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STABILISATION POLICY IN EMU: THE CASE FOR MORE ACTIVE FISCAL POLICY

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ABSTRACT

For European countries, the monetary union has represented a decrease in their stabilising capacity derived from losing their monetary policy autonomy, which is now centred on the mean situation in the euro zone. Moreover, the contribution of fiscal policy to the cyclical stabilisation of national economies has been restricted by the Stability and Growth Pact. Although it does not rule out the possibility of anti-cyclical action in budgetary policies, it proposes the exclusive use of automatic stabilisers, but the power of this mechanism is not the same in the different EMU countries, differing according to the type of shock produced. This paper analyses the role that fiscal policy should play in the EMU in relation to short-term stability and the function of discretionary policies in conjunction with automatic stabilisers.

INDEX

1. INTRODUCTION
2. FISCAL POLICY AND ECONOMIC CYCLE IN THE EMU
3. RESTRICTIONS OF THE PRESENT EMU DOMESTIC FISCAL POLICY FRAMEWORK
4. ARE AUTOMATIC STABILISERS SUFFICIENT TO REDUCE CYCLICAL FLUCTUATIONS WITHOUT THE NEED FOR DISCRETIONARY POLICIES?:
5. MONETARY POLICY AND CYCLIC DIFFERENCES BETWEEN EMU MEMBER COUNTRIES
6. CONCLUSIONS

1. INTRODUCTION

Since the Maastricht Treaty was signed, several rules have been established to regulate the conduct of European fiscal authorities, culminating in the Stability and Growth Pact. The improvement in public finances registered in the nineties and the importance now given to budgetary discipline and sustainability are clearly a positive result of the application of these rules. But the Pact did suffer a crisis in the early years of the EMU, with half the countries in the euro zone either nearly or indeed failing to comply with it.

This paper aims at reviewing the role of fiscal policy in this context from the perspective of short-term stability, with special emphasis on the new economic policy framework created after the ECB became responsible for monetary policy. There are two circumstances in this framework which may be problematic: on the one hand, the transfer of monetary policy appears to reinforce the stabilising role to be played by national fiscal policies; on the other, the Stability and Growth Pact in fact restricts this function to automatic stabilisers, with little room for the adoption of other discretionary¹ anti-cyclical policies.

With this in mind, we will start by looking at the principal characteristics of the fiscal policy applied in the period, paying special attention to the performance of automatic stabilisers and the discretionary policies developed by EMU governments. After this we will consider the debate concerning the role to be played by fiscal policy in the EMU, and the need or not for establishing rules restricting discretionary policies by budgetary authorities. We will then briefly present empirical evidence of the efficacy of automatic stabilisers, showing that it varies significantly from one country to another and according to the type of shock arising. In the following section, we will also see that experience with the monetary policy applied to date in the EMU has already shown how different cyclical situations arise in different countries, all of which cannot be solved at the same time by the ECB. Finally, the paper ends with some conclusions.

2. FISCAL POLICY AND ECONOMIC CYCLE IN THE EMU

In this section of the paper, we will consider some specific characteristics of the policies taken by the fiscal authorities since 1999, and in particular how they have made use of discretionary policies, measured by the cyclically adjusted primary balance².

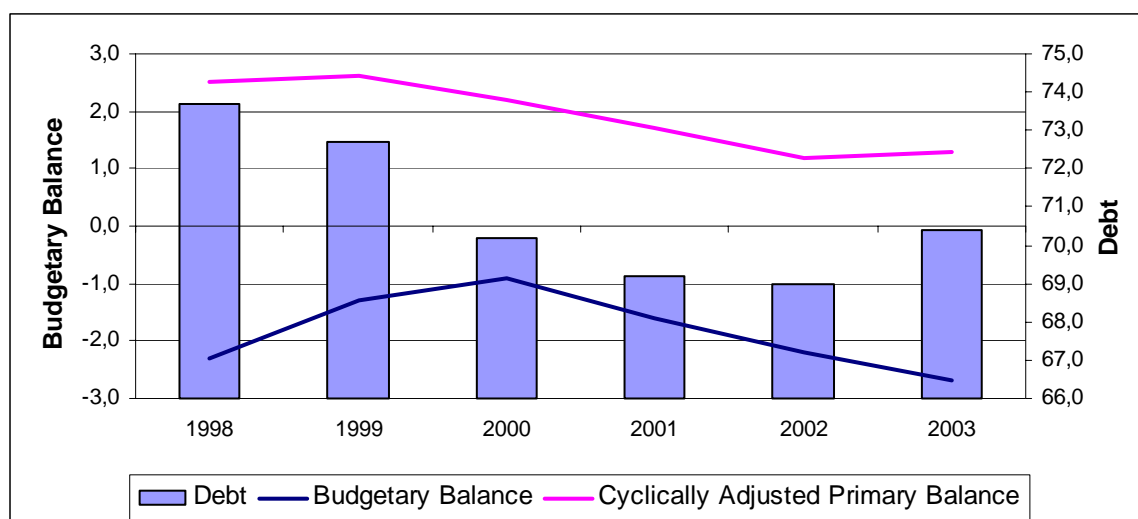
¹ When we use the term “discretionary measures” we refer to that section of budgetary changes that are not a result of automatic stabilisers. This does not imply that these measures cannot be a result of the adoption by the policy-makers of systematic actions (or a fiscal policy rule).

² This indicator is obtained by deducting the payment of interest on the debt and the automatic stabilisers from the total budgetary balance.

Beginning with an analysis of the evolution of the main fiscal variables in the 1999-2003 period, as shown in Graph 1, we can see that although the mean deficit in the euro zone initially continued to fall, following the adjustment process initiated in 1994 and helping many countries to achieve healthy budgetary situations, public accounts have suffered considerably since 2001³. The evolution of public finances in the euro zone can therefore be divided into two phases, 1999-2000 and 2001-2003.

Indeed, the public budgetary balance of the euro zone increased by 1.4 points of the GDP in 1999 and 2000⁴, but it has followed a negative trend since then, compensating this improvement and registering -2.7% in 2003, approximately the same figure as in 1997. This fall in the budgetary balance was fundamentally due to the change in the economic cycle showed in a negative value of the output gap in 2003- and the more relaxed tone of fiscal policy in the euro area –shown on the graph by the reduction in the cyclically-adjusted primary balance-. On the other hand, public debt decreased in this period except for 2003, when its mean value was 70.4% of the GDP⁵.

GRAPH 1: BUDGETARY BALANCE AND DEBT



Source: European Commission (2004).

As a result of this evolution, for 2004 it is expected (Table 1) that six countries will register a deficit of over 3% (Germany, France and Holland, which were already in

³ The only countries in which the overall deficit has not increased are Belgium, Spain, Austria and Portugal.

⁴ These figures do not include extraordinary revenue from UMTS licenses.

⁵ This worse situation of the budgetary balance has been in place, for the 1999-2003 period, in six countries (Germany, Greece, France, Ireland, Luxembourg and Holland) and there are four countries in which debt has increased in relation to the GDP (Germany, France, Portugal and Austria). The countries with levels of debt even greater than 60% are Italy (106.2% of the GDP), Belgium (100.5%), Greece (103.0%), Austria (65.0%), Germany (64.2%) and France (63.0%).

this situation in 2003, plus Greece, Italy and, once again, Portugal)⁶. On the other hand, only three countries would have a position “close to equilibrium or superavit” (Belgium, Spain and Finland), to which we would have to add Ireland if we consider cyclically-adjusted terms.

