

## Are Fiscal Policies Countercyclical in the Euro Area?

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**Abstract:** We want to investigate whether the cyclical behaviour of fiscal policy has changed in the euro area countries since 1999, due to the EU framework of fiscal rules. Specifically, have national fiscal policies been more countercyclical? To answer this question, we study the relationship between the change in the cyclically-adjusted primary balance and the change in the output gap. The former variable is taken as an indicator of discretionary fiscal policy. The latter is an indicator of cyclical conditions. We use panel data for the euro area and data for twelve euro area individual countries (and three EU countries and five OECD countries for comparison). The sample covers the period 1970-2008. We make some correlation analysis before estimating the relationship using an OLS estimation method (with country and time fixed effects for the model of the euro area). We show that fiscal policy was countercyclical in all euro area member countries in 2009. However, over the period 1970-2008, countercyclicality was little frequent in those countries to compare with other OECD countries. Moreover, since 1999, fiscal policies in the euro area have no longer been procyclical during good times, but they have been procyclical during bad times in two countries, Austria and Portugal.

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## 1. Introduction

In the European Union (EU), Member States are free to use their national fiscal policies in order to smooth GDP fluctuations whenever their economy is hit by large demand shocks. This stabilization role of fiscal policy should not jeopardize the commitment towards fiscal discipline, since the EU fiscal rules, embodied in the Stability and Growth Pact, forbid “excessive” public deficits (that is public deficits above 3% of GDP and public debts above 60% of GDP). Furthermore, all EU member countries are committed to aim at a budgetary position close to balance or in surplus. To do so, they are expected to improve their structural budget balance (cyclically-adjusted budget balance) each year until their budget balance is in surplus. The extent of the annual improvement is specific to each country, depending on national constraints (indebtedness, potential production, structural reforms, and size of automatic fiscal stabilizers). These EU fiscal rules are more binding for EU member countries which participate in the euro area, since possible penalties for non compliance would not be imposed on EU countries outside the euro area.

For euro area member countries, fiscal policy is likely to be more useful as a stabilization tool, because in a monetary union, national monetary independence is lost. In addition, the usefulness of fiscal policy is increased if there is some nominal or real rigidity in the economy or alternative adjustment mechanisms are lacking.<sup>2</sup> In this respect, fiscal discipline does not prevent fiscal policy from being a stabilization tool. One condition is that fiscal policy is countercyclical over the business cycle whatever cyclical conditions are, that is both in good times and in bad times. Indeed, if the cyclically-adjusted budget balance improves whenever economic activity is booming (restrictive countercyclical discretionary fiscal policy), then it can deteriorate whenever economic activity is slowing down (expansive countercyclical discretionary fiscal policy). In other words, governments should save surpluses for rainy days, so that they can let automatic fiscal stabilizers work (fewer tax receipts and higher public spending during bad times) while complying with the objective of sound public finance.

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<sup>2</sup> The subject of the effectiveness of fiscal policy is not considered in this article.

However, fiscal discipline and fiscal stabilization might not be consistent with each other in cases where a deficit bias results from procyclical fiscal policies<sup>3</sup>. If the cyclically-adjusted budget balance tends to deteriorate during good times (expansive procyclical discretionary fiscal policy), then, sooner or later, it will have to improve during bad times (restrictive procyclical discretionary fiscal policy). In particular, this might be the case in high-deficit countries which are eventually bound to avoid excessive public deficits (peer pressure in the European arena or perception of negative effects of public deficits on private sector). This would be the worst scenario: no stabilization (procyclicality) and no discipline (deficit bias).

Has EU fiscal rules made fiscal policies in individual countries procyclical or countercyclical? In other words, what has been the cyclical behaviour of discretionary fiscal policy in the euro area? In this article, we propose to deal with these questions, first by making a short review of the empirical literature (section 2). We then present some data about the fiscal response to the financial crisis in 2008-2009 (section 3). We then test the hypothesis of a countercyclical fiscal stance in the euro area since 1999 (section 4). In particular, we want to determine whether there has been a change in the cyclical behaviour of discretionary fiscal policy in the euro area and in individual euro area member countries after 1999 to compare with the pre-1999 period (before the launch of the euro area) and in comparison with other EU countries and OECD countries. We summarize our main findings in conclusion (section 5).

## **2. Empirical literature**

A study, by the services of the European Commission (EC, 2002), shows that there was a bias in the stance of fiscal policies in individual EU-15 countries over the period 1970-1995. Specifically, in most EU-15 countries, discretionary fiscal policy was often countercyclical expansive when the output gap (defined as the difference between actual GDP and potential GDP) was negative, but procyclical expansive when the output gap was positive (instead of being restrictive in order to smooth actual GDP fluctuations around potential GDP). As a consequence, there was a deficit bias. In this study, discretionary fiscal policy is measured by

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<sup>3</sup> or from more countercyclical fiscal policies during bad times than during good times.

the year-on-year change in the structural budget balance (that is the cyclically-adjusted budget balance in the EC database). As for the stance of discretionary fiscal policy, it is determined with regard to cyclical conditions. The latter are defined by the sign (level) of the output gap. Yet, there are some weaknesses in such an approach.

First, *the change in the cyclically-adjusted primary balance* describes better fiscal discretion, as long as government has little influence on the variation of interest payments on public debt in the short term. In subsequent works, the European Commission has been using this variable (see, in particular, the annual publications *Public finance in EMU*). Second, the definition of cyclical conditions may be critical to the assessment of the stance of discretionary fiscal policy. Using the level of the output gap may be misleading, because the output gap may still be positive while its variation is negative, pointing to an economic slowdown.<sup>4</sup> In such a case (as in most EU-15 countries in 2001), one may observe a worsening of the primary structural budget balance, because government reacts to the decline in economic activity via higher public deficits. As a result, discretionary fiscal policy is countercyclical since the variation of the output gap is negative. But it would be considered as being procyclical if one retained the level of the output gap as the relevant criterion (positive output gap). In this paper, we define cyclical conditions by *the change in the output gap*. In our framework, fiscal policy is countercyclical (procyclical) if the correlation between the change in the cyclically-adjusted primary balance and the change in the output gap is positive (negative): the budget balance worsens (improves) during bad times or it improves (worsens) during good times.

