiscal policy

Recent articles have analyzed the political economy determinants of countries' fiscal policy. There is abundant literature on the causes of government deficits. Roubini and Sachs (1989), for example, argue that "weak" or "unstable" governments with multiple parties in government, minority status, and/or short terms of office, run larger fiscal deficits. Sakamoto (2001) tests the validity of the claim that weak or unstable governments create larger deficits on a panel of OECD countries and finds some evidence to the contrary: that deficits are higher under strong and enduring governments. Sakamoto's work shows weak or unstable governments as less capable than strong or stable governments of reducing deficits when these have been created or the economy has been hit by an adverse shock. He suggests analyzing the fragmentation of the party system instead of focusing on the characteristics of governments. Sakamoto's hypothesis is that the number of parties in the party system as a whole may impede the ability of governments to balance budgets, rather than affecting the number of parties participating in the government. Perotti and Kontopoulos (2002) find that cabinet size and ideology are more significant and robust determinants of fiscal outcomes, and of transfers in particular, than coalition size.

Roubini and Sachs (1989) found that multiparty coalition governments characterized by a short tenure in office led to higher budget deficits than single-party majoritarian governments. The distinction between proportional representation (PR) and majoritarian electoral rules has become a classic theme of comparative political economy. Countries with PR rules are expected to have difficulties reducing public debt (Grilli/Masciandaro/Tabellini 1991), exhibit higher average tax rates and flatter distributions of income (Austen-Smith 2000), carry out more redistributive transfer and greater spending (Milesi-Ferreti/Perotti/Rostagno 2002), and have larger governments and larger welfare programs (Persson/Tabellini 2004) than countries with majority rule. Persson, Roland and Tabellini (2007) propose that the link between electoral rules and economic policy is indirect and works via party and government formation. PR is associated with more fragmented party structures, which in turn lead to more frequent coalition governments that then spend more than single-party majority governments.

Partisanship is also expected to play a role in explaining fiscal policy. Following Borrelli and Royed (1995), leftist or minority governments run smaller deficits than conservative or majority governments. Boix (1998) argues that social democratic governments avoid budget deficits more often than conservative governments because large deficits would decrease savings and investment and thus endanger democratic supply-side economic policy. Garrett (1998), on the other hand, finds that strong left-wing governments where strong labor unions are present run larger deficits when the economy is subject to the pressures of internationalization (capital mobility and foreign trade). Cusack (1999, 2001) argues that the role of partisanship in budget policy does not con-

form to the simplistic image of a profligate left versus a fiscally conservative right. Partisanship differentiates how budget policy reacts to the business cycle. Parties on the left have an interest in fiscal policy being used in Keynesian countercyclical fashion because stimulating the economy during recessions helps their constituents, the unemployed, and those likely to bear the greatest risks and costs associated with an economic downturn. By carrying out a restrictive policy during booms, left-leaning parties assure the government's ability to respond adequately to future recessions by minimizing the build-up of debt and the burden posed by interest payments. Parties on the right tend to stimulate fiscal policy in good times by cutting taxes, which favors the most affluent voters. In periods of economic downturn, they prefer to run more restrictive policies and to counteract the effects of automatic stabilizers, weakening those forces in the economy that would push for higher wages. Testing on a panel of OECD countries, Cusack (1999, 2001) finds that the left has followed a countercyclical policy. The right has acted with lax budget policy during periods of full employment and then with increasing restrictiveness in times of higher unemployment, and has therefore followed a procyclical budget policy stance.

Table 1 Complementarities between demand management regimes, political systems, welfare states, and production regimes

Production regime	Liberal market economy	Coordinated market economy
Political system	Majoritarian	Consensus
Welfare state	Liberal	Strong
Aggregate demand management regime (ADMR)	Discretionary, delegated, centralized	Rules-based, negotiated contract

Source: Soskice (2007: 90).

### Varieties of macroeconomic policy

Recent contributions to the varieties of capitalism (VoC) literature have proposed that as far as monetary and fiscal policy is concerned, liberal market economies (LMEs) such as the US and the UK manage aggregate demand more flexibly than many coordinated market economies (CMEs) such as Germany (Soskice 2007). This fact is not some meaningless coincidence, but a reflection of the complementarities between aggregate demand management regimes (ADMRs), welfare states, production regimes, and political systems, as is shown in Table 1 taken from Soskice (2007).

One may distinguish at least two channels through which ADMRs and production regimes interact: the welfare-state channel and the wage-bargaining system.



*The welfare-state channel*

Liberal varieties of capitalism are characterized by a low level of social protection.<sup>1</sup> By contrast, other types of capitalism (Continental European and Nordic) rely on a welfare state that offers considerably more generous protection. Economic reasons may explain this difference. Liberal varieties of capitalism base their competitiveness on activities that require non-specific skills from workers (Iversen 2005). Because of their generalized skills, these workers are expected to be able to find a new job easily in the case that they are laid off. Therefore there is no need to protect these skills: workers would not demand it, and firms would not find it a significant contribution to their productivity or competitiveness. The consequence is that in the varieties of capitalism where general skills are widely used, i.e. LMEs, one would expect the level of social protection to be relatively low. On the other hand, nonliberal countries' competitiveness is mostly based on activities that require a workforce with firm – or sector-specific skills. In such a context, the existence of a generous protection system acts as an *ex ante* incentive to acquire specialized skills. Accordingly, we would expect social protection in CMEs to be generous; CMEs should have a “strong welfare state” (Soskice 2007).

This can be extended to the differentiation in political systems. Nonliberal varieties of capitalism usually possess consensus-based political systems (Lijphart 1999) where support for the government is provided by large coalitions. Those consensual regimes then provide a framework for powerful interest groups to take part in policymaking and stabilize the alliance between unions and firms in favor of a well-developed welfare state. Liberal varieties, on the other hand, are characterized by majoritarian political systems that favor the existence of two-party political competition and interest group pluralism (Lijphart 1999), with a powerful government facing fragmented social partners, hence the limited generosity of the welfare state in LMEs. Moreover, the proportional representation system found in consensus-based political systems is considered to favor the emergence of a center-left political alliance that is more favorable to the welfare state than the center-right alliance found in majoritarian systems (Iversen/Soskice 2006).

The consequences of these differentiated political systems (majoritarian versus consensual) for macroeconomic policy, and more particularly for fiscal policy, are exemplified in the “common pool” problem (Soskice 2007; Carlin/Soskice 2009). Indeed, in countries with coalition governments, each member of the coalition may be prone to make public expenditures in different areas towards the specific groups that support the party. This explains the tendency to overspend and to produce excessive deficits because of the given levels of government resources (Persson/Tabellini 2004; Persson/Roland/Tabellini 2007).

The existence of such a tendency would make it in the interest of the coalition members to have an institutional device that prevents such behavior. The simplest one is to

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1 A limited welfare state also characterizes Asian varieties of capitalism such as Japanese or Korean (Amable 2003), which would be considered CMEs in Hall and Soskice's (2001) classification.

remove the possibility of discretionary budget policy and establish some rules in order to maximize the interests of the coalition. Following this logic, nonliberal countries should have strong rules for public expenditures and thereby manage their aggregate demand in a non-accommodating way. By contrast, such “discipline” would not be necessary in liberal economies, which could in fact benefit from reactive budget policy as a shock-absorbing device.