TABLE 1: BUDGETARY FORECASTS FOR 2004

| COUNTRY | BUDGETARY BALANCE | | CYCLICALLY ADJUSTED BALANCE | |
|------------|-------------------|------|-----------------------------|------|
| | 2003 | 2004 | 2003 | 2004 |
| Belgium | 0,2 | -0,5 | 0,7 | 0,0 |
| Germany | -3,9 | -3,6 | -3,2 | -3,0 |
| Greece | -3,0 | -3,2 | -3,3 | -3,7 |
| Spain | 0,3 | 0,4 | 0,4 | 0,6 |
| France | -4,1 | -3,7 | -3,8 | -3,3 |
| Ireland | 0,2 | -0,8 | 0,1 | -0,3 |
| Italy | -2,4 | -3,2 | -1,9 | -2,6 |
| Luxembourg | -0,1 | -2,0 | 0,0 | -1,3 |
| Holland | -3,2 | -3,5 | -1,7 | -1,4 |
| Austria | -1,1 | -1,1 | -0,9 | -0,9 |
| Portugal | -2,8 | -3,4 | -1,7 | -2,0 |
| Finland | 2,3 | 2,0 | 2,3 | 2,1 |
| EMU | -2,7 | -2,7 | -2,2 | -2,2 |

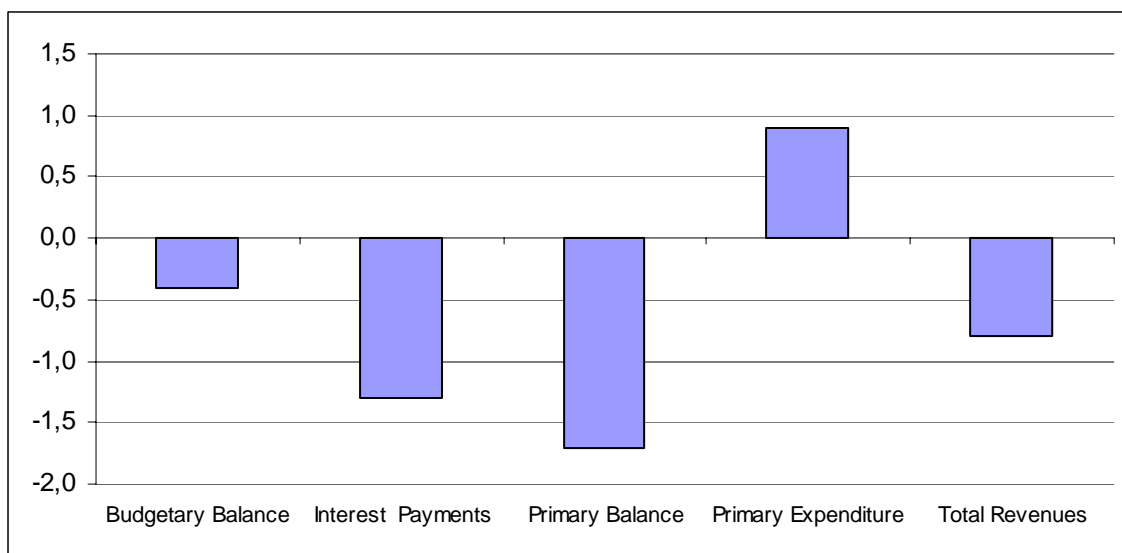
Source: European Commission (2004).

If we make a breakdown of the impact of the different components of the budgetary balance on this situation, in Graph 2 we can see that, of the total increase in the deficit in the euro zone (0.4 points), most has been due to deterioration of the

⁶ In the case of Italy and Portugal, this forecast is derived from the adoption in 2003 of exceptional actions to avoid exceeding a 3% deficit, which cannot be repeated in 2004.

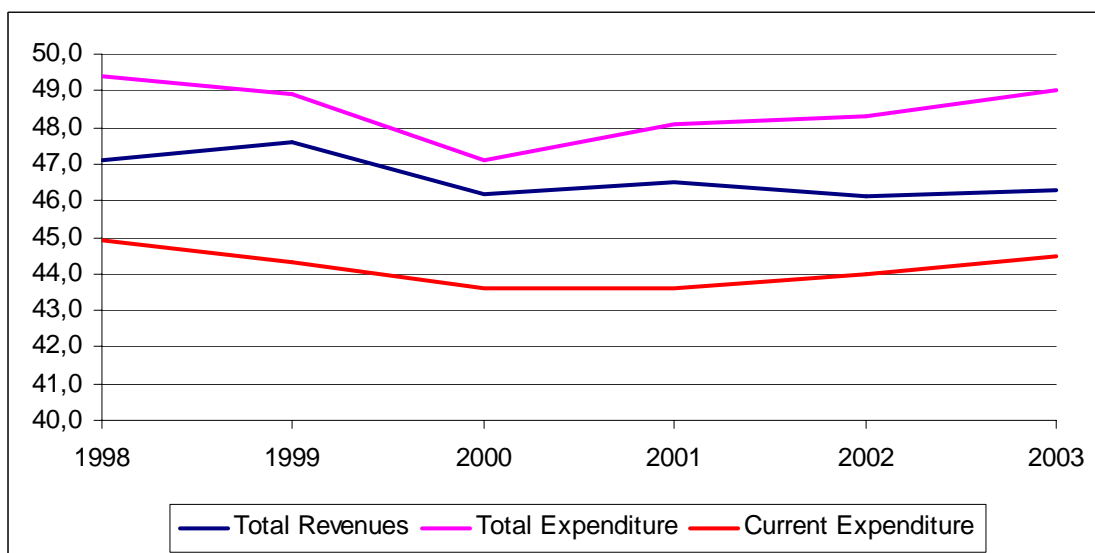
primary balance (1.7 points) because interest payments on the debt have in fact been reduced by the expansionary monetary policy deployed by the ECB (1.3 points).

GRAPH 2: VARIATION OF FISCAL VARIABLES (1999-2003)



Source: European Commission (2004).

GRAPH 3: PUBLIC EXPENDITURE AND REVENUE



In turn, this evolution of the primary balance is the result, in equal parts, of the increase in primary expenditure and the fall in total revenue. Graph 3 shows the evolution of public expenditure and revenue since 1999, confirming that revenue has decreased as a result both of the fiscal reforms introduced during the economic boom years and the effect of the cycle change in 2001. This graph, however, calls

attention to the need to supplement these fiscal reforms with compensatory budgetary policies on the expenditure side⁷. Otherwise, the reforms may end up slowing down the fiscal consolidation process, at least in the short term, especially if there is a change in economic cycle or public debt is high.