Thus, according to the European Commission (EC, 2004, 2006), there has been a procyclical bias in fiscal policy in the euro area. This statement results from correlation analysis or regressions of the relationship between the change in the structural primary balance and the level of the output gap. The European Commission admits that this procyclical bias is unlikely if the variation of the output gap is taken instead of the level of the output gap. Besides, when the European Commission uses the variation of the output gap, the finding is that the fiscal stance tends to be countercyclical (EC, 2008) or acyclical (EC, 2004). Yet, the European

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<sup>4</sup> Except in years where there is a structural break and potential GDP varies significantly from one year to another.

Commission has still been making statements and warnings to improve national public finance, based upon results from the first definition of cyclical conditions (in level terms).

For the United States, Taylor (2000, 2009) and Auerbach (2002, 2008) measured the extent to which the structural budget balance (dependent variable) is associated with the level of the output gap (independent variable) in simple regressions using ordinary least squares (OLS). They both found that discretionary fiscal policy has been increasingly countercyclical in the United States, in particular since the beginning of the nineties. Farvaque, Huart and Vaneecloo (2006) applied the same method to the EU-15. They found that discretionary fiscal policy was acyclical during the full period 1970-2001 and the first sub-period 1970-1982. It was procyclical during the second sub-period 1983-1992 but countercyclical during the last sub-period 1993-2001.

Fatás and Mihov (2009) also defined cyclical conditions by the level of the output gap but they compared two estimation methods: OLS and IV (instrument variables). The latter method accounts for an endogeneity problem, since the level of the output gap may be influenced by the change in the structural budget balance.<sup>5</sup> They found that discretionary fiscal policy was procyclical in the euro area before 1999, but it has been acyclical since then. Looking at the fiscal stance in individual countries after 1999, it is worth noting that it has become procyclical in Spain, strongly countercyclical in the United States, and no longer countercyclical in Denmark and Sweden. Overall, both methods (OLS and IV) give similar qualitative results. They both lead to the conclusion that discretionary fiscal policy in the euro area is procyclical over the full sample period 1970-2007.

Moreover, some researchers have tested the hypothesis of an asymmetric behaviour of fiscal policy over the business cycle: the cyclical behaviour of fiscal policy could be different depending on whether times are good or bad. Some conclude that fiscal policy has been procyclical in the euro area during good times (Debrun, Faruqee, and Beetsma, 2004;

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<sup>5</sup> The endogeneity problem may also be accounted for in a simple way by taking the lagged level of the output gap among the regressors. We compared this specification with a specification where the output gap is in first difference. The degree of significance was similar between both specifications. However, qualitative results differed (the sign of the estimated coefficient of the output gap variable). As we explained in the introduction of this paper, we prefer the second specification. Results that are not shown in the text are available upon request.

European Commission, 2006). In some other studies, fiscal policy in the euro area has not become procyclical during bad times (OECD, 2003; European Commission, 2004).

All in all, several studies conclude that the European framework of fiscal rules has not caused a procyclical bias in the stance of fiscal policies in euro area countries (Gali and Perotti, 2003; OECD, 2003; European Commission, 2004; Annett, 2006; Golinelli and Momigliano, 2006; Wyplosz, 2006; Turrini, 2008; Leigh and Stehn, 2009). Yet, there has not been any robust result towards a clear case of countercyclical fiscal stance. Admittedly, responses of governments to the recent financial crisis – via announcements of large unprecedented fiscal packages – have appeared clearly countercyclical...

### **3. Public deficits during the crisis**

According to the latest available data from the OECD Economic Outlook database (November 2009) at the time of writing the paper, the increase in government net lending was very strong in the euro area countries as well as in the OECD countries in 2009 (table 1).<sup>6</sup> In the euro area, public deficits have become excessive according to the Maastricht definition: net lending was -6.1% of GDP in 2009. Forecasts for 2010 are worse, with public deficits amounting to 6.7% of GDP. The worsening of public finance is even bigger in the OECD.

< Insert table 1 >

Looking at individual countries, the increase in public deficits in 2009 is the highest in the United Kingdom (more than 7 percentage points with regard to 2008). The deterioration of government budget balance has also been strong either in countries which have spent their large surpluses in order to support global demand (Denmark, Sweden, Finland, Canada, Luxembourg, and the Netherlands) or in countries which have been hit very hard by the crisis (Ireland, Finland, Spain, Japan, Luxembourg, the Netherlands, and Sweden). In contrast, there

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<sup>6</sup> Some euro area countries are not considered due to a lack of data (Slovenia, Malta, Cyprus, and Slovakia).

are some countries where the fall in real GDP growth was strong, and yet the increase in public deficit was limited in 2009. The reasons may be due to the support of IMF financial aid (Hungary) or the public concern of future higher taxes in response to increased public deficits (Germany, Czech Republic).

Among euro area countries, Finland is the only one country where public deficits are not “excessive” in 2009 (but there are expected to be so in 2010). Note that, before the financial crisis, public surpluses were the highest in this member country of the euro area. According to the fiscal rules of the Stability and Growth Pact, “excessive” public deficits are not fined if the annual fall in real GDP growth is greater than 2%, the economic downturn is durable or circumstances can be considered as exceptional. In 2009, no country could be sanctioned. However, in 2010, the OECD forecasted that public deficits would be higher in euro area countries, and yet the recession would be either milder or over.

Table 1 also gives some information about the evolution of public debts. In 2010, the reference value of 60% of GDP would be exceeded in euro area countries, except in Luxembourg and Finland. The most spectacular increases of the ratio of public debt to GDP are seen in six countries: Ireland (from 28% of GDP in 2007 to 81% of GDP in 2010), the United Kingdom (from 47 to 83% of GDP), Japan (from 167 to 197% of GDP), the United States (from 62 to 92% of GDP), Spain (from 42 to 68% of GDP), and France (from 70 to 93% of GDP). Causes are various: fall in GDP, accumulated public deficits, higher positive real interest rates in an environment of very low inflation or deflation, or difficulties of raising funds in financial markets (higher spreads).