### *The wage-bargaining argument*

The wage-bargaining argument is based on the consideration of the “small-N” case, that is, a small number of large but non-encompassing unions engaged in noncooperative wage bargaining. When there is a limited number of independent and non-encompassing unions, as according to Soskice (2007) is the case in some CMEs such as Germany,<sup>2</sup> each of them is big enough to exercise some influence on wage setting. Yet high wages could lead to an increased unemployment level.<sup>3</sup> If unions have reason to believe that an increase in unemployment will lead to a response by the government to counteract it, this will decrease their incentives for wage moderation. But if the government abandons the possibility of discretionary fiscal policy, as is the case in Germany, this sharpens the incentives for wage moderation (Carlin/Soskice 2009). Accordingly, CMEs and notably Germany should have a non-accommodating aggregate demand management regime. By contrast, the possibility of a discretionary fiscal policy has no equivalent effect in countries with flexible labor markets or with many small independent bargaining units, since wage setters are too small to believe that their actions would have any significant impact on the unemployment level and therefore on the government’s fiscal policy. Likewise countries with encompassing wage bargainers or countries in which bargaining is done in cooperation with the government need not abandon the possibility of a nonconservative fiscal policy.

The same argument applies to monetary policy. By raising interest rates, a conservative central banker can credibly threaten strong unions to react to wage inflation, leading to a contraction of the activity that would threaten employment and thereby changing the trade-off between inflation and unemployment. In liberal economies, the central bank can be accommodating without fear of unions taking advantage of it (either because of the unions’ size or because of labor market flexibility) to push for wage hikes. Moreover, the economy would benefit from having authorities react quickly to macroeconomic shocks. In fact, there are complementarities in fiscal and monetary policies. A conservative monetary policy requires a rules-based fiscal policy for credibility’s sake: a lax budget policy would eliminate the threat of a non-accommodating monetary pol-

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2 This view could itself be contested: it is commonly acknowledged in industrial relations literature that the behavior of German trade unions is more cooperative and coordinated than noncooperative.

3 High wages could also lead to a higher inflation rate.

icy. Nonliberal economies therefore should have both a conservative monetary policy and a non-accommodating fiscal policy. Similarly, an accommodating monetary policy would see its effects annihilated by a conservative budget policy. Liberal economies should then have both a lax budget and an accommodating monetary policy. The consequences for ADMRs are that one should expect nonliberal economies to follow rather conservative macroeconomic policies and liberal varieties of capitalism to have accommodating ADMRs. The next section tests these predictions for fiscal policy.

### 3 Methodology

#### The data

The time-series cross-section data covers the period of 1980–2002 for 18 OECD countries.<sup>4</sup> Variables are either taken from the OECD economic outlook database or from various political economy databases (details are given below).

#### *The dependent variable*

The link between fiscal policy and economic activity can be fairly complex. In order to understand this link better, it is useful to distinguish between the structural and the cyclical components of the government's fiscal balance. Whereas the cyclical balance reflects the action of automatic stabilizers, that is, the automatic adjustment of spending and revenues to the level of activity, the structural balance measures the discretionary level of governments' policies. One might expect nonliberal economies to have stronger automatic stabilizers, for instance more generous unemployment benefits and social security, than liberal varieties. But the predictions regarding the stance of macroeconomic policy mentioned earlier apply to the discretionary component of public expenditures, so our focus is on the structural dimension of fiscal policy. To determine this, we use the first difference in the Cyclically Adjusted Government Primary Balance as a percentage of potential GDP (henceforth CAGPB) as the dependent variable. An accommodating fiscal policy can take the form of an increase in expenditures or a cut in taxes. Both measures would result in a decrease in the budget balance. Although it could be interesting to consider expenditure and receipts separately, the focus here is on the budget balance, since its evolution reflects both types of expansionary measures.

The source for the CAGPB variable is the 2008 OECD economic outlook. The methodology for building it is briefly described in Appendix A2 and is taken from Girouard and André (2005). The CAGPB and its first differences are featured in Figures 1 and 2

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4 The list of countries is given in Appendix A1.

in the Appendix, respectively. Substantial variation can be noted both across countries and over time.

#### *Output gap and the cyclical properties of the level of economic activity*

In order to assess whether governments' discretionary policies are either procyclical or countercyclical, it is common practice to link the structural component of the government primary balance (expressed as first difference) to the output gap (also expressed as first difference:  $\Delta(\text{output\_gap})$ ; Darby/Melitz 2008). Economies will be considered as procyclical (resp. countercyclical) when the evolution of the structural primary balance and the evolution of the output gap are negatively (resp. positively) related. The output gap variable is taken from the 2008 OECD economic outlook and is measured as the difference between the levels of observed and potential output: an increase in the output gap means an increased GDP growth rate. Shocks are measured by the first difference in the output gap.

As can be seen in Figures 3 and 4 in the Appendix, the period considered here is one in which most countries experienced negative shocks, particularly at the end of the 1980s/beginning of the 1990s. For some countries (for instance Finland), these shocks have been of a very significant magnitude.

#### *Other explanatory variables*

The aim of this paper is to relate the type of capitalism that could characterize an economy to the behavior of that type of capitalism in terms of fiscal policy. Rather than take into consideration a binary classification of economies, i.e. CMEs vs. LMEs, which increasingly tends to be considered as too restrictive (Amable 2003; Crouch 2005), we consider nondichotomous variables that could differentiate between varieties of capitalism in several dimensions. The aforementioned arguments that link aggregate demand management regimes to varieties of capitalism refer to the following elements: the role of the welfare state in providing incentives for investing in specialized skills, the role of electoral rules in favoring center-left or center-right alliances (which will lead to a generous or a non-generous welfare state, respectively), and the small-N problem in relation to wage bargaining and union strength. In order to take all of these into account, the empirical analyses presented in what follows will consider an indicator of the generosity of the welfare state, the fractionalization of the political system, and the level of the wage-bargaining system for each country.

The generosity of the welfare state is measured using Lyle Scruggs' overall generosity score, which is an extension of the decommodification index of Esping-Andersen

(1990).<sup>5</sup> Scruggs' score is a computation of the net replacement rates of unemployment benefits, sickness benefits and pension insurance, the extent of program coverage, and its duration. Nonliberal varieties of capitalism have a higher generosity score on average than liberal economies.

To account for the differentiation of political systems, a binary opposition between consensus and majoritarian systems is neglected in favor of a more continuous and time-varying measure. According to the so-called Duverger's law, proportional representation leads to more differentiated political competition than the majoritarian system. One should therefore expect to see more fractionalized party systems in countries with proportional representation than in countries with a majoritarian system. Here, the fractionalization of the party system ( $F$ ) is taken from Armingeon et al. (2004) and measured according to the formula of Rae (1967):

$$F = 1 - \sum_{i=1}^m t_i^2 \quad (1)$$

where  $t_i$  represents the share of votes for party  $i$  and  $m$  is the number of parties. A higher Rae's index indicates a more fractionalized party system. As expected, nonliberal varieties of capitalism have higher Rae's index values than do liberal varieties.