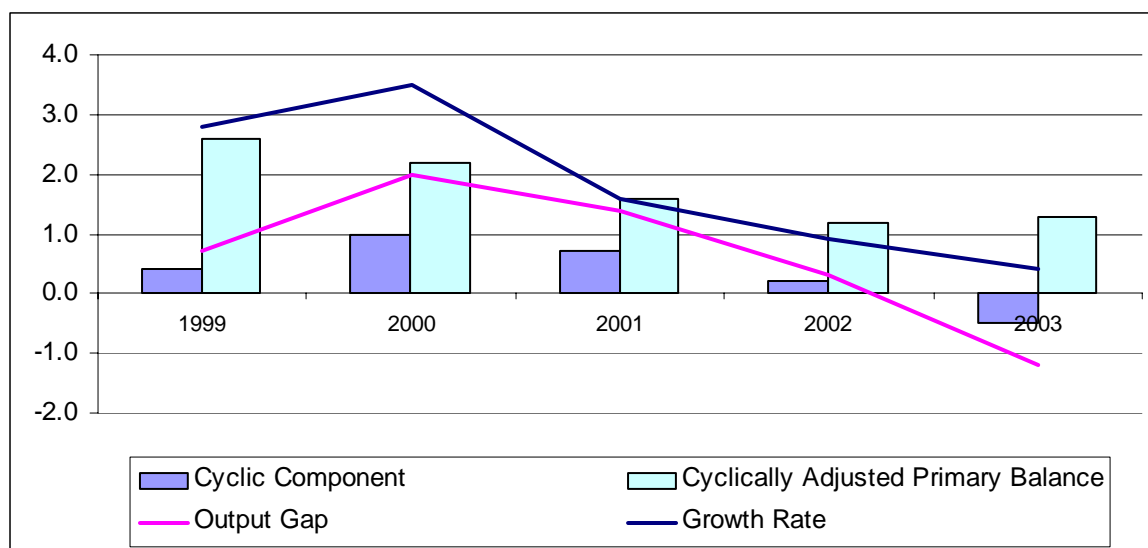
Having seen the overall evolution of public finances in the period, we can now focus on the impact of the economic cycle. Certainly, the change in cycle has been particularly significant for the evolution of public finances in the last three years, when the deficit rose by nearly two points, largely because the output gap went from around 2% in 2000 to a negative value in 2003 (Graph 4). The performance of the automatic stabilisers thus led to a considerable reduction in the cyclical component of the budgetary balance (going from a positive value of 1% of the GDP to a negative value of -0.5%). But there has also been a more relaxed tone in the discretionary component of fiscal policy and the cyclically adjusted primary balance went from 2.2% of the GDP in 2000 to 1.3% in 2003. To summarise, approximately 62% of the increase in the primary deficit⁸ is derived from the effect of automatic stabilisers, but 38% is in fact explained by the decisions made by fiscal authorities in these last three years. Therefore, we are initially led to conclude that European governments have applied active expansionary fiscal policies in this period when there have been sluggish growth rates and their cyclical position has deteriorated⁹.

⁷ One significant feature of fiscal development in recent years has been the concern for the structure of public accounts, with a broad consensus on the need to contain current expenditure while maintaining public investment. On the revenue side, most States have considered the convenience of reducing the so-called «fiscal wedge» -margin between the cost of labour for the employer and the net salary received by the employee- in order to facilitate participation and employment. To reduce this fiscal wedge, stability programmes have adopted, or plan to adopt, reductions in social security contributions or salaried income taxation, with a resulting decrease in tax revenue.

⁸ In this period, interest payments fell by 0.6 points, but this is not taken into account in our analysis of the evolution of public finances, since our interest is focused on distinguishing between the effects of automatic stabilisers and discretionary fiscal authority decisions.

⁹ There are several studies that have tried to evaluate if the restrictions imposed by the Maastricht Treaty and Stability and Growth Pact have affected the execution of fiscal policy. Galí and Perotti (2003) analyse if these restrictions have encouraged a more procyclical (or less countercyclical) fiscal policy in EMU countries. The authors conclude that while fiscal policy was significantly procyclical during the pre-Maastricht period, there was a change after 1992 materialized in the adoption of anticyclical measures. Finally, Galí and Perotti (2003) extend the analysis to 21 OECD for the period 1980-2002. In so doing, the authors run a regression of the structural primary deficit over the output gap and the debt level delayed by one period. Their result is that discretionary fiscal policy was procyclical during the expansion periods and anticyclical during the recessions.

GRAPH 4: GROWTH OF THE GDP, OUTPUT GAP AND CYCLICAL AND DISCRETIONARY COMPONENT OF THE BUDGET



Source: European Commission (2004).

Finally, Table 2 shows, for each EMU country¹⁰, the sign of the discretionary fiscal policy and the evolution of their cyclical position, measured by the change registered in the output gap. As we can see, in spite of the Stability and Growth Pact, there has been practically widespread use of discretionary fiscal policies. In all the countries except Greece there was a change in the output gap from positive to negative values, and in all the countries except Belgium, Spain, Austria and Portugal, the governments increased the cyclically adjusted primary deficit to accompany the more expansionary sign of the monetary policy.

¹⁰ Except Luxembourg.

TABLE 2: SIGN OF FISCAL POLICY AND CHANGE IN THE CYCLIC SITUATION BY COUNTRY, 2001-2003

| COUNTRY | CHANGE IN OUTPUT GAP | CHANGE IN CICLICALLY ADJUSTED PRIMARY BALANCE |
|----------|----------------------|---|
| Belgium | -2,3 | 0,8 |
| Germany | -2,7 | -1,6 |
| Greece | 0,8 | -3,6 |
| Spain | -3,0 | 1,3 |
| France | -3,1 | -1,6 |
| Ireland | -6,1 | -2,8 |
| Italy | -2,8 | -0,6 |
| Holland | -6,1 | -1,6 |
| Austria | -2,9 | 1,0 |
| Portugal | -6,2 | 2,1 |
| Finland | -4,0 | -3,0 |
| EMU-11 | -3,2 | -0,9 |

Source: European Commission (2004).

3. RESTRICTIONS OF THE PRESENT EMU DOMESTIC FISCAL POLICY FRAMEWORK

For European countries, the monetary union represents a redefinition of the principal stabilising policy mechanisms, forcing them to lose their monetary policy autonomy and the possibility of changing bilateral nominal exchange rates. It is well known that this has given rise to the problem of the possible loss of stabilising capacity of the economies within the EMU.

Indeed, if these economies suffer a common shock (a global deceleration process, for instance), the single monetary policy itself could react to foster a rapid return to equilibrium. The problem arises, however, when the shock is asymmetric; by affecting only some economies, the monetary authority will not react in this way

(since it is responsible for the mean economic situation) and the return to equilibrium could be slower, with the consequent costs in terms of employment and income. Empirical studies conducted to evaluate the likelihood of European economies suffering shocks of this kind indeed show that the possibility of such situations cannot be ruled out¹¹.

Of course, these costs would be lower if the economies in the monetary union had adjustment mechanisms other than monetary policy and the exchange rate, including flexible salaries and geographical mobility. However, empirical studies also show the weakness of these mechanisms in European economies, and the difficulty of increasing their efficacy in the short term¹².

In this context, we may feel that fiscal policy, currently the responsibility of national governments, should play a more active role in the European monetary union, with enough flexibility to tackle this specific type of shock. For example, if the single monetary policy is too expansionary for a country's cyclical situation, fiscal policy should be more restrictive. But the opposite also applies. Appropriate active fiscal action should be permitted when a country is suffering from a worse cyclical situation than the rest of the union and, consequently, from a too restrictive monetary policy.

Paradoxically, however, the obligation to respect the Stability and Growth Pact (SGP) would¹³ have reduced this possibility, since this rule establishes that EMU countries should adjust their structural balances to close to equilibrium, and except for specific exceptions, the nominal deficit can be no greater than 3% of the GDP. Although supporters of the Stability and Growth Pact maintain that this anti-cyclical function is produced by automatic stabilisers and that the present fiscal framework would provide sufficient scope of action, we will later show how it can have a different and insufficient effect in different countries.