Given that public deficits increased during a period of a slump in economic activity, fiscal policies were countercyclical in all countries in 2009, whatever the definition of cyclical conditions (fall in real GDP growth, negative output gap or negative variation of the output gap). Nevertheless, the main part of public deficits is due to automatic fiscal stabilizers or interest payments. Indeed, the change in the cyclically-adjusted primary balance is small in the euro area (-1.5 percentage point relative to 2008) and far lower than that of the overall budget balance (-4.1 percentage points). By contrast, in the OECD, discretionary fiscal policies are much more active (countercyclical expansionist fiscal policies): cyclically-

adjusted primary balances worsen by 2.6 percentage points. The extent of countercyclical fiscal stimulus in 2009 is the highest in four countries (two of them are euro area countries): the United Kingdom, the United States, Spain and the Netherlands. In 2008, fiscal stimulus plans were the largest in Spain and Ireland (and the United States). However, in 2009, discretionary fiscal policy appeared to be procyclical restrictive in Hungary (the IMF program can help economic recovery). In 2010, the discretionary fiscal stance would also be procyclical restrictive in eight countries (six from the euro area): Spain, Greece, Hungary and Ireland, no matter how cyclical conditions are defined (the cyclically-adjusted primary balance is improved while real GDP growth is still declining, the output gap is still negative as well as its variation), as well as in Austria, Belgium, the Czech Republic and the Netherlands if one looks only at the output gap variable (level or variation). In those countries, governments seem to be concerned by the negative effects of protracted high public deficits on private sector and the compliance with EU fiscal rules.

#### **4. Has the stance of discretionary fiscal policies in the euro area changed since 1999?**

Before assessing whether there has been a break in the stance of discretionary fiscal policies before and after 1999 in the whole euro area and the euro area individual countries (and other EU countries and OECD countries as a comparison), we first want to show that this assessment is sensitive to the definition of cyclical conditions. We apply the reasoning to the euro area over the period 1999-2008.<sup>7</sup> In figure 1, we compare the correlation between the change in the cyclically-adjusted primary balance on one hand and either the level of the output gap (first definition) or the change in the output gap (second definition) on the other hand. We can see that in the euro area, since 1999, the discretionary fiscal stance has been acyclical with regard to the first definition but countercyclical with regard to the second definition. Another major difference between both definitions is that the only case of a procyclical restrictive discretionary fiscal stance – the worst case for economic activity – is clearly visible in 2005 if one uses the first definition. In contrast, there are some common facts which can be highlighted with both definitions: a procyclical expansive fiscal stance in 2000; a countercyclical expansive fiscal stance in 2002 and 2003, and a countercyclical

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<sup>7</sup> We do not consider the year 2009 since data for that year are temporary (forecasts).

restrictive fiscal stance in 1999, 2006 and 2007. In the following, we use the second definition.

< Insert figure 1 >

Recall that a positive correlation between the change in the cyclically-adjusted primary balance and the change in the output gap indicates a countercyclical discretionary fiscal policy while a negative correlation points to a procyclical discretionary fiscal policy. Following this approach (table 2), the discretionary fiscal stance in the euro area countries was clearly procyclical during the Maastricht period (1993-1998), that is to say a period when several governments in the EU were willing to make strong efforts of budgetary consolidation in order to be ready for an entry in the European monetary union, whatever bad cyclical conditions could have been in the early nineties. In sharp contrast to that period, the period 1999-2008 is characterized by a clear countercyclical fiscal stance.<sup>8</sup> Among individual euro area countries, there is a group of three countries whose fiscal stance was countercyclical before 1999 and has been more countercyclical since then: this group comprises Finland, France and Spain. There is another group of four countries where fiscal policy used to be procyclical before 1999 and has become clearly countercyclical since 1999: these countries are Ireland, Germany, the Netherlands and Luxembourg. In some other countries, however, fiscal policy has become procyclical (Austria, Portugal), more procyclical (Greece) or less procyclical (Belgium). In Italy, discretionary fiscal policy has become acyclical.

< Insert table 2 >

In other EU countries outside the euro area, discretionary fiscal policy has been less countercyclical in Denmark and Sweden to compare with what it used to be in the years before 1992. In the United Kingdom, it has become strongly countercyclical after 1999 while it was procyclical before. Finally, in OECD countries, it has always been more

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<sup>8</sup> We first present a correlation analysis, because there are too few observations after 1999 to make easy interpretation of results from econometric tests. We explain our estimations later.

countercyclical than in the euro area, especially in the United States. By contrast, it has been procyclical in Japan in the late period.<sup>9</sup>

We now ask whether there is a trend towards countercyclical fiscal policies during periods of economic slowdown (“bad times”) rather than during periods of economic boom (“good times”). In table 3, we compute the number of times discretionary fiscal policy was countercyclical during good times (defined as periods when the change in the output gap was positive) and during bad times (negative change in the output gap).

< Insert table 3 >

Discretionary fiscal policy seems to be actually less often countercyclical during good times than during bad times. The picture is reassuring though: in most countries, fiscal stance has been more often countercyclical during downturns since 1999. In some of them, countercyclicity prevailed in all episodes of economic downturn (in Finland, France, Italy, and outside the euro area, in the United States and Canada). However, in Spain and Portugal, countercyclical expansive fiscal stance has been the case in only 40% of bad times over the period 1999-2008 (to compare with 46% and 27% respectively of bad times over the full period 1970-2008). With regard to upturns, discretionary fiscal policies have become more often countercyclical in the euro area (in 71% of episodes of good times since 1999 against 46% over the full period), whereas they have become less often countercyclical in the OECD (67% versus 71% over the full period). Yet, in four euro area countries, discretionary fiscal policy has become more often procyclical during good times (Belgium, Greece, Austria and Italy).

At last, we want to test the relationship between the change in the cyclically-adjusted primary balance ( $CAPB$ ) and the change in the output gap ( $OG$ ). We assume that the dependent fiscal variable ( $CAPB_t$ ) can be explained by a few independent variables, namely the lagged  $CAPB$  ( $CAPB_{t-1}$ ), the change in the output gap ( $\Delta OG$ ), and the lagged ratio of public debt to GDP

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<sup>9</sup> If we excluded the year 2008 from the sample, then conclusions would be modified for two countries only: Spain and Ireland. In these countries, discretionary fiscal policy was strongly countercyclical in 2008, and without that year, the stance would have been procyclical in Spain and acyclical in Ireland since 1999.