Wage bargaining is measured with the version of Kenworthy's *WCoord* variable proposed by Visser (2009).<sup>6</sup> This is a step variable coded according to the following pattern: 5 = economy-wide bargaining, based on *a*) enforceable agreements between the central organizations of unions and employers that affect the entire economy or entire private sector, or *b*) the government imposition of a wage schedule, freeze, or ceiling; 4 = mixed industry – and economy-wide bargaining: *a*) central organizations negotiate non-enforceable central agreements (guidelines) and/or *b*) key unions and employers' associations set a pattern for the entire economy; 3 = industry bargaining with irregular or no pattern setting, limited involvement of central organizations, and limited freedoms for company bargaining; 2 = mixed industry – and firm-level bargaining, with weak enforceability of industry agreements; 1 = none of the above bargaining, with fragmented bargaining instead, mostly at the company level.

The argument put forward in Carlin and Soskice (2009) regarding the impact of wage bargaining echoes that found in Calmfors and Driffill (1988): that one will obtain similar macroeconomic results when wage bargaining is either completely decentralized/uncoordinated or completely centralized/coordinated, with intermediate levels usually having different consequences for wage and employment levels. In order to express this

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5 The overall generosity score can be found in the Comparative Welfare Entitlements Dataset of Lyle Scruggs <<http://sp.uconn.edu/~scruggs/wp.htm>>. See also Allan and Scruggs (2004).

6 Visser (2009) relies on the ICTWSS Database: Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts in 34 countries between 1960 and 2007.

idea of an inverted U-shaped relationship between the effect and the level of bargaining, and to obtain a new variable, which we will call *Visser\_trans*, the following transformation is applied to Visser's *WCoord* variable :

$$Visser\_trans = WCoord \cdot (6 - WCoord) \quad (2)$$

This turns Visser's variable into an inverted U-shaped pattern. The transformation made in the above equation is less flexible than the use of quadratic terms in the original *WCoord* variable but more parsimonious for the estimations, an important element to take into account since estimations presented below will use interacting terms.

Controls of the estimated models include dummy variables when there is an election (*electionyear*), in order to detect a possible political business cycle effect; dummies for Stages 2 and 3 of the European Monetary Unification (*Maastricht2* and *Maastricht3*), in order to control for the effects of convergence criteria on states' behavior toward fiscal policy, and for the German reunification (*wende*); and the government's ideological position in the left-right spectrum (expressed as a continuous variable), weighted by votes (*Irgovvotes*) or seats (*Irgovseats*) and calculated by Amable, Gatti and Schumacher (2006) using information from the Cusack and Engelhardt (2002) database, itself built upon the *Comparative Manifesto Project* (Budge et al. 2001). This variable, which could theoretically vary between  $-100$  and  $+100$ , is negative for left-wing coalitions and positive for right-wing governments, and increasingly so when governments are more partisan. A variable measuring the degree of independence of the central bank (*CBindep*) is also used, based on Freitag (1999) and commented on by Armingeon et al. (2004). This is a composite index constructed out of four other indicators; it ranges from 1 to 3, where 1 stands for a maximum of central bank independence.

### The estimated relationship

Summing up the arguments relative to the differentiation of macroeconomic policy, a country's aggregate demand management regime should be less accommodating when that country has a generous social protection system, a fragmented political system (a political system where there are numerous political parties), and an intermediate-level wage-bargaining system (large but non-encompassing unions). The econometric specification for the tests is the following:

$$d = a_1 \cdot s + a_2 \cdot x + a_{12} \cdot s \cdot x + \beta \cdot Z + \varepsilon \quad (3)$$

$d$  is the measure of the discretion of the fiscal policy,  $s$  is a macroeconomic shock,  $x$  is a variable representing a structural feature of the country (the generosity of its social protection system, the extent of the political system fragmentation, or the level of wage bargaining), and  $Z$  is a vector of additional controls that also includes time – and

country-fixed effects. In a specification containing such interactions, the effect of the shock on fiscal policy depends on the level of the structural variable  $x$ . The overall effect of this shock on fiscal policy is given by:

$$\frac{\partial d}{\partial s} = a_1 + a_{12} \cdot x \quad (4)$$

One can then compute the marginal effects of the shock on fiscal policy for different levels of the structural variable  $x$  and draw the respective conclusions about the procyclical or countercyclical nature of nonliberal and liberal varieties of capitalism. An adverse macroeconomic shock (a negative  $s$ ) will lead the government to increase the discretionary component of the budget balance if there is a desire in government to act countercyclically and dampen the effects of the shock on activity or employment. Such an increase should lead to a more negative or less positive budget balance. A government acting procyclically, on the other hand, will cut the discretionary component. A large positive marginal effect, computed as in equation [4], will therefore signal a strongly countercyclical behavior, whereas a negative marginal effect will characterize a procyclical budget policy.

On the basis of the arguments expressed above, budget policy should be less countercyclical when the varieties of capitalism are less liberal. One expects then that the marginal effect will decrease with the generosity of the welfare state, the degree of “consensus” of the political system, and the intensity of the small-N problem on wage bargaining.

### The estimators used

In order to estimate relation (3), we first used the panel-corrected standard errors (PCSE) estimator<sup>7</sup> of Beck and Katz (1995). Whereas the panel data structure is generally characterized by a large number of individuals and a small number of time periods, time-series cross-section (henceforth TSCS) data rely on a small number of individuals, as is the case in our sample encompassing only 18 countries, hence our use of this PCSE estimator. Moreover, two kinds of problems may arise because of the data structure: heteroskedasticity and contemporaneous correlations of the error terms. The PCSE estimator provides parameter estimates based on OLS regressions, but when computing the standard errors and the variance-covariance matrix, it assumes that the error terms are heteroskedastic and contemporaneously correlated and correct for these features.

However, the shock variable  $s$  ( $\Delta[\text{output\_gap}]$ ) should be considered as endogenous since discretionary fiscal policy is used in order to affect it. Moreover, since the  $\Delta(\text{output\_gap})$  variable enters our interaction term, the interaction term itself is also

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7 Relation (3) was also estimated with a fixed effect estimator but none of the results obtained with the PCSE estimator were changed.



endogenous. To cope with this endogeneity, we estimated relation (3) a second time with the help of an IV estimator. In order to use an estimator with a certain degree of robustness vis-à-vis the problems of weak instruments and finite sample bias, the continuously updated GMM estimator of Hansen, Heaton, and Yaron (1996) was preferred to the standard two-stage least squares estimator. The continuous updated estimator (CUE) is “the GMM-like generalization of the limited maximum likelihood” (LIML) estimator (Hausman et al. 2007) and generates coefficient estimates that are efficient in the presence of heteroskedasticity.<sup>8</sup>

## 4 Results

The estimations made with the PCSE estimator are presented first, as a benchmark. The GMM estimations follow.

### PCSE results

The results for the estimations using the indicator of generosity of the social protection system are presented in Table 2. A few control variables are significant: a more independent central bank is associated with a less accommodating fiscal policy, suggesting a complementarity between fiscal and monetary policy. As predicted in theories of the political business cycle, the election years are characterized by a larger budget deficit. The positive coefficient on the partisan variable (*lrgovvotes*) signals that left-wing governments have larger deficits or smaller surpluses than right-wing governments.