This situation is probably due to different factors, of which the following, in our opinion, are particularly significant¹⁴:

1. The fiscal policy applied by European countries from the 70's to 1993 generated significant mistrust in the discretionary management of budgetary policies by governments. As Graph 5 shows, public deficit in the period experienced a growing trend and was difficult to diminish once it had increased. In other words, fiscal policies have performed asymmetrically throughout the cycle (expansionary in

¹¹ A classic paper on the subject was written by Bayoumi and Eichengreen (1993). Later debates have focused, however, on the possibility of greater economic integration favouring the productive specialisation of European economies (increasing the likelihood of an asymmetric shock even further) or, on the contrary, generating a trend towards a greater approximation of productive structures.

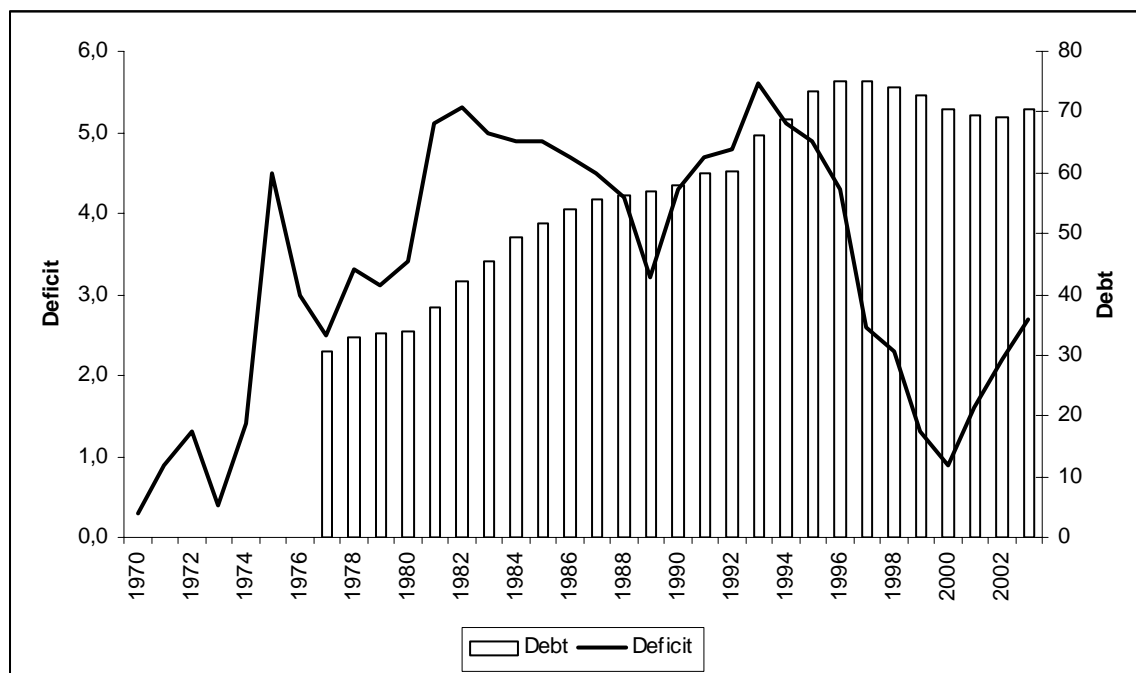
¹² Mongelli (2002) provides a panoramic view of this empirical literature.

¹³ Compliance with the SGP in the first five years of the EMU was very low. As it was said in Section 2, the European Commission (2004) itself forecasts that 5 EMU countries will this year have an excessive deficit and only 3 countries will have a structural deficit close to equilibrium.

¹⁴ There are also other reasons for fiscal regulations, related more to the long-term sustainability of public finance or other structural goals.

low growth phases and loose in periods of growth), with public deficit, and therefore debt, increasing at the end of each cycle.

GRAPH 5: EVOLUTION OF FISCAL VARIABLES



Source: European Commission (2004).

On the other hand, this evolution of the deficit is basically due to an increase in public spending, which has exceeded the increase in tax pressure. One of the factors considered decisive in this trend is the political nature of budgetary decision-making processes, with a significant theory developed in recent years in favour of the establishment of fiscal rules restricting the discretionary capacity of policy-makers.

2. From a more theoretical perspective, this analysis has been reinforced with doubts concerning the desired efficacy of fiscal policies with regards to income and employment, with more liberal economists supporting a systematic reduction of the weight of the public sector.

This assertion is primarily based in the Ricardian Equivalence hypothesis, according to which budgetary deficits financed with public debt do not affect either aggregate demand or interest rates, because this increase in public debt would be neutralised by growth in private savings¹⁵. Also, these theoretical arguments include recent examples concerning the “non-Keynesian effects of budgetary adjustments”¹⁶.

¹⁵ Ricardian Equivalence occurs because the updated value of these future savings precisely compensates the deficit, so that replacing debt by taxation has no effect on the wealth of the private sector. Blinder (2004) summarizes the most frequent criticisms to this theoretical position. Calmfors (2003) states that “the Ricardian Equivalence results require very restrictive theoretical assumptions which are not likely to apply in reality”.

¹⁶ There is much literature on this aspect of budgetary adjustments. A summary can be found in European Commission (2003).

The application of strict fiscal adjustment policies in some OECD countries appears to have had an expansionary effect, in spite of traditional Keynesian theory. These effects would fundamentally be due to more confidence in the sustainability of public finance, leading to a reduction in the risk associated to interest rates and expected tax reductions, or positive effects on the supply side, if the adjustment is part of a structural reform of the public sector.

However, the empirical evidence does not seem sufficient to reject theoretically the use of the fiscal policy to stabilize the economy. In fact, some recent studies provide strong evidence that fiscal policy stimulus can have positive effects on the economy¹⁷. As argued by Calmfors (2003), "it appears difficult to claim that fiscal policy does not work as a stabilisation tool in a technical sense".

3. Most mainstream economists consider that the discretionary management of fiscal policy for stabilisation purposes faces important problems limiting its efficacy vis-à-vis that of automatic stabilisers. In this sense, Blinder (2004) states that, "the major objections to using public expenditures as a counter cyclical weapon seem to be more practical than theoretical".

Specifically, an institution like the ECB, particularly in favour of limiting the discretionary capacity of the fiscal authorities, identifies five major advantages of automatic stabilisers over discretionary policies¹⁸: they are *timely*, compared with the delay suffered by discretionary policies, since, as part of the tax and public expenditure structure, they require no specific decision-making process; they are more *predictable*, enabling agents to better form expectations; they have a *symmetrical* effect throughout the cycle, since they automatically change direction with new cycle phases; the degree of variation in spending and income is always *in proportion* to economic fluctuations; and, finally, they reduce the need to frequently change *tax rates*.

Along the same lines, Buti and Van den Noord (2004) say that "while the potential usefulness of fiscal stabilisation is being reconsidered, the heritage of the debate in the 1980's casts a strong scepticism over the use of discretionary fiscal action to fine tune the economy. (...) Using discretionary fiscal policy should be the exception rather than the rules".

¹⁷ Burnside, Eichenbaum and Fisher (1999) and Fatás and Mihov (2000) show that in the United States, fiscal shocks generate changes in output, consumption, investment and employment. Likewise, Fatás and Mihov (2002) find, based on time series and cross section data for 51 countries, that there is a statistically significant relationship between the magnitude of the output fluctuations and the use of discretionary fiscal policy, in the sense that countries with larger governments suffer a less volatile economic cycle. On the other hand, Perotti (2002) studies the effects of fiscal policies on GDP growth, prices and interest rates in five OECD countries (United States, Germany, United Kingdom, Canada and Australia) using autoregressive vectors, and this analysis shows, firstly, that fiscal policy tends to have positive, although small, effects on the GDP, and that public expenditure multipliers (positive and most of them less than one) are usually greater in absolute terms than tax multipliers (negative). Hemming, Kell y Mahfouz. (2002) offer a survey of this empirical literature and report an average estimate tax multiplier of around 0,5.