( $debt_{t-1}$ ). For the model of the euro area (panel data) and for the model of individual countries, we have respectively,

$$CAPB_{it} = \beta_1 CAPB_{it-1} + \beta_2 \Delta OG_{it} + \beta_3 debt_{it-1} + u_{it} \quad [1]$$

$$CAPB_t = \beta_0 + \beta_1 CAPB_{t-1} + \beta_2 \Delta OG_{it} + \beta_3 debt_{t-1} \quad [2]$$

where the subscript  $t$  stands for time; the subscript  $i$  stands for individual country;  $\Delta$  is the first difference operator. In the model of the euro area (equation [1]), we use the country and time fixed-effects OLS estimation method. The unobservable term  $u_{it}$  includes country fixed effects and time effects, in order to take into account national distinctive features, which would not be observed in the variables of the model, and some shocks or common trends to euro area countries. This term could also include a random component. As for the model for individual countries (equation [2]), the parameter  $\beta_0$  is a constant.

The lagged CAPB in the right-hand side of the equation reflects the influence of initial fiscal conditions on current fiscal decisions, in particular the degree of inertia in fiscal policy due to implementation lags or irreversible measures.<sup>10</sup> In such a specification, the parameter  $\beta_1$  is expected to be positive. Discretionary fiscal policy is countercyclical if the coefficient  $\beta_2$  is positive: the fiscal balance improves when the change in the output gap is positive and it deteriorates when the change in the output gap is negative. On the contrary, discretionary fiscal policy is procyclical if  $\beta_2$  is negative. As for the lagged debt-GDP ratio, it stands for a discipline effect: a positive  $\beta_3$  would reflect a debt-stabilization motive in fiscal policy (a higher debt ratio triggers fiscal efforts to improve the structural primary fiscal balance). Finally, two dummy variables were included to test the relationship between CAPB and OG depending on two different states of nature: a dummy variable is defined for good times ( $\Delta OG > 0$ ) and a dummy variable is defined for bad times ( $\Delta OG < 0$ ).

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<sup>10</sup> Putting  $CAPB_{t-1}$  in the left-hand side of the equation, one obtains a specification which would be equivalent to a specification where the dependent variable is expressed in first difference ( $\Delta CAPB$ ).

We used the OECD database (*OECD Economic Outlook*, June 2009).<sup>11</sup> The sample is 1970-2008, but it does not start at 1970 for all countries (missing data about public debt). We also divided the sample into two sub-periods: before and after 1999. We considered 20 OECD countries: 15 EU countries and 12 euro area countries among them, plus 5 OECD countries outside the EU (United States, Canada, Japan, Australia and New Zealand). Results for the model of the euro area are shown in table 4. As for individual countries, results are too many to be shown here. As a consequence, we only report the estimated coefficients of the output gap variable (figure 2), which is not disturbing since our subject is to assess the sign of  $\beta_2$  in order to determine the countercyclical or procyclical stance of discretionary fiscal policies.

Among results about the euro area (table 4), the estimated coefficient of the lagged cyclically-adjusted primary balance is highly significant and positive as expected. The inertia in discretionary fiscal policy in the euro area is high (around 0.7) but it has decreased after 1999 (around 0.5). The debt stabilization motive is also significant. The stance of discretionary fiscal policy is acyclical over the full period 1970-2008 and to a lesser extent in sub-periods before and after 1999. Moreover, it tends to be procyclical during good times (significantly over the full period) and countercyclical during bad times (not significantly though).

< Insert table 4 >

With regard to our regression results for individual countries (figure 2), if we focus only on significant results, then we find that discretionary fiscal policy is rarely countercyclical over the period 1970-2008! Among euro area countries, only Finland and the Netherlands have had a significant countercyclical discretionary fiscal policy. Outside the euro area, it is also the case in the United States and Australia. After 1999, fiscal stance has been significantly and strongly countercyclical in Spain, Ireland, the Netherlands, and outside the euro area, Denmark, the United Kingdom, Canada and Australia. A noticeable change is observed in Austria: the discretionary fiscal stance has become significantly procyclical.

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<sup>11</sup> The problem of endogeneity due to the influence of the business cycle on fiscal balance is attenuated by the fact that the output gap and the cyclically-adjusted primary balance are both expressed in terms of potential GDP.

< Insert figure 2 >

The European Commission (2002) warned against procyclical fiscal policies during good times. Is there such a bias? We do not find any bias in the euro area countries after 1999. On the contrary, there have been more countries where the fiscal stance has been countercyclical restrictive during good times (not significantly due to a small number of observations). Elsewhere, it is noteworthy that since 1999, Canada has improved significantly the structural primary budget balance during upturns while the United Kingdom has ceased to worsen it during such periods.

In the end, do national fiscal policies play a stabilization role when economic activity is declining? Yes, they do, but a little in the euro area! Since 1999, the fiscal stance has been countercyclical expansive in Spain (except if we drop the year 2008 from the sample), Ireland, the Netherlands, and to a lesser extent, France (not significantly). Outside the euro area, this has also been the case in the United Kingdom (with the same reservation as in the Spanish case) and New Zealand. A noticeable change is found in Austria and Portugal: discretionary fiscal policy has become significantly and strongly procyclical during downturns.

## **5. Conclusion**

The cyclical behaviour of discretionary fiscal policy in the euro area depends on how cyclical conditions are defined. While the European Commission focuses on the level of the output gap, we prefer working with the change in the output gap, in particular when identifying episodes of upturns (“good times”) and episodes of downturns (“bad times”). Indeed, economic activity may slump, and yet the output gap remains positive (Irish case). In such an example, a worsening of the budget balance would be considered as being procyclical with regard to the (positive) level of the output gap, but countercyclical with regard to the (negative) variation of the output gap, for a given potential output. In this respect, we highlighted the fact that in the euro area, since 1999, the correlation between the cyclically-

adjusted primary balance and the output gap has been very close to zero if the output gap is expressed in level terms (acyclical discretionary fiscal policy), but positive if the output gap is expressed in first difference (countercyclical discretionary fiscal policy). We pursued the analysis using the second definition of cyclical conditions.

We wanted to assess whether the cyclical behaviour of discretionary fiscal policies in euro area countries has changed since 1999, and in particular, test whether this behaviour has been asymmetric over the business cycle. As far as the number of observations is small after 1999, we started doing a correlation analysis, before undertaking econometric tests.