The most interesting results concern the terms where interactions have been inserted, however. The marginal effect of the macroeconomic shock according to the level of generosity of the social system can be read in the lower panel of Table 3. Marginal effects and their standard errors are computed for the minimum (*em\_min*), mean (*em\_mean*), and maximum levels (*em\_max*) of generosity of our sample as well as for one standard deviation of the level of the interacted variable around the mean (*em\_mean\_less\_1sd* and *em\_mean\_plus\_1sd*).

One can see that the marginal effect of a given macroeconomic shock on the discretionary change in fiscal policy increases with the generosity of the social protection system. The marginal effect is negative for low levels of social protection, although not significant from zero in any estimations, and turns progressively positive and significant as one reaches the

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8 Tests with GMM and LIML estimators were also performed but are not reported in what follows. The general conclusion of our results was not altered.



Table 2 Estimation results with Scruggs' generosity indicator (dependent variable:  $\Delta CAGPB$ )

	1	2	3	4	5	6	7	8
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
$\Delta(\text{output\_gap})$	-0.374** (0.175)	-0.417** (0.185)	-0.391** (0.185)	-0.378** (0.189)	-0.388** (0.187)	-0.371* (0.191)	-0.348* (0.191)	-0.349* (0.189)
scrugg_ogs	-0.052 (0.049)	-0.050 (0.057)	-0.034 (0.057)	-0.035 (0.058)	-0.034 (0.057)	-0.031 (0.058)	-0.021 (0.057)	-0.021 (0.057)
$\Delta(\text{output\_gap}) \times$ scrugg_ogs	0.015** (0.006)	0.016** (0.007)	0.015** (0.007)	0.015** (0.007)	0.015** (0.007)	0.015** (0.007)	0.014** (0.007)	0.014** (0.007)
lrgovvotes	-	0.010** (0.005)	-	0.010** (0.005)	0.010* (0.005)	0.013** (0.006)	0.010* (0.005)	0.010** (0.005)
lrgovseats	-	-	0.010* (0.005)	-	-	-	-	-
CBindep	-	-	-0.500** (0.202)	-	-0.506** (0.202)	-	-0.533*** (0.200)	-0.534*** (0.200)
electionyear	-	-	-	-0.552*** (0.158)	-	-0.538*** (0.158)	-0.567*** (0.157)	-0.567*** (0.157)
WCoord	-	-	-	-	-0.010 (0.113)	0.024 (0.114)	-0.006 (0.113)	-
maastricht2	-	-	-	-	-	-0.791* (0.462)	-	-
maastricht3	-	-	-	-	-	-0.146 (0.640)	-	-
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
number of observations	366	339	339	337	339	337	337	337
individuals	16	16	16	16	16	16	16	16
R <sup>2</sup>	0.23	0.26	0.27	0.29	0.27	0.30	0.30	0.30
				Marginal effects				
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
em_min	-0.120 (0.082)	-0.132 (0.086)	-0.122 (0.086)	-0.114 (0.086)	-0.121 (0.087)	-0.109 (0.086)	-0.101 (0.087)	-0.102 (0.086)
em_mean_less_1sd	-0.068 (0.068)	-0.078 (0.072)	-0.070 (0.072)	-0.063 (0.071)	-0.070 (0.073)	-0.059 (0.071)	-0.055 (0.072)	-0.055 (0.071)
em_mean	0.042 (0.062)	0.049 (0.061)	0.049 (0.061)	0.054 (0.058)	0.049 (0.060)	0.058 (0.057)	0.055 (0.058)	0.055 (0.058)
em_mean_plus_1sd	0.152* (0.086)	0.175** (0.085)	0.168** (0.085)	0.171** (0.083)	0.167** (0.085)	0.174** (0.084)	0.164** (0.082)	0.164** (0.083)
em_max	0.287** (0.134)	0.326** (0.135)	0.311** (0.135)	0.311** (0.134)	0.309** (0.134)	0.313** (0.136)	0.294** (0.133)	0.295** (0.134)

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

maximum level of protection. This means that fiscal policy can be considered as neutral (i.e. neither pro – nor countercyclical) for low to mean values of the index of generosity, and increasingly countercyclical when countries have more generous social protection.

If anything, according to the arguments presented in Section 2.2, the opposite result should have been obtained. The results presented in Table 2 show that nonliberal economies are more countercyclical than liberal economies.

To check the robustness of the result, tests were performed using the degree of fractionalization of the political party system (Table 3) and the transformed wage-bargaining coordination indicator (Table 4). The results are disappointing, since no significant marginal effect can be found for either interacted variable. This does not allow us to draw any conclusions about the influence of the nonliberal or liberal character of an economy on fiscal policy.

Table 3 Estimation results with Rae's party-fractionalisation indicator  
(dependent variable:  $\Delta CAGPB$ )

	1	2	3	4	5	6	7	8	
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	
$\Delta(\text{output\_gap})$	-0.435 (0.327)	-0.496 (0.347)	-0.482 (0.350)	-0.405 (0.339)	-0.462 (0.351)	-0.448 (0.342)	-0.372 (0.343)	-0.393 (0.342)	
rae	-0.031 (0.023)	-0.046* (0.028)	-0.047* (0.028)	-0.036 (0.027)	-0.045 (0.028)	-0.029 (0.027)	-0.034 (0.027)	-0.036 (0.027)	
$\Delta(\text{output\_gap}) \times \text{rae}$	0.006 (0.004)	0.007 (0.005)	0.007 (0.005)	0.006 (0.005)	0.007 (0.005)	0.007 (0.005)	0.006 (0.005)	0.006 (0.005)	
lrgovvotes	-	0.011** (0.006)	-	0.011** (0.005)	0.011* (0.006)	0.012* (0.006)	0.010* (0.005)	0.011** (0.005)	
lrgovseats	-	-	0.011** (0.006)	-	-	-	-	-	
CBindep	-	-	-0.400** (0.201)	-	-0.399** (0.199)	-	-0.392** (0.200)	-0.402** (0.202)	
electionyear	-	-	-	-0.488*** (0.153)	-	-0.481*** (0.153)	-0.493*** (0.153)	-0.492*** (0.153)	
Visser_Coord	-	-	-	-	-0.074 (0.111)	-0.048 (0.109)	-0.076 (0.111)	-	
maastricht2	-	-	-	-	-	-0.755 (0.476)	-	-	
maastricht3	-	-	-	-	-	-0.077 (0.637)	-	-	
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
number of observations	409	372	372	370	372	370	370	370	
individuals	18	18	18	18	18	18	18	18	
R <sup>2</sup>	0.20	0.24	0.25	0.26	0.25	0.27	0.27	0.27	
				Marginal effects					
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	
em_min	-0.122 (0.113)	-0.136 (0.121)	-0.132 (0.122)	-0.104 (0.120)	-0.126 (0.123)	-0.117 (0.119)	-0.095 (0.121)	-0.101 (0.121)	
em_mean_less_1sd	-0.030 (0.066)	-0.032 (0.070)	-0.032 (0.071)	-0.018 (0.071)	-0.030 (0.071)	-0.023 (0.069)	-0.016 (0.071)	-0.018 (0.071)	
em_mean	0.025 (0.059)	0.031 (0.060)	0.029 (0.060)	0.034 (0.059)	0.029 (0.060)	0.035 (0.058)	0.033 (0.059)	0.033 (0.059)	
em_mean_plus_1sd	0.080 (0.076)	0.094 (0.075)	0.090 (0.075)	0.086 (0.072)	0.087 (0.075)	0.093 (0.073)	0.081 (0.072)	0.083 (0.072)	
em_max	0.129 (0.102)	0.151 (0.102)	0.145 (0.102)	0.134 (0.098)	0.141 (0.102)	0.146 (0.101)	0.125 (0.098)	0.130 (0.098)	