¹⁸ ECB (2004).

However, we find that the approach based *exclusively* in the performance of the automatic stabilisers is insufficient. First, because their contribution to economic stabilisation is always partial, i.e., automatic stabilisers do not fully offset GDP fluctuations. Secondly, because the size of the automatic stabilisers is not the result of a political decision to achieve stabilisation, but it is rather the result of other decisions related to a different set of goals (for example, the extension of the provisions of the unemployment insurance systems). To be sure, the practical problems inherent to fiscal policy should be addressed by adopting the appropriate institutional mechanisms rather than by understating the relevance of the only instrument to stabilize the economy that still stays under the responsibility of the national EMU governments.

4. Finally, when defining the economic policy framework in the EMU, budgetary policies should combine their function as national stabilisers, which is what we are considering in this paper, with helping to ensure the union's global objectives, particularly price stability. This second aspect of budgetary policy is primarily related to the spillover effects and the need to coordinate national fiscal policies in the EMU¹⁹, and to the importance of preventing budgetary policies from having a negative impact on the application of ECB monetary policy. In our opinion, this has been a priority over national stabilisation objectives when defining the framework of action of fiscal policies in the EMU. And in view of the lack of appropriate mechanisms to coordinate the monetary and twelve budgetary authorities, a rule has been established to restrict the latter's autonomy and ensure budgetary discipline.

Whatever the reasons for the design of current economic policy in the EMU, it is a fact that monetary policy is responsible for short-term stability – with price stability as its priority objective-, whereas fiscal policy is responsible for more medium term structural objectives, with special attention paid to the long-term sustainability of public finances. Regardless of the exceptions to this rule, the philosophy underlying the Stability and Growth Pact is that discretionary policies should *only* be applied to adjust budgets to sustainable situations in the mean term, whereas the anti-cyclical function of fiscal policy *only* corresponds to automatic stabilisers.

In our opinion, this approach is inappropriate. The cyclical stabilisation of the EMU national economies requires a more active fiscal policy. The basic arguments that support our point of view are related, first, to the limited effectiveness of the own automatic stabilisers, which also display heterogeneous results in the different European countries. Secondly, although there is a certain degree of consensus about the superior performance of monetary policy in terms of short-term economic stabilisation vis-à-vis that of fiscal policy, this should not imply that that fiscal authorities should give up the adoption of certain policies when interest rate changes are insufficient. This is especially relevant in the EMU context where the cyclical differences between domestic economies pose an additional difficulty. In the next two sections we will review these arguments in more depth.

¹⁹ See Brunila (2002) for a more detailed analysis of these arguments.

4. ARE AUTOMATIC STABILISERS SUFFICIENT TO REDUCE CYCLICAL FLUCTUATIONS WITHOUT THE NEED FOR DISCRETIONARY POLICIES?

If, as we have just seen, the creation of the EMU reinforces the stabilisation function of national fiscal policy, and the Stability and Growth Pact has given exclusive importance to automatic stabilisers instead of discretionary policies, we have to consider whether these automatic stabilisers are really sufficient to achieve this goal in all the countries.

In general, the global effect of automatic stabilisers firstly depends on what is known as the cyclical sensitivity of the budget, the degree in which the different components of public expenditure and income change as a result of economic fluctuations, and secondly on the size of the public expenditure and income multipliers measuring the impact of these changes on economic activity.

Both cyclical sensitivity and the multipliers vary according to each economy's circumstances. Specifically, the sensitivity of expenditure and income to changing cyclical conditions basically depends on the structure of the Social Welfare system (size of the public sector²⁰, how progressive the tax system is, how sensitive unemployment is to output fluctuations or the existing level of unemployment benefits) and the type of shock produced (supply or demand, primarily). The multipliers not only depend on the consumption and investment function parameters, but also on how open the economy is and the flexibility of prices and salaries.

Numerous empirical studies have attempted to analyse the impact of automatic stabilisers on economic activity. Table 3 shows a selection of this evidence on how effectively automatic stabilisers reduce GDP fluctuations in European Union countries, using several multi-country macroeconomic models. The results on the table are taken from the European Commission's QUEST model²¹, the OECD's INTERLINK model²² and the NIGEM model designed by the National Institute of Economic and Social Research (NIESR)²³.

As we can see, our first conclusion is that the three models provide different estimations. In the INTERLINK model, which is where stabilisers appear to be most

²⁰ Fatas and Mihov (2001) analyse this influence in 20 OECD countries. On average, a 1% size of government increase in the GDP reduces output volatility, measured as a standard deviation, by 0.07%.

²¹ European Commission (2001). The QUEST model is a modern version of the Keynesian-neoclassical synthesis model. Behavioural equations are based on the intertemporal optimisation of domestic and business economies, but price adjustment is slow and nominal salaries respond with some delay, due to the existence of overlapping contracts. In the short term, fiscal policy operates directly via aggregate demand, and there is a crowding out effect due to changes in the interest and exchange rates. When fiscal expansion occurs, interest rates tend to rise, foreign capital is attracted and currency appreciates. Likewise, this model places more weight on inflation achievements and less on output. See a detailed analysis of the model in Brunila, Buti and J. in't Velt (2002), and of the results of the estimation of automatic stabilisers in European Commission (2001).

²² Van den Nord (2000 and 2002).

²³ Barrell and Pina (2002).

effective, on average for euro zone countries, automatic stabilisers absorb from 25 to 30% of the initial variation in the GDP arising after a shock. Finland and the Netherlands have greater automatic stabilisers, whereas countries like France, Spain, Greece and Austria have less stabilising capacity. On the other extreme, the NIESR study shows that automatic stabilisers only smooth out 11% of all economic fluctuations.

TABLE 3: EFFECTIVENESS OF AUTOMATIC STABILISERS IN EU-15 COUNTRIES

| | EUROPEAN COMMISSION QUEST MODEL | | | | OECD INTERLINK MODEL | NIESR NIGEM MODEL |
|----------------------|------------------------------------|---------------------|-----------------|-----------------------|----------------------------|-------------------------|
| | CONSUMPTION SHOCK | INVESTMENT SHOCK | EXPORT SHOCK | PRODUCTIVITY SHOCK | | |
| Belgium | 24 | 11 | 12 | 12 | 22 | 5 |
| Denmark | 31 | 18 | 25 | 14 | - | - |
| Germany | 17 | 9 | 10 | 13 | 21 | 18 |
| Greece | 22 | 13 | 17 | 10 | 14 | - |
| Spain | 17 | 11 | 11 | 17 | 17 | 13 |
| France | 23 | 13 | 14 | 13 | 14 | 7 |
| Ireland | 26 | 6 | 9 | 9 | 10 | 7 |
| Italy | 21 | 11 | 12 | 17 | 23 | 5 |
| Holland | 20 | 9 | 10 | 11 | 36 | 6 |
| Austria | 23 | 11 | 14 | 13 | 7 | 12 |
| Portugal | 30 | 16 | 19 | 14 | - | 10 |
| Finland | 20 | 11 | 15 | 13 | 58 | 7 |
| Sweden | 31 | 13 | 15 | 17 | 26 | - |
| U.K. | 18 | 9 | 8 | 11 | 30 | - |
| Non-weighted average | 23 | 12 | 14 | 13 | 24 | 9 |
| Weighted average | 20 | 11 | 12 | 13 | 25 | 11 |

Notes:

1. The effectiveness of automatic stabilisers is measured as the percentage of output fluctuations reduced.
2. In the QUEST model, the results show the percentage of GDP fluctuations which are reduced. In the INTERLINK model, the results show the percentage of the RMS (root-mean-square) of the output gap deviations which have been reduced from 1991-2000. In the NIGEM model, the results show the percentage of the RMS of the GDP growth rate which is reduced based on stochastic simulations in the 1999-2005 period.
3. The weighted average is calculated according to the GDP in 2001.