During the financial crisis in 2008-2009, fiscal policies were countercyclical expansive in all euro area countries (year 2009), and more so in other EU countries (United Kingdom) and OECD countries (United States). However, this countercyclical fiscal stance was mainly due to automatic fiscal stabilizers or the fall in interest payments (low interest rates), especially in the euro area countries. As a matter of fact, the deterioration of structural primary budget balances was rather small in those countries. In some countries, structural primary budget balances would even improve and be procyclical in 2010 (Austria, Belgium, Spain, Greece, Ireland, the Netherlands, and outside the euro area, Hungary and the Czech Republic). Such fiscal trends go against a stabilization role of fiscal policy and can be interpreted as resulting from the will to comply with rules of fiscal discipline.

This concern for discipline rather than stabilization in the conduct of fiscal policy is not surprising after all. Among our most noteworthy estimation results, we found that discretionary fiscal policies have actually not been often countercyclical in euro area countries since 1970. They have been more countercyclical during downturns since 1999, especially in Ireland and the Netherlands. Yet, the fiscal stance has been procyclical restrictive during downturns in two countries, namely Austria and Portugal. As for upturns, we did not find evidence of a procyclical bias during good times, but the fiscal stance has not been more clearly countercyclical either!

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**Table 1. Public finance and GDP**

**a) In level terms**

Countries	Net lending (% of GDP)				Public debt (% of GDP)				Real GDP growth (%)				Cyclically-adjusted primary balance (% of potential GDP)				Output gap (actual GDP - potential GDP) in % of potential GDP)			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Austria (AT)	-0,7	-0,5	-4,3	-5,5	62,2	66,2	72,9	77,9	3,4	1,9	-3,8	0,9	0,7	0,6	-1,0	-0,6	2,1	1,8	-3,8	-4,5
Belgium (BE)	-0,2	-1,2	-5,7	-5,6	88,1	93,5	101,2	105,2	2,8	0,8	-3,1	0,8	2,6	2,1	0,4	1,3	1,7	0,0	-5,4	-6,6
Greece (EL)	-4,0	-7,8	-12,7	-9,8	103,9	102,6	114,9	123,3	4,5	2,0	-1,1	-0,7	-0,3	-3,2	-6,1	-2,0	1,3	-0,7	-4,6	-7,3
Spain (ES)	1,9	-4,1	-9,6	-8,5	42,1	47,0	59,3	67,5	3,6	0,9	-3,6	-0,3	2,8	-2,5	-5,8	-3,9	0,5	-1,0	-5,3	-6,0
Finland (FI)	5,2	4,4	-2,3	-4,8	41,5	40,7	43,7	52,3	4,1	0,8	-6,9	0,4	3,6	3,3	0,7	-1,0	2,7	0,2	-8,8	-9,1
France (FR)	-2,7	-3,4	-8,2	-8,6	69,9	75,7	84,5	92,5	2,3	0,3	-2,3	1,4	-1,0	-1,3	-3,9	-3,9	1,8	0,4	-3,6	-3,7
Germany (GE)	0,2	0,0	-3,2	-5,3	65,3	68,8	77,4	82,0	2,6	1,0	-4,9	1,4	1,6	1,3	0,1	-1,4	2,6	2,4	-3,5	-2,9
Ireland (IE)	0,2	-7,2	-12,2	-12,2	28,3	48,5	65,8	81,3	6,0	-3,0	-7,5	-2,3	-0,6	-7,4	-8,4	-7,1	4,7	-0,5	-7,1	-7,6
Italy (IT)	-1,5	-2,7	-5,5	-5,4	112,5	114,4	123,6	127,0	1,5	-1,0	-4,8	1,1	2,6	2,2	1,8	2,2	1,5	-0,6	-5,7	-4,9
Luxembourg (LU)	3,7	2,5	-2,3	-4,3	10,9	16,3	18,2	25,0	6,5	0,0	-3,9	2,4	1,4	1,1	-1,1	-2,6	4,9	1,2	-5,1	-4,4
Netherlands (NL)	0,2	0,7	-4,5	-5,9	52,1	65,8	71,4	77,1	3,6	2,0	-4,3	0,7	1,1	1,1	-2,1	-1,7	2,4	2,1	-4,0	-4,5
Portugal (PT)	-2,7	-2,8	-6,7	-7,6	71,1	75,2	83,8	90,9	1,9	0,0	-2,8	0,8	0,1	0,4	-2,2	-3,1	0,6	-0,3	-3,6	-3,1
Denmark (DK)	4,5	3,4	-2,5	-5,4	31,6	39,8	45,3	48,8	1,6	-1,2	-4,5	1,3	3,5	2,9	0,2	-1,8	2,4	-0,4	-6,0	-5,3
Sweden (SE)	3,8	2,5	-2,0	-3,0	47,9	47,1	52,7	55,2	2,7	-0,4	-4,7	2,0	3,0	3,0	1,4	-0,2	3,2	-0,2	-7,0	-6,3
United Kingdom (UK)	-2,7	-5,3	-12,6	-13,3	46,9	56,8	71,0	83,1	2,6	0,6	-4,7	1,2	-1,5	-3,4	-7,6	-7,2	1,8	0,0	-6,2	-6,2
Czech Republic (CZ)	-0,7	-2,0	-5,7	-5,6	38,0	40,7	46,5	53,1	6,1	2,6	-4,4	2,0	-2,1	-3,0	-3,4	-2,5	5,6	4,3	-3,4	-4,7
Hungary (HU)	-5,0	-3,7	-4,3	-4,1	72,2	77,0	85,2	89,9	1,0	0,6	-6,9	-1,0	-2,0	-0,3	2,3	4,1	1,7	0,7	-7,6	-10,3
Poland (PO)	-1,9	-3,7	-6,4	-7,8	51,7	54,0	58,1	62,8	6,8	5,0	1,4	2,5	-1,4	-3,3	-4,7	-5,3	4,5	4,3	1,0	-0,4
United States (US)	-2,8	-6,5	-11,2	-10,7	61,8	70,0	83,9	92,4	2,1	0,4	-2,5	2,5	-1,2	-4,4	-7,8	-7,0	1,0	-0,9	-4,9	-3,9
Canada (CA)	1,6	0,1	-4,8	-5,2	65,0	69,7	82,8	85,7	2,5	0,4	-2,7	2,0	1,6	0,2	-2,5	-2,8	1,6	-0,2	-4,5	-4,3
Japan (JP)	-2,5	-2,7	-7,4	-8,2	167,1	172,1	189,3	197,2	2,3	-0,7	-5,3	1,8	-2,9	-2,7	-5,5	-6,1	3,5	2,3	-3,3	-2,1
Euro area	-0,6	-2,0	-6,1	-6,7	70,9	73,2	81,8	88,3	2,7	0,5	-4,0	0,9	1,2	0,3	-1,2	-1,7	1,9	0,7	-4,5	-4,5
OECD	-1,3	-3,5	-8,2	-8,3	73,1	78,4	90,0	97,4	2,7	0,6	-3,5	1,9	-0,5	-2,2	-4,8	-4,8	1,8	0,3	-4,6	-4,1