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

#### IV GMM estimation results

In order to take into account the effect of fiscal policy on a country's level of activity, i.e., to address the endogeneity problem of the macroeconomic shock variable, we now turn to an instrumental-variable (IV) estimator. The results of the estimations using instrumental variables are presented in Tables 5 through 7. The output gap and the interacted variables are considered endogenous and are instrumented with their lags, the index of fractionalization of the party system and the lagged debt over GDP ratio. The tests for the validity of instruments are presented in the tables: overidentifying restrictions (Sargan-Hansen J-statistic), underidentification (LM test), endogenous regressors (Anderson-Rubin test), and weak identification (Kleibergen-Paap statistic).

Table 5 presents the estimation results obtained using the index of generosity as an interacted variable. The effect of control variables changes little in comparison to PCSE

Table 4 Estimation results with the transformed Visser indicator  
(dependent variable:  $\Delta CAGPB$ )

	1	2	3	4	5	6	7
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
$\Delta(\text{output\_gap})$	0.092 (0.182)	0.042 (0.191)	0.065 (0.192)	0.052 (0.189)	0.065 (0.192)	0.041 (0.189)	0.075 (0.190)
Visser_trans	0.053 (0.073)	0.065 (0.076)	0.047 (0.077)	0.068 (0.077)	0.046 (0.077)	0.068 (0.076)	0.048 (0.078)
$\Delta(\text{output\_gap}) \times \text{Visser\_trans}$	-0.011 (0.025)	-0.003 (0.026)	-0.006 (0.026)	-0.004 (0.026)	-0.006 (0.026)	-0.002 (0.026)	-0.007 (0.026)
Irgovvotes	-	0.009 (0.005)	-	0.009* (0.005)	0.009* (0.005)	0.011* (0.006)	0.009* (0.005)
Irgovseats	-	-	0.009* (0.005)	-	-	-	-
CBindep	-	-	-0.387* (0.203)	-	-0.393* (0.203)	-	-0.389* (0.203)
electionyear	-	-	-	-0.542*** (0.151)	-	-0.531*** (0.151)	-0.545*** (0.150)
maastricht2	-	-	-	-	-	-0.778* (0.458)	-
maastricht3	-	-	-	-	-	-0.028 (0.612)	-
year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
number of observations	409	372	372	370	372	370	370
individuals	18	18	18	18	18	18	18
R <sup>2</sup>	0.20	0.22	0.23	0.25	0.23	0.27	0.26
	Marginal effects						
	b/se	b/se	b/se	b/se	b/se	b/se	b/se
em_min	0.038 (0.077)	0.028 (0.080)	0.034 (0.080)	0.034 (0.079)	0.034 (0.080)	0.031 (0.077)	0.041 (0.079)
em_mean_less_1sd	0.032 (0.069)	0.026 (0.072)	0.031 (0.072)	0.032 (0.071)	0.031 (0.072)	0.030 (0.070)	0.038 (0.071)
em_mean	0.015 (0.059)	0.022 (0.061)	0.021 (0.062)	0.027 (0.060)	0.021 (0.062)	0.027 (0.059)	0.027 (0.060)
em_mean_plus_1sd	-0.002 (0.074)	0.017 (0.077)	0.011 (0.077)	0.021 (0.075)	0.011 (0.077)	0.023 (0.076)	0.015 (0.076)
em_max	-0.004 (0.077)	0.016 (0.081)	0.009 (0.081)	0.020 (0.079)	0.009 (0.081)	0.023 (0.080)	0.014 (0.080)

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

estimates: the political business cycle effect is still present, and left-wing governments, on average, are associated more with larger deficits or smaller surpluses than are right-wing governments. The most interesting changes take place with the marginal effects. The generosity of the welfare state makes fiscal policy more countercyclical, as is shown in the lower panel of Table 5 by the positive relationship between the marginal effect of the shock and the value of the indicator. But the signs of the coefficients indicate that countries with a non-generous social protection system (i.e., liberal varieties of capitalism) are procyclical, whereas nonliberal countries with a generous social protection system are countercyclical; this result is robust to changes in the control variables and the instrumentation. Besides this, the marginal effects at both ends of the generosity-score distribution are in general significant. Our conclusion is therefore that contrary to expectations, nonliberal economies' fiscal policy is significantly countercyclical, whereas liberal economies' policy is at best neutral and more likely procyclical. This result also holds if we use the index of party-system fractionalization instead of the generosity of the state variable (Table 6) and in addition to the level of wage bargaining variable. In

Table 5 Estimation (IV) results with Scruggs' generosity indicator  
(dependent variable:  $\Delta CAGPB$ )

	3	4	5	6	7
	b/se	b/se	b/se	b/se	b/se
$\Delta(\text{output\_gap})$	-2.040*** (0.730)	-1.410*** (0.493)	-2.425*** (0.686)	-2.420*** (0.702)	-2.674*** (0.769)
$\text{int\_}\Delta(\text{output\_gap}) \times \text{scrugg\_ogs}$	0.069*** (0.023)	0.060*** (0.016)	0.086*** (0.021)	0.088*** (0.022)	0.094*** (0.024)
$\text{scrugg\_ogs}$	-0.075 (0.060)	-0.107* (0.055)	-0.046 (0.052)	-0.060 (0.054)	-0.084 (0.066)
$\text{lrgovvotes}$	0.012* (0.007)	–	–	–	0.014* (0.008)
$\text{CBindep}$	–	–	–	-0.070 (0.239)	-0.326 (0.274)
$\text{WCoord}$	–	–	–	0.037 (0.135)	0.162 (0.146)
$\text{electionyear}$	-0.434** (0.188)	-0.687*** (0.177)	-0.391** (0.197)	-0.446** (0.197)	-0.393* (0.218)
$\text{wende}$		0.471 (0.541)	0.396 (0.524)	0.593 (0.584)	0.810 (0.593)
$\text{maastricht2}$	-0.479 (0.350)	-0.771** (0.348)	-0.476 (0.383)	-0.705* (0.413)	-0.832* (0.429)
$\text{maastricht3}$	0.070 (0.493)	-0.548 (0.474)	0.020 (0.473)	-0.143 (0.509)	-0.421 (0.538)
$\text{rae}$	–	–	–	0.049 (0.041)	-0.003 (0.046)
year dummies	Yes	Yes	Yes	Yes	Yes
number of observations	291	279	310	310	283
p-value of Hansen J-statistic	0.240	0.106	0.136	0.127	0.174
p-value of underidentification LM statistic	0.000	0.001	0.000	0.000	0.000
p-value of Anderson-Rubin F-test of endogenous regressors	0.013	0.000	0.000	0.000	0.000
p-value of Anderson-Rubin chi-sq test of endogenous regressors	0.005	0.000	0.000	0.000	0.000
F-statistic for weak identification (Cragg-Donald or Kleibergen-Paap)	5.563	4.115	6.519	6.088	5.387
Marginal effects					
$\text{em\_min}$	-0.832** (0.350)	-0.366 (0.235)	-0.922*** (0.337)	-0.889*** (0.341)	-1.031*** (0.370)
$\text{em\_mean\_less\_1sd}$	-0.594** (0.281)	-0.160 (0.193)	-0.618** (0.274)	-0.579** (0.276)	-0.727** (0.302)
$\text{em\_mean}$	-0.062 (0.156)	0.297** (0.140)	0.033 (0.176)	0.083 (0.175)	0.001 (0.175)
$\text{em\_mean\_plus\_1sd}$	0.470*** (0.174)	0.755*** (0.181)	0.683*** (0.196)	0.746*** (0.200)	0.728*** (0.197)
$\text{em\_max}$	1.100*** (0.341)	1.302*** (0.299)	1.482*** (0.345)	1.560*** (0.356)	1.597*** (0.371)