Source: European Commission (2001).

These differences between models may be partly due to the type of shock which has been simulated. In the INTERLINK model, for instance, the simulation is performed when there is a change in private consumption, when cyclical sensitivity is greater, whereas the NIGEL model does not distinguish between different types of shock.

In this respect, in the European Commission's QUEST model, the simulations are repeated for three types of demand shocks – private consumption, private investment and export demand – and one supply shock affecting labour productivity. In all cases, the simulations generate a 1% change in GDP for the first year.

As Table 3 shows, within the demand shocks, automatic stabilisers are most effective in general for neutralising consumption shocks than for investment or export shocks. This is basically due to the type of tax system: the budget is more sensitive to changes in consumption, because VAT and indirect taxation are directly affected by the shock, and countries in which revenue from VAT and consumption taxes represents a high percentage of total tax revenue have more efficient stabilisers. In this case, automatic stabilisers neutralise nearly 30% of cyclical fluctuations in France, Finland and Greece, whereas the stabilising impact is less than 20% in Belgium and Ireland. In contrast, no tax category is directly affected by export shocks, so stabilisers are less effective. In general, stabilisers are more effective in these cases than in relation to a supply shock.

Precisely, Barrell and Pina (2002) reveal that their estimations with the NIGEM model are normally lower than with other studies, since the latter place more importance on demand shocks for which stabilisers are more effective²⁴. And Barrell and Hurst (2003) have reviewed prior estimations of automatic stabilisers in the NIGEM model, distinguishing types of shock, but they again obtain smaller estimations²⁵ than the Commission (Table 4). They do coincide, however, in that stabilisers are more effective in relation to consumption shocks than investment and export shocks.

²⁴ Other differences that can also affect the results are how agent expectations are handled or how the response of monetary policy to a shock is modelled.

²⁵ Partly due to the different treatment given to changes in indirect taxation.

TABLE 4: EFFECTIVENESS OF AUTOMATIC STABILISERS IN THE NIGEM MODEL

| | CONSUMPTION SHOCK | INVESTMENT SHOCK | EXPORT SHOCK | WEIGHTED AVERAGE ¹ |
|------------------------|-------------------|------------------|--------------|-------------------------------|
| Belgium | 18 | 3 | 3 | 5 |
| Germany | 13 | 7 | 7 | 10 |
| Greece | 12 | 7 | 6 | 8 |
| Spain | 12 | 6 | 6 | 9 |
| France | 18 | 3 | 3 | 11 |
| Ireland | 16 | 4 | 4 | 5 |
| Italy | 9 | 5 | 5 | 6 |
| Holland | 21 | 2 | 2 | 5 |
| Austria | 16 | 8 | 8 | 10 |
| Portugal | 18 | 7 | 6 | 8 |
| Finland | 14 | 4 | 4 | 7 |
| U.K. | 11 | 4 | 4 | 7 |
| Average (not weighted) | 15 | 5 | 5 | 8 |

¹ The weighted average is determined according to the percentages of consumption, investment and exports in each country's GDP.

Source: Barrell and Hurst (2003).

In this paper, Barrell and Hurst also weighted the effectiveness of stabilisers in relation to different shocks in the relative participation of consumption, investment and exports in each country's output. This enabled them to estimate the total effectiveness of the stabilisers (last column of Table 4). This data shows that, on average, automatic stabilisers neutralise around 8% of all fluctuations in production in relation to these three types of shock in the euro area, although with important differences between countries. Belgium, Italy, Ireland, Holland, Finland and the United Kingdom are below average, whereas France, Germany, Austria and Spain are above the mean.

To end this section, it is of particular interest, with a view to distinguishing between the efficacy of automatic stabilisers and discretionary policies, to mention that Van der Noord (2002) makes the comparison using the INTERLINK model, obtaining that automatic stabilisers played a greater anti-cyclical role in the nineties than discretionary measures, although only slightly. The study specifically suggests that automatic stabilisers in the EU reduced cyclical fluctuations by around one third, although there are very significant variations between countries due to the differences mentioned above (Table 5).

TABLE 5: IMPACT OF FISCAL POLICY ON THE CYCLIC VOLATILITY OF OUTPUT (1991-99)

| | CURRENT CYCLIC VOLATILITY OF THE OUTPUT GAP | INCREASE (+) OR REDUCTION (-) IN CYCLIC VOLATILITY ATTRIBUTABLE TO: | | PROMEMORIA: INCREASE (+) OR REDUCTION (-) IN THE DEBT TO GDP RATIO DUE TO DISCRETIONARY POLICY |
|---------------|---|---|----------------------|--|
| | | AUTOMATIC STABILISERS | DISCRETIONARY POLICY | |
| Belgium | 1.8 | -0.5 | 0.7 | -10.4 |
| Germany | 1.4 | -0.8 | -0.3 | -10.1 |
| Greece | 1.8 | -0.3 | 0.1 | -43.2 |
| Spain | 1.9 | -0.4 | -1.1 | -16.3 |
| France | 1.8 | -0.3 | 0.1 | 16.3 |
| Ireland | 3.6 | -0.4 | -0.7 | -9.3 |
| Italy | 2.3 | -0.7 | 1.7 | -67.8 |
| Holland | 1.1 | -0.4 | -1.5 | -23.3 |
| Austria | 1.3 | -0.1 | -1.4 | -17.1 |
| Finland | 5.7 | -7.8 | -2.9 | 17.4 |
| U. K. | 1.6 | -0.7 | -0.4 | 22.5 |
| Sweden | 2.9 | -1.0 | -1.1 | 26.1 |
| EU-15 | 2.3 | -1.1 | -0.8 | |
| United States | 1.6 | -0.3 | -2.4 | -13.8 |
| Japan | 2.6 | -0.4 | -2.3 | 74.4 |

Source: Van den Noord (2002).

Of all the countries analysed, the clearest case of the importance of automatic stabilisers is Finland, where output volatility would have been twice as great without their impact. Ireland, Sweden and Italy also present the greatest damping effects of automatic stabilisers, although there is less difference between their impact and the effect of discretionary fiscal policy.

On the other hand, in Italy, France and Belgium, discretionary fiscal policy increased cyclical volatility, whereas in most countries the opposite was true, and it had a greater impact than automatic stabilisers (Spain, Ireland, Holland, Austria and Sweden).

We can conclude that automatic stabilisers are important anti-cyclical policy tools in EMU countries, so it seems convenient for budgetary conditions to enable them to operate. However, it is evident that their efficacy varies substantially according to the type of shock and other specific country characteristics, so it can not be ruled out that discretionary fiscal policies may be necessary to effectively tackle a shock, especially if it is country-specific and no support can be expected from monetary policy. We should also remember that the effectiveness of automatic stabilisers in stabilising output may be reduced by the structural reforms being considered in Europe which, in some countries, may be significant in the next few years, tending to reduce the progressiveness of taxation and social benefits in general²⁶.