Source: OECD database, OECD Economic Outlook No. 86 November 2009

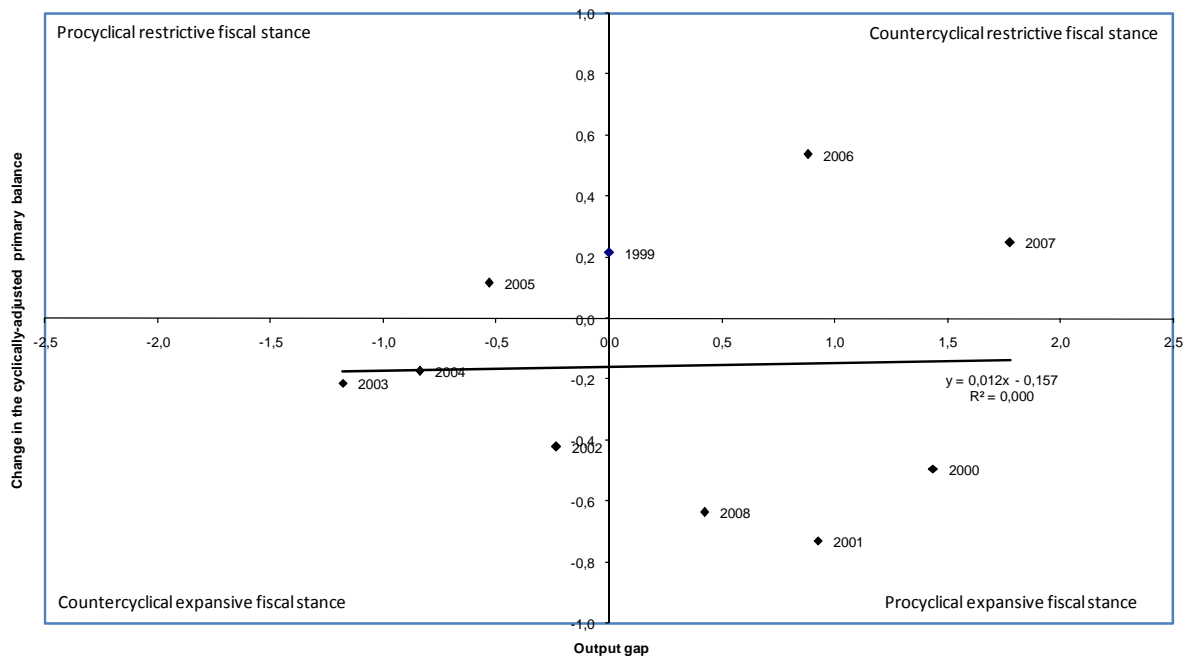
**b) In first difference**

Countries	Net lending			Public debt			Real GDP growth			Cyclically-adjusted primary balance			Output gap		
	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010
Austria (AT)	0,2	-3,8	-1,2	4,0	6,7	5,0	-1,5	-5,7	4,7	-0,1	-1,6	0,4	-0,3	-5,6	-0,7
Belgium (BE)	-1,0	-4,5	0,1	5,4	7,7	4,0	-2,0	-3,9	3,9	-0,5	-1,7	0,9	-1,7	-5,4	-1,2
Greece (EL)	-3,8	-4,9	2,9	-1,3	12,3	8,4	-2,5	-3,1	0,4	-2,9	-2,9	4,1	-2,0	-3,9	-2,7
Spain (ES)	-6,0	-5,5	1,1	4,9	12,3	8,2	-2,7	-4,5	3,3	-5,3	-3,3	1,9	-1,5	-4,3	-0,7
Finland (FI)	-0,8	-6,7	-2,5	-0,8	3,0	8,6	-3,3	-7,7	7,3	-0,3	-2,6	-1,7	-2,5	-9,0	-0,3
France (FR)	-0,7	-4,8	-0,4	5,8	8,8	8,0	-1,9	-2,6	3,7	-0,3	-2,6	0,0	-1,4	-4,0	-0,1
Germany (GE)	-0,2	-3,2	-2,1	3,5	8,6	4,6	-1,6	-5,9	6,3	-0,3	-1,2	-1,5	-0,2	-5,9	0,6
Ireland (IE)	-7,4	-5,0	0,0	20,2	17,3	15,5	-9,0	-4,5	5,2	-6,8	-1,0	1,3	-5,2	-6,6	-0,5
Italy (IT)	-1,2	-2,8	0,1	1,9	9,2	3,4	-2,5	-3,8	5,9	-0,4	-0,4	0,4	-2,1	-5,1	0,8
Luxembourg (LU)	-1,2	-4,8	-2,0	5,4	1,9	6,8	-6,5	-3,9	6,3	-0,3	-2,2	-1,5	-3,7	-6,3	0,7
Netherlands (NL)	0,5	-5,2	-1,4	13,7	5,6	5,7	-1,6	-6,3	5,0	0,0	-3,2	0,4	-0,3	-6,1	-0,5
Portugal (PT)	-0,1	-3,9	-0,9	4,1	8,6	7,1	-1,9	-2,8	3,6	0,3	-2,6	-0,9	-0,9	-3,3	0,5
Denmark (DK)	-1,0	-5,9	-2,9	8,2	5,5	3,5	-2,8	-3,3	5,8	-0,6	-2,6	-2,0	-2,9	-5,6	0,7
Sweden (SE)	-1,3	-4,5	-1,0	-0,8	5,6	2,5	-3,1	-4,3	6,7	0,0	-1,6	-1,6	-3,4	-6,8	0,7
United Kingdom (UK)	-2,6	-7,3	-0,7	9,9	14,2	12,1	-2,0	-5,3	5,9	-1,9	-4,2	0,4	-1,8	-6,2	0,0
Czech Republic (CZ)	-1,3	-3,7	0,1	2,7	5,8	6,6	-3,5	-7,0	6,4	-0,9	-0,4	0,9	-1,3	-7,7	-1,3
Hungary (HU)	1,3	-0,6	0,2	4,8	8,2	4,7	-0,4	-7,5	5,9	1,7	2,6	1,8	-1,0	-8,3	-2,7
Poland (PO)	-1,8	-2,7	-1,4	2,3	4,1	4,7	-1,8	-3,6	1,1	-1,9	-1,4	-0,6	-0,2	-3,3	-1,4
United States (US)	-3,7	-4,7	0,5	8,2	13,9	8,5	-1,7	-2,9	5,0	-3,2	-3,4	0,8	-1,9	-4,0	1,0
Canada (CA)	-1,5	-4,9	-0,4	4,7	13,1	2,9	-2,1	-3,1	4,7	-1,4	-2,7	-0,3	-1,8	-4,3	0,2
Japan (JP)	-0,1	-4,7	-0,8	5,0	17,2	7,9	-3,1	-4,6	7,1	0,2	-2,8	-0,6	-1,2	-5,6	1,2
Euro area	-1,4	-4,1	-0,6	2,3	8,6	6,5	-2,2	-4,5	4,9	-0,9	-1,5	-0,5	-1,2	-5,2	0,0
OECD	-2,2	-4,7	-0,1	5,3	11,6	7,4	-2,1	-4,1	5,4	-1,7	-2,6	0,0	-1,5	-4,9	0,5