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

this latter case, liberal economies are neutral and therefore not procyclical, whereas non-liberal economies are countercyclical (Table 7).

The results presented in the above tables are in sharp contrast to the conclusions of Soskice (2007) and Carlin and Soskice (2009). One would have expected the absence of generous social protection in liberal varieties of capitalism to be compensated by strongly countercyclical macroeconomic policy, particularly fiscal policy, in order to limit the impact of macroeconomic shocks. But the estimations show that nonliberal varieties of capitalism are more countercyclical than liberal varieties, indicating that

Table 6 Estimation (IV) results with Rae's party-fractionalisation indicator  
(dependent variable:  $\Delta CAGPB$ )

	1	2	3	4	5
	b/se	b/se	b/se	b/se	b/se
$\Delta(\text{output\_gap})$	-6.283*** (2.420)	-4.757*** (1.672)	-8.827*** (2.547)	-7.975*** (2.393)	-6.135*** (1.791)
$\Delta(\text{output\_gap}) \times \text{rae}$	0.079** (0.031)	0.067*** (0.023)	0.122*** (0.035)	0.111*** (0.032)	0.086*** (0.024)
rae	-0.114** (0.057)	-0.011 (0.030)	0.040 (0.037)	0.040 (0.036)	0.019 (0.033)
lrgovvotes	0.013 (0.009)	0.017** (0.007)	-	-	0.015* (0.008)
CBindep	-0.351 (0.339)	-	-	-0.290 (0.273)	-0.588** (0.258)
WCoord	0.232 (0.214)	-	-	0.029 (0.165)	0.097 (0.162)
openc	0.088** (0.044)	-	-	-	-
vetoplayer	-0.346** (0.171)	-	-	-	-
electionyear	-0.062 (0.276)	-0.274 (0.188)	-0.140 (0.232)	-0.157 (0.219)	-0.202 (0.203)
wende	0.609 (0.652)	-	0.513 (0.528)	0.735 (0.573)	1.064* (0.576)
maastricht2	-	-0.889*** (0.336)	-1.224*** (0.432)	-1.286*** (0.435)	-1.423*** (0.410)
maastricht3	-	-0.239 (0.488)	-0.299 (0.565)	-0.498 (0.574)	-1.110** (0.547)
year dummies	Yes	Yes	Yes	Yes	Yes
number of observations	248	320	349	349	312
p-value of Hansen J-statistic	0.160	0.648	0.288	0.302	0.250
p-value of underidentification LM statistic	0.017	0.034	0.014	0.021	0.019
p-value of Anderson-Rubin F-test of endogenous regressors	0.002	0.009	0.000	0.000	0.000
p-value of Anderson-Rubin chi-sq test of endogenous regressors	0.000	0.004	0.000	0.000	0.000
F-statistic for weak identification (Cragg-Donald or Kleibergen-Paap)	2.386	2.591	2.592	2.426	2.772
	Marginal effects				
	b/se	b/se	b/se	b/se	b/se
em_min	-1.872** (0.728)	-1.415*** (0.546)	-2.698*** (0.826)	-2.415*** (0.780)	-1.845*** (0.595)
em_mean_less_1sd	-0.974** (0.432)	-0.428* (0.233)	-0.866** (0.346)	-0.753** (0.328)	-0.597** (0.267)
em_mean	-0.422 (0.317)	0.143 (0.124)	0.187 (0.200)	0.203 (0.184)	0.133 (0.141)
em_mean_plus_1sd	0.129 (0.329)	0.713*** (0.228)	1.241*** (0.373)	1.158*** (0.342)	0.864*** (0.231)
em_max	0.785 (0.491)	1.236*** (0.389)	2.223*** (0.626)	2.049*** (0.579)	1.557*** (0.404)

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

social protection and countercyclical policies are more complementary than substitute to one another. Stability and robustness tests were performed by restricting the time period or dropping one country from the sample at a time. The detailed results are not reported here, but the conclusion is that the link between the nonliberal character of the varieties of capitalism and the countercyclical position of the budget policy are robust to changes in the sample considered.

Table 7 Estimation (IV) results with the transformed Visser indicator  
(dependent variable:  $\Delta CAGPB$ )

	b/se	b/se
$\Delta(\text{output\_gap})$	-0.924 (0.674)	-0.481 (0.670)
$\Delta(\text{output\_gap}) \times \text{Visser\_trans}$	0.172* (0.089)	0.125 (0.089)
Visser_trans	-0.018 (0.093)	0.008 (0.090)
electionyear	-0.601*** (0.161)	-0.599*** (0.164)
Wende	-0.381 (0.601)	0.045 (0.631)
maastricht2	-	-1.040*** (0.332)
maastricht3	-	-0.815* (0.458)
year dummies	Yes	Yes
number of observations	308	308
p-value of Hansen J-statistic	0.137	0.126
p-value of underidentification LM statistic	0.001	0.002
p-value of Anderson-Rubin F-test of endogenous regressors	0.009	0.004
p-value of Anderson-Rubin chi-sq test of endogenous regressors	0.004	0.001
F-statistic for weak identification (Cragg-Donald or Kleibergen-Paap)	3.777	3.293
	Marginal effects	
	b/se	b/se
em_min	-0.064 (0.252)	0.145 (0.250)
em_mean_less_1sd	-0.007 (0.227)	0.186 (0.225)
em_mean	0.271** (0.137)	0.388*** (0.136)
em_mean_plus_1sd	0.548*** (0.166)	0.590*** (0.166)
em_max cyclica	0.623*** (0.192)	0.645*** (0.192)

Standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

## Interpretation of the results

The above estimation results have shown that contrary to expectations, the discretionary fiscal policy in nonliberal economies can be characterized as rather countercyclical, whereas liberal economies' policy stance is at best neutral and more likely procyclical. Interpreting these results implies going beyond a functionalist viewpoint, according to which institutions and macroeconomic policy stance would complement one another in order to achieve some ex-ante determined coherence in macroeconomic dynamics and focus on the coherence of the macroeconomic policy with respect to the political objectives of policy makers. At the simplest interpretation level, policies are implemented by governments in order for the governments to be reelected. More generally, macroeconomic policy is a means to find a mediation between conflicting interest groups

and ensure that the government obtains the political support necessary for its stability. The results presented in this paper suggests that there may exist a systematic correlation between the possibility for a government to find successful political mediation with the help of a procyclical (resp. countercyclical) budget policy, and the liberal (resp. nonliberal) character of the economic and political institutions of the country. The exact definition of the complementarities involved is a task that exceeds the limits of the present article. However, some elements may be given.