5. MONETARY POLICY AND CYCLIC DIFFERENCES BETWEEN EMU MEMBER COUNTRIES

Continuing with our approach in this paper to the role of fiscal policy in the EMU, this section analyses how the monetary policy applied by the European Central Bank has been adjusted to the cyclical situation of the different countries in the monetary union since 1999, and whether common monetary policy should therefore be complemented with a more active national fiscal policy.

Our analysis will be based on the “activist monetary policy rule” concept used in recent empirical literature in relation to the activities of central banks to describe the systematic behaviour of monetary authorities. Specifically, a rule of this kind establishes a simple equation to measure how the monetary policy instrument used by the authorities to achieve their objectives responds to changes in certain variables determining the state of the economy.

This literature makes widespread use of the Taylor rule²⁷, since it appears to appropriately represent the effective use of the interest rate by major central banks to stabilise the economy. According to this rule, the central bank establishes a reference, or equilibrium, interest rate (for which the economy achieves its potential production) and positions the intervention rate higher (lower) when inflation is greater

²⁶ These effects are analysed, for example, in Buti and Van den Noord (2003).

²⁷ Taylor (1993)

(lower) than the target or the output gap is positive (negative). Formally, this rule can be represented as follows for the ECB:

$$i_t^{UEM} = \bar{r} + \dot{P}^{OBJ} + a(\dot{P}_t^{UEM} - \dot{P}^{OBJ}) + bOG_t^{UEM}$$

where \bar{r} is the real equilibrium interest rate, \dot{P}^{UEM} and OG^{UEM} are the mean inflation rate and output gap values in the EMU, and \dot{P}^{OBJ} is the target inflation rate, established by the ECB as 2%. Parameters a and b indicate the importance of the monetary authorities' reaction to deviations in inflation and the output gap from the reference values. From Taylor (1993) estimations²⁸, it is common to value parameter a at 1.5 and parameter b at 0.5, so the equation can now be rewritten as:

$$i_t^{UEM} = \bar{r} + 2\% + 1,5(\dot{P}_t^{UEM} - 2\%) + 0,5 OG_t^{UEM}$$

According to the European Central Bank (2000), a monetary policy based on rules has important advantages over greater discretionarity by central banks²⁹, but it also says that this type of simple rules involve some important weaknesses. Fundamentally, these limitations have to do with the loss of information derived from reducing the equation to so few variables, the difficulty of systematising all the contingencies that monetary policy may face and the relative uncertainty of some of the variables which have to be used in decision-making processes³⁰. Therefore, to avoid these problems while retaining the advantages of systematic behaviour, the ECB has preferred to represent its monetary policy by a "strategy" based on two pillars, with performance more "governed" by rules rather than strictly "linked" to such rules.

In spite of this, there is much empirical literature, as we said, according to which the actual performance of the leading central banks follows this type of simple rule. Therefore, it continues to be useful to analyse the monetary policy actually applied by the ECB using this tool³¹. Furthermore, since the purpose of our analysis is largely to study how the ECB has adapted the evolution of the intervention rate to *short-term*

²⁸ Ledo and Sebastián (2002) contains an updated re-estimation of these coefficients for the Federal Reserve and the European Central Bank.

²⁹ These advantages include the clear expression of monetary policy's commitment to price stability, avoiding a possible inflationist bias, more effective guidance for public expectations and reinforcement of the credibility and transparency of central bank activities.

³⁰ In the Taylor rule, this is particularly important in the case of the equilibrium interest rate and the output gap, which are not directly observable.

³¹ In fact, the ECB (2004) describes the theoretical performance of a central bank in a similar way to the Taylor rule: "A central bank pursuing a stability-oriented policy would then set its interest rate instrument so as to move real short-term interest rates to that level below or above their natural level that is necessary to counter the effects of these shocks to price developments". Also see an estimation of the ECB's reaction function in Gerdesmeier and Bofia (2003).

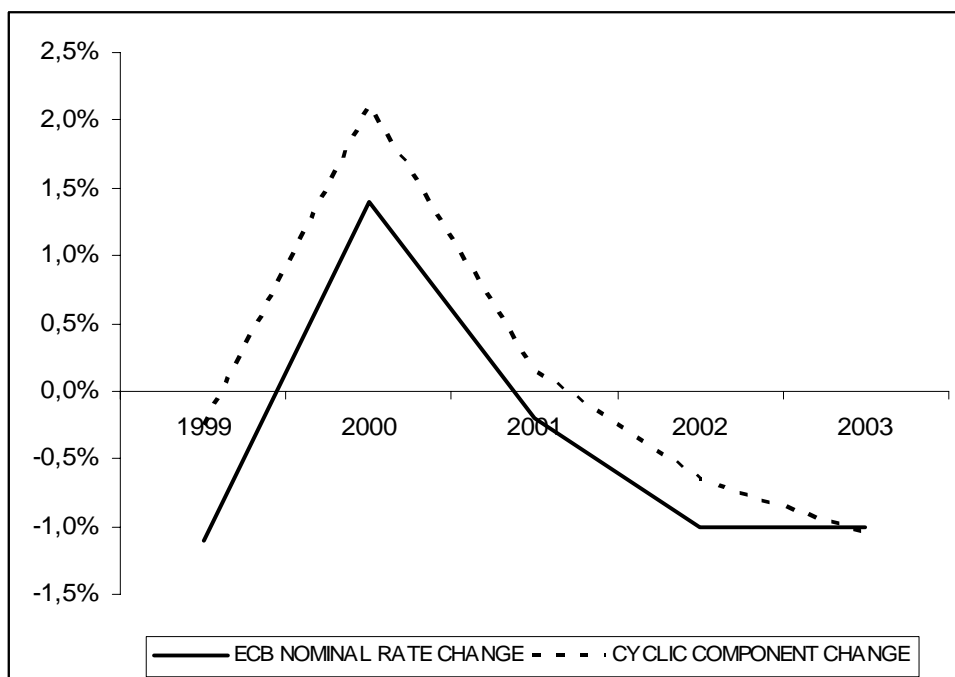
changes in the cyclical situation of the EMU, we can avoid the problems of estimating the *long-term equilibrium* rate and concentrate on the “*cyclical component*” of the monetary policy rule. Following Doménech, Ledo and Taguas (2000), this is the name we give to the weighted sum of the deviation of inflation from the target, plus the output gap, using the coefficients proposed by Taylor himself:

$$CYCLIC\ COMPONENT = 1.5(\dot{P}_t^{UEM} - 2\%) + 0.5OG_t^{UEM}$$

Ultimately, this component measures how much the ECB intervention rate must deviate from its long-term equilibrium value as a consequence, in turn, of the distance between output and inflation from their long-term rates (the potential GDP and a 2% inflation rate). If the evolution of the interest rate effectively adapts to the changes in this short-term “cyclical component”, it can be considered that the ECB does apply a stabilising monetary policy.

As Graph 6 shows, the evolution of the ECB nominal interest rate since 1999 has adapted quite well to the evolution of the cyclical component even though the interest rate changes had been less acute than those predicted by the Taylor rule. Significantly, the deceleration of the European economy starting in 2001 gave rise to an important reduction in ECB intervention rates, even with inflation slightly above 2%.