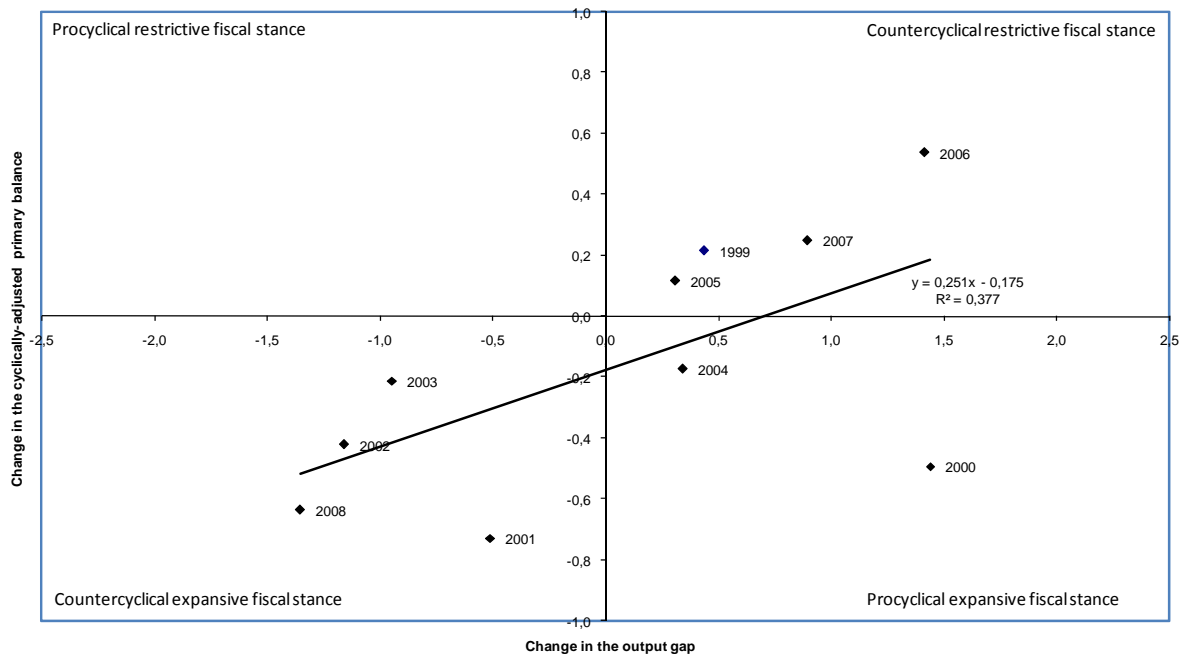
Source: OECD database, OECD Economic Outlook No. 86 November 2009

**Figure 1. Discretionary fiscal stance in the euro area (1999-2008)**

**(a) Discretionary fiscal stance and level of the output gap**



**(b) Discretionary fiscal stance and the change in the output gap**



Source: OECD database, OECD Economic Outlook No. 85 June 2009

**Table 2. Correlation coefficients between the change in the cyclically-adjusted primary balance and the change in the output gap**

	1970-2008	1970-1992	1993-1998	1999-2008
Euro area	-0,02	0,05	-0,30	0,61
Austria	-0,08	-0,11	0,20	-0,19
Belgium	-0,23	-0,19	-0,79	-0,15
Greece	-0,30	-0,34	-0,07	-0,43
Spain	0,18	0,03	0,19	0,46
Finland	0,41	0,32	0,38	0,53
France	0,09	0,00	0,24	0,43
Germany	-0,11	-0,16	-0,24	0,35
Ireland	0,13	-0,27	-0,64	0,62
Italy	0,02	0,07	-0,23	-0,01
Luxembourg	-0,21	...	-0,03	0,15
Netherlands	0,07	0,07	-0,14	0,42
Portugal	-0,20	-0,53	0,58	-0,18
Denmark	0,47	0,56	-0,40	0,35
Sweden	0,29	0,33	0,03	0,28
United Kingdom	-0,16	-0,35	-0,11	0,62
OECD	0,56	0,20	0,46	0,84
United States	0,45	0,46	0,93	0,70
Canada	0,29	0,27	-0,36	0,79
Japan	0,10	-0,23	0,92	-0,22
Australia	0,32	0,26	-0,19	0,45
New Zealand	0,20	0,32	0,76	0,29

Note: due to missing data, the sample does not start at 1970 for all countries. For the same reason, Czech Republic, Hungary and Poland could not be included.