The very same reasons that explain why nonliberal economies may be expected to have more generous welfare states than liberal economies may help us to understand why nonliberal economies' fiscal policy is countercyclical and liberal economies' macroeconomic policy is not. A key interest group in nonliberal economies is that of skilled workers who invest in specific assets (Iversen 2005). As argued earlier, these workers are more likely to experience difficulties finding a new job in the case of layoffs. Such layoffs will of course be more probable in times of recession, when the value of the (co-)specific assets decreases. In such periods, a reflationary policy would be in the interest not only of workers, but also of firms. Key coalition agents would thus favor implementing a fiscal expansionary policy, which would then be a complement to, rather than a substitute for, a generous welfare state. By boosting employment and GDP in times of recession, a countercyclical fiscal policy would make a generous welfare state more sustainable in both economic and political terms.

One could also go back to Kalecki's (1943) seminal analysis of the determinants of employment-sustaining macroeconomic policies in the business cycle. Following Kalecki, business leaders have an interest in curbing wage inflation and will press for an orthodox macroeconomic policy when the economy is at near-full employment. Kalecki argues that rentiers and capitalists form a successful coalition against workers in the full employment phase of the cycle, and ally with workers to press for a reflationary policy in the slump. The stability of the rentier-capitalist political alliance may be considered to be more durable in liberal economies with majoritarian political systems (Iversen/Soskice 2006). This may explain why the worker-capitalist coalition fails to emerge even during the slump. A favorable macroeconomic environment is therefore more likely to be used to implement fiscal measures favorable to the upper and upper-middle range of the income distribution, and the slump will be an opportunity to slash social expenditures in order to fight the deficit in public finance. Budget policy in the liberal varieties of capitalism would thus exhibit a procyclical character, favoring activity in the boom phase and deepening recession in the slump. These results are in line with those of Cusack (1999, 2001).

## 5 Conclusion

This paper has investigated the nature of the relationship between the reaction to macroeconomic shocks in discretionary fiscal policy and the type of capitalism in a country. It has recently been proposed in the VoC literature that liberal market economies would be expected to follow accommodating macroeconomic policies, whereas nonliberal varieties would adopt a more conservative stance. Using different indicators to distinguish varieties of capitalism, we carried out tests to determine the pro – or countercyclical nature of discretionary fiscal policy for a panel of 18 OECD countries over the past two decades.

Our results show that liberal market economies' fiscal policies are either neutral or procyclical, whereas nonliberal economies adopt a countercyclical stance. This means that nonliberal varieties of capitalism adopt a restrictive fiscal policy in the boom phase, which is compatible with Soskice (2007)'s prediction. On the other hand, the budget policy of nonliberal varieties of capitalism is reflationary in the slump. More liberal varieties adopt a mildly expansionary policy in the boom phases and a restrictive policy in the recession phases. The results are robust with respect to the consideration of different indicators of differentiation of the type of capitalism, the inclusion of control variables, the use of different estimators and, to a large extent, a change in the time period and country sample considered. The complementarity between budget policy and the institutions of capitalism thus appears to differ according to the type of capitalism. These findings suggest that the differentiation of capitalism is not limited to formal rules such as employment legislation, corporate governance, or competition law, but is also expressed in different types of macroeconomic policy. Furthermore, the evidence points in the direction of a differentiation, placing features such as proportional representation, predominance of left-wing coalitions, institutions characteristic of nonliberal capitalism, and Keynesian-type countercyclical budget policy in opposition to features such as majoritarian election rules, predominance of right-wing governments, institutions characteristic of liberal market capitalism, and procyclical budget policy. Further research is needed to determine whether these relationships have changed as a result of the financial and economic crisis that hit developed economies in 2007–2008 and led to significant government action to avoid a systemic crisis of the banking system and an economic depression.



## Appendix

### A1 Countries of the sample

Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom, United States.

### A2 The OECD methodology

In order to build their CAGPB variable, Girouard and André (2005) rely on the following methodology. They start by presenting all the sources of government revenues taken into account in the OECD economic outlook dataset. Four kinds of revenues are distinguished: personal income tax, social security contributions, corporate income tax, and indirect taxes. On the spending side, only unemployment-related transfers are expected to be cyclical. The CAGPB variable is then equal to:

$$b^* = \left[ \left( \sum_{i=1}^4 T_i^* \right) - G^* + X \right] / Y^* \quad (5)$$

Where:

- $G^*$  = cyclically adjusted current primary government expenditures
- $T_i^*$  = cyclically adjusted component of the i-th category of tax
- $X$  = non-tax revenues minus capital and net interest spending
- $Y^*$  = level of potential output

Where the cyclically adjusted components are computed according to relations (A2) and (A3):

$$\frac{T_i^*}{T_i} = \left( \frac{Y^*}{Y} \right)^{\varepsilon_{t_i,y}} \quad (6)$$