GRAPH 6: INTEREST RATES CHANGES AND THE TAYLOR RULE



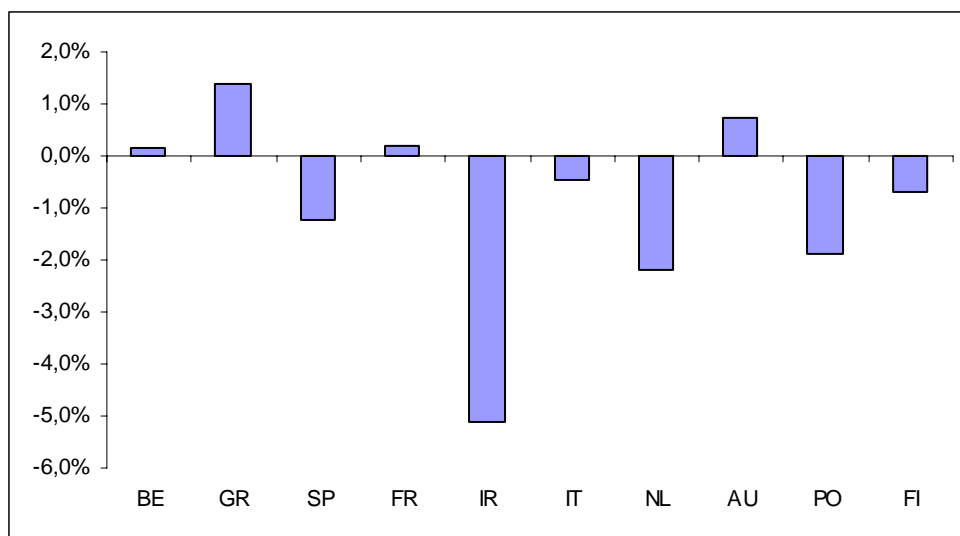
Source: European Commission and the authors.

Of course, this data refers to the mean inflation and output gap in the EMU, and the problem we are considering is precisely that the development of these variables may have differed in each country in the euro zone, leading to a bad adjustment between the optimal interest rate for the EMU and the optimal rate for each of these countries. Using the terminology proposed by Galí (1998) we refer to this bad adjustment as the *Monetary Tension Index* (MTI), which is defined for country i as follows:

$$MTI^i = 1.5(\dot{P}^{UEM} - \dot{P}^i) + 0.5(OG^{UEM} - OG^i)$$

In other words, this index measures the difference between the optimal interest rate for the EMU and a specific country, resulting from the different performance of the cyclical component, assuming the same monetary policy rule and the same long-term equilibrium interest rate for the entire euro zone. A positive value of the index means that the interest rate applied by the ECB as the result of the mean cyclical situation in the EMU is too restrictive for the current cyclical conditions in country i , and the opposite would be true if the index is negative.

GRAPH 7: MONETARY TENSION INDEX (MEAN 1999-2003)



Source: European Commission and the authors.

Graph 7 shows the mean monetary tension index for each country in the 1999-2003 period, and we can see that, indeed, its value was significant in some countries such as Germany, because of the negative evolution of its output gap; Spain and Portugal, because of their positive inflation differential from the mean; or Ireland and Holland, because of higher inflation and output gap values. This reveals a bad adjustment between the entire union's monetary policy and the policy that would have been appropriate for these countries according to their own

circumstances, and it therefore leads us to add the use of active fiscal policy for anti-cyclical purposes.

By the same token, IMF (2004) presents an analysis of the adjustment of the ECB monetary policy to the different cyclical situations of the EMU members. This report reaches similar conclusions to those exposed herein. More specifically, firstly it points out that real interest rates have generally moved in the opposite direction to that one which would correspond to each country's inflation rate:

"The effect on real interest rates has tended to be procyclical, with raising inflation in booming economies, especially Ireland, the Netherlands and Portugal, leading to lower real interest rates, stimulating domestic demand even further. Similarly, in countries experiencing protracted downturns, such as Germany, falling inflation tended to result in relatively high real rates".

The aforementioned study uses also different specifications of the Taylor rule to estimate for each individual country what it labels as "monetary gaps"-what we call "Monetary Tension Index". To sum up, the results of this report also support the hypothesis that states that given the lack of cyclical synchronisation among the European economies, the common monetary policy should be accompanied by more proactive domestic fiscal policies. "Given the persistent cyclical disparities and relatively weak adjustment mechanisms, there would appear to be a prima facie case for active fiscal policies to counteract local disturbances, and argument that seems even more persuasive given the potentially greater effectiveness of fiscal policy in a currency area. Indeed, the typical offsetting effects of fiscal stimulus through higher interest rates and exchange rate appreciation are much weaker because both variables are determined by area wide developments".

6. CONCLUSIONS

The establishment of the EMU required the definition of a new framework for economic policy, which has been focused on the centralisation of monetary policy and maintaining other economic policies under the national authorities. This, however, gives rise to some important problems. One of them, for example, is the need to establish coordination mechanisms between the different authorities, given that the economic and monetary integration process has strengthened the interdependence between the different economies. Another, which has been considered in this paper, is guaranteeing sufficient national capacity to stabilise economies suffering from specific shocks.

In this context, fiscal policy appears to require sufficient room to manoeuvre in order to tackle situations in which monetary policy is not the appropriate response, fundamentally because the cyclical situation of a country is different from the mean in the euro zone, which is the one that determines the adoption of certain measures by the ECB. In section 5, we have seen that situations of this kind have already arisen since the EMU was created, as reflected in the calculation of Monetary Tension Indexes for each individual country.

Certainly, the Stability and Growth Pact does not rule out this anti-cyclical action by national fiscal policies, but it is exclusively reserved for automatic

stabilisers. The empirical evidence summarised in this paper, however, appears to show that the power of this mechanism, although significant, is not the same in the different EMU countries, and depends on the type of shock in question. There is also an added difficulty in that governments have a limited ability to take action in the short term to reinforce the efficacy of these stabilisers, and in any case the structural reforms now being carried out may even reduce this efficacy.

The main conclusion, therefore, of our analysis is that it is advisable to allow domestic governments to implement more active anticyclical fiscal policies that complement the impact of automatic stabilisers. . In fact, European governments have applied expansionary policies to tackle the deceleration starting in 2001, in spite of the Stability and Growth Pact. Moreover, almost 40% of the increase observed in the public deficit during the past few years is a result of changes in the cyclically adjusted primary balance.

We have also pointed out that the vast majority of empirical evidence does not support the rejection to the limitations of the fiscal policy on theoretical grounds. To be sure, the estimated multipliers widely show that fiscal policy is, in fact, an efficient instrument to exert influence in the income level in the short-term. Accordingly, the rejection of the aforementioned use of fiscal policy can only be explained by resorting to practical arguments such as the mistrust in the political management of the budget, time lags, or the fear that the lack of coordination among domestic fiscal policies could jeopardize the price stability goal at the EMU level. Nevertheless, even with these known difficulties associated to the application of discretionary anti-cyclical fiscal policies, in the EMU context it would appear to be too risky to rule out such policies a priori as one of the possible tools available to stabilising policy. Moreover, the economic policy recommendation that results from considering such arguments altogether is to design institutional mechanisms that guarantee the proper application of each domestic stabilising policy without resorting to its suppression. This proposal would imply, in the first place, the need to define a systematic fiscal policy "rule" (in Taylor's sense of the term) that would favour a suitable evolution of the cyclically adjusted balance in line with the cyclical situation of economic activity. The proposal also requires a credible budgetary policy execution. This is unquestionably a necessary starting point from which to formulate proposals to reform the Stability and Growth Pact.

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