Source: OECD database, OECD Economic Outlook No. 85 June 2009

**Table 3. Frequency of episodes of countercyclical discretionary fiscal policy during good times and bad times (%)**

	1970-2008		1999-2008	
	Good times	Bad times	Good times	Bad times
Euro area	46	50	71	100
Austria	35	47	33	75
Belgium	43	50	17	75
Greece <sup>(a)</sup>	33	36	17	75
Spain	67	46	60	40
Finland	56	85	67	100
France	55	69	67	100
Germany	67	41	83	75
Ireland	53	23	40	60
Italy	48	53	33	100
Luxembourg	56	22	67	50
Netherlands	45	53	67	75
Portugal	38	27	60	40
Denmark	59	78	60	80
Sweden	60	53	60	60
United Kingdom	61	62	40	60
OECD	71	78	67	100
United States	71	71	67	100
Canada	50	57	29	100
Japan	29	35	33	25
Australia	67	69	60	60
New Zealand	55	55	50	50

Good times: positive variations of the output gap. Bad times: negative variations of the output gap.

(a) Since 2001: 20% and 67% respectively during good times and bad times.

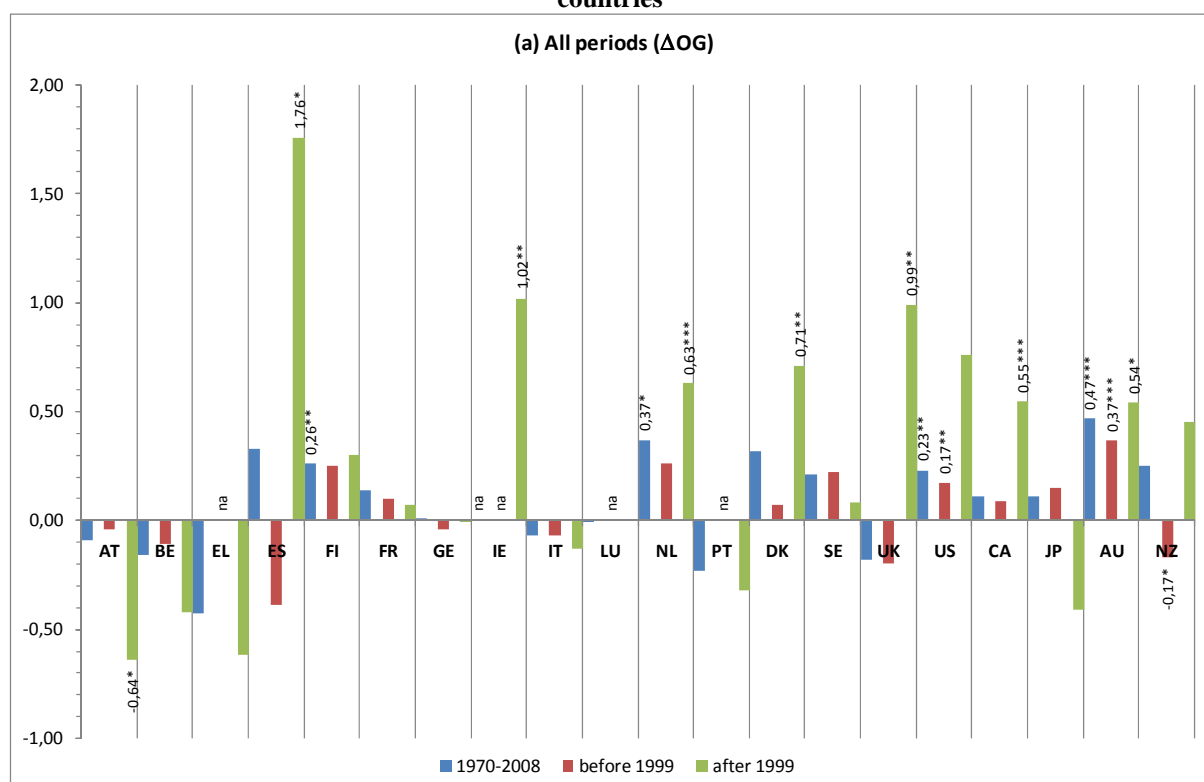
Source: OECD database, OECD Economic Outlook No. 85 June 2009

**Table 4. Cyclical behaviour of discretionary fiscal policy in the euro area**

	1970-2008		Before 1999		After 1999	
CAPB(-1)	0.74*** (0.04)	0.72*** (0.04)	0.73*** (0.05)	0.72*** (0.05)	0.54*** (0.10)	0.52*** (0.10)
$\Delta OG$	-0.01 (0.08)		-0.02 (0.10)		0.05 (0.15)	
$\Delta OG > 0$		-0.31** (0.15)		-0.29 (0.19)		-0.37 (0.27)
$\Delta OG < 0$		0.19 (0.11)		0.13 (0.14)		0.34 (0.21)
debt(-1)	0.03*** (0.01)	0.03*** (0.01)	0.04*** (0.01)	0.04*** (0.01)	0.04* (0.02)	0.05** (0.02)
Constant	-1.78*** (0.50)	-1.44*** (0.51)	-2.65*** (0.70)	-2.39*** (0.71)	-2.38 (1.49)	-2.39 (1.47)
Number of observations	322	322	202	202	120	120
Adjusted R <sup>2</sup>	0.75	0.75	0.76	0.76	0.62	0.63

Unbalanced pool of 12 euro-area countries. OLS with fixed effects (country and time effects) estimation method. Standard errors in parentheses. \*, \*\*, and \*\*\* denote significance at the 10, 5 and 1% level respectively. Coefficients of fixed effects are not reported.

**Figure 2. Estimated response coefficient of the change in CAPB to cyclical conditions in individual countries**



\*, \*\*, and \*\*\* denote significance at the 10, 5 and 1% level respectively. All regressions include constants and coefficients of other explanatory variables (not reported), such as the lagged CAPB and the lagged debt to GDP ratio.

na: not available. Data before 1999 are missing for Greece, Ireland, Luxembourg and Portugal.