$$\frac{G^*}{G} = \left( \frac{U^*}{U} \right)^{\varepsilon_{g,u}} \quad (7)$$

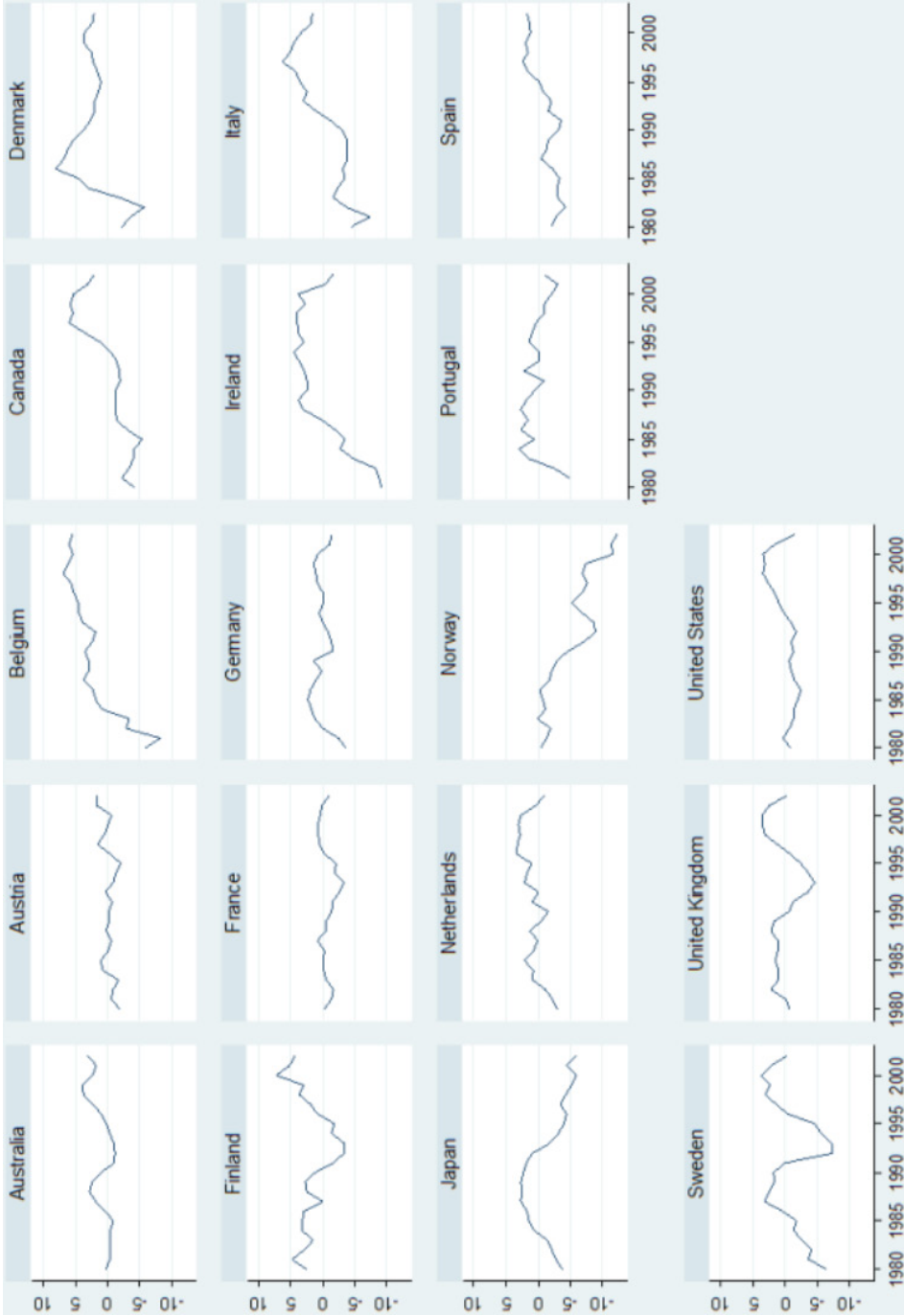
Where:

- $T^*$  = actual tax revenues for the i-th category of tax
- $G$  = actual current primary government expenditures  
(excluding capital and interest spending)
- $Y$  = level of actual output
- $U^*$  = level of structural unemployment
- $U$  = level of actual unemployment
- $\varepsilon_{t_i,y}$  = elasticity of the i-th tax category with respect to the output gap
- $\varepsilon_{g,u}$  = elasticity of current primary government expenditures with respect to the ratio of structural to actual unemployment.

Girouard and André (2005) show that the elasticities can be split into two components: an elasticity of each of the taxes mentioned above with respect to the appropriate tax base, and an elasticity of the tax base relative to the output gap. Whereas the first elasticity is drawn from tax legislation and related fiscal data, the second one is estimated using both time-series regressions and panel-estimation technique (for a detailed presentation, see Girouard/André 2005).

A3 Figures

Figure 1 Cyclical adjusted government primary balance, as a percentage of potential GDP



Source: Authors' calculations based on OECD data.

Figure 2 Difference in cyclical adjusted primary balance



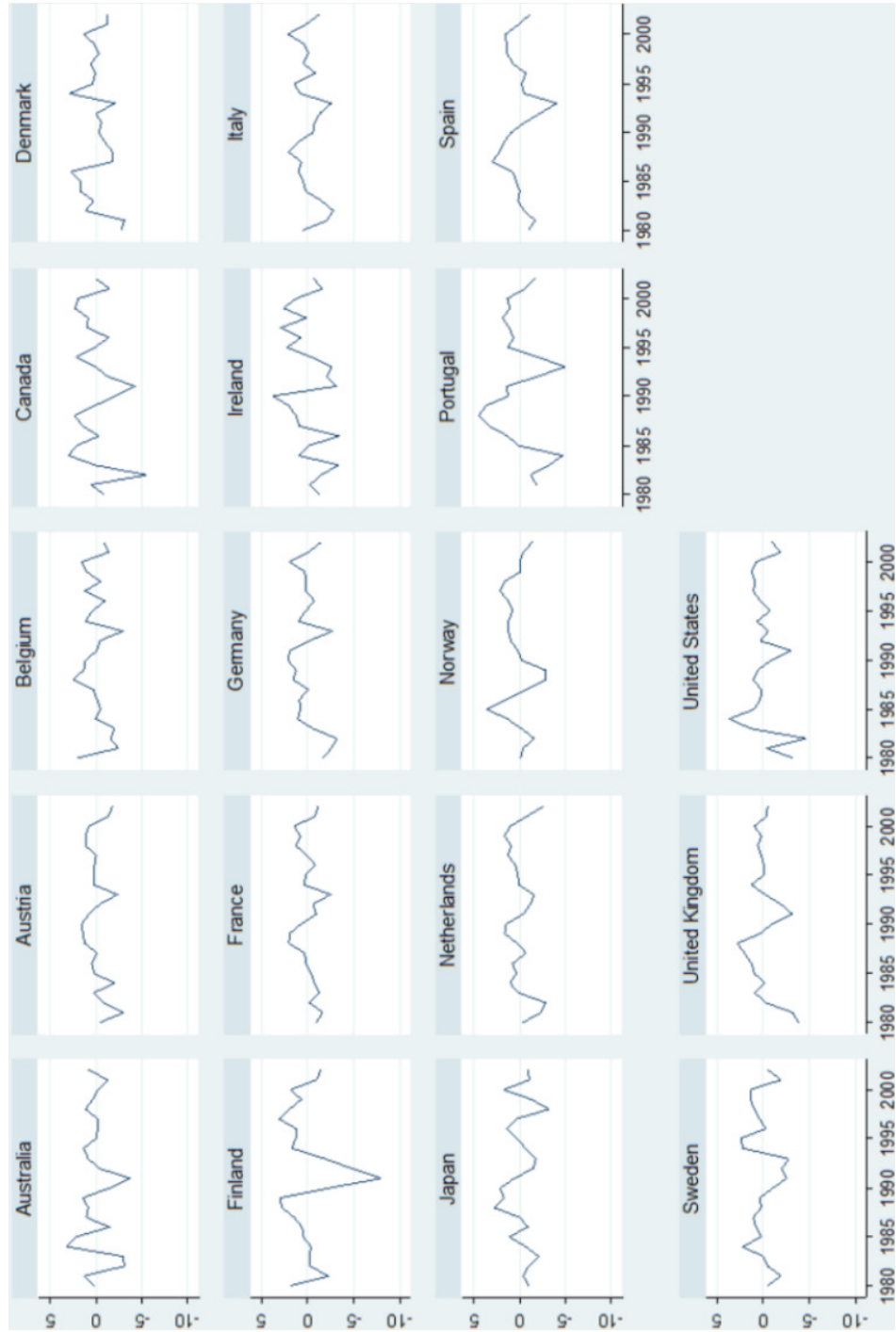
Source: Authors' calculations based on OECD data.

Figure 3 Output gap of the total economy



Source: Authors' calculations based on OECD data.

Figure 4 Difference in output gap



Source: Authors' calculations based on OECD data.

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