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The Crisis, Automatic Stabilisation, and the Stability Pact

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The Crisis, Automatic Stabilisation, and the Stability Pact[*]

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ABSTRACT

This paper develops a comprehensive description of recent trends on the effectiveness of automatic stabilisers in the European Union, using both macro evidence on the cyclical sensitivity of budget deficits to economic activity and micro evidence on the tax and expenditure profiles. We conclude that there is increasing evidence of the declining importance of the automatic stabilisation. This points to a fundamental contradiction in the European Stability and Growth Pact, that relies almost exclusively on automatic stabilisation for the conduct of fiscal policy, We also argue, on the basis of past experience, that further increasing market flexibility does not seem a viable path to reduce aggregate fluctuations. The paper concludes by highlighting the complex relation between discretionary policies and automatic stabilisation.

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Resumen

En este trabajo se presenta una descripción completa de las tendencias recientes sobre la eficacia de los estabilizadores automáticos en la Unión Europea, utilizando tanto datos macro acerca de la sensibilidad cíclica de los déficits presupuestarios sobre la actividad económica, como evidencia microeconómica sobre la estructura de impuestos y gastos. Llegamos a la conclusión de que existe creciente evidencia sobre la pérdida de importancia de la estabilización automática. Esto apunta a una contradicción fundamental en el Pacto para la Estabilidad y Crecimiento Europeo, que se basa casi exclusivamente en la estabilización automática para la determinación de la política fiscal. También señalamos, en base a la evidencia empírica, que incrementar la flexibilidad del mercado no parece un camino viable para reducir las fluctuaciones a nivel agregado. El artículo concluye resaltando la compleja relación entre las políticas discrecionales y la estabilización automática.

Palabras clave: Estabilizadores automáticos, progresividad impositiva, seguro de desempleo, políticas fiscales discrecionales, Instituciones Fiscales Europeas, Pacto de Crecimiento y Estabilidad.

Clasificación JEL: E6, H2, H3, H6.

I. Introduction

The paper deals with one inconsistency between the design of European governance since the inception of the Euro and its implementation. The institutional guidelines which led to the economic governance of Europe have long been grounded on the doctrine that dominated academic thinking and the circles of policy makers in the early 1990s (the New Classical Macroeconomics School, NCM hereafter)[1], faithful of the substantial capacity of markets to reach first best outcomes.

In particular, in what concerns fiscal policy, the Stability and Growth Pact (SGP) is designed with the explicit objective to ban discretionary fiscal

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1. Another label that can be considered equivalent is "New Monetarism" (see Arestis et al., 2001).

policy, and to lay the burden of adjustment on the operation of automatic stabilizers. This institutional arrangement is therefore consistent, on the one hand, with a doctrine that is sceptical on the capacity of governments to exert a positive influence on the equilibrium of the economy, and, on the other hand, with a social and political environment like the one of most European countries, that gives extreme importance to the insurance role of the government and of the welfare state.

Yet, since the inception of the Maastricht Treaty, European institutions and academic circles have constantly called for a substantial reduction of the insurance role of the government, emphasizing the non viability of the welfare state, and invoking structural reforms in product and especially in labour markets. The crisis that started in 2007 has only temporarily weakened this trend. As soon as EU economies went past the acute phase of the crisis, the renewed plea for more flexibility, and speculative market pressure led EU governments to adopt a new macroeconomic governing framework: together with a modified Stability and Growth Pact, EU leaders agreed on "a Pact for the Euro plus" and a permanent European Stability Mechanism (ESM). Hence fiscal discipline has been complemented with incentives to perform (further) structural reforms on pension systems and on the labour markets with the objective to boost competitiveness.[2]

Despite this on-going process of reform in the EU, we maintain that weakening the capacity of the system to smooth fluctuations through automatic stabilization could be harmful precisely because the institutional system is designed to prevent discretionary policy. In this respect, the comparison with the United States is instructive. There, the social contract puts a relatively low weight on the insurance role of the government and on automatic stabilization. As a consequence, coherently with this democratic choice, discretionary macroeconomic policies need to be (and have been, as we will see below) active to smooth income fluctuations.

In other words, two equally legitimate and consistent systems can be designed, either a US-like one in which a marginal role for the welfare state is compensated by active discretionary fiscal and monetary policies; or a European treaty-consistent one in which constraints to discretionary policy go hand in hand with an important role for automatic stabilization.

If on the contrary the role of automatic stabilization were proven to be decreasing in Europe, with ongoing and constant calls for structural reforms,

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2. See the conclusions of the European Council meeting of March 24 and 25, 2011.

Europe would be in neither of these two polar cases, and an inconsistency would emerge. Europe would live in a world where shocks would not be absorbed by automatic stabilizers, and in which fiscal and monetary authorities would either be prevented from intervention or would have to do so breaking the fiscal rules. It would then not be surprising to witness sluggish and volatile growth, except in cases in which economic expansion would be driven by exports –i.e. by an intensive recourse to market competitiveness–.

The current crisis shows that this issue is extremely relevant: fiscal policies have been praised for their capacity to sustain aggregate demand and to dampen the cycle (Arestis and Sawyer, 2010). Nevertheless, past the acute phase of the crisis, the old NCM doctrine has resurfaced. Due to large increases in public deficits and debts, European institutions, like governments, the European Commission and the European Central Bank, have started, as early as during the first semester of 2010, to call for a reversal in fiscal stances in order to gain credibility and have public deficits converge below the 3 per cent of GDP threshold. During the Greek debt crisis, more and more often, a "more stringent" Stability Pact was invoked, and the spring 2010 saw a number of countries announce fiscal retrenchment measures that sometimes were at odds with the forecasted unemployment and growth figures. The underlying message is simple: deficits have grown in bad times, because of automatic stabilisation and of the implementation of fiscal stimulus packages. Provided good times are coming back (or simply anticipating that they will), a symmetric evolution of deficits is required, through fiscal contractions. As a side argument, it is also argued that countries which did not abide by such a symmetric behaviour in the past are badly hit by financial markets: their risk premia are soaring.

The underlying analysis seems reasonable, but under specific assumptions that need to pass a comprehensive empirical test. Among these assumptions, one of the most dramatic is surely the one related to the full play of automatic stabilisers. Were automatic stabilisers strong, then smaller fiscal packages would be required[3] to counter a given shock like the current crisis; more importantly, on one side it would be easier to bring back deficit and debt under control, and on the other the requirement for reducing the scope of governments after the crisis is over would also be smaller.

Of course, the current crisis, and the subsequent increase in the number of liquidity constrained households and firms, has renewed interest in

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3. For well-known political economy mechanisms, discretionary reductions of public deficits may be problematic (the ratchet effect argument).

automatic stabilizers.[4] Two recent examples, Afonso and Furceri (2008) and Crespo Cuaresma et al. (2009), use panel data for EU countries and the usual five definitions of automatic stabilisers: household direct taxes, business direct taxes, social security contributions, indirect taxes and unemployment compensation (see Giorno et al., 1995, van den Noord, 2000). These are studied independently; both studies conclude that the strength of automatic stabilisers has decreased over time.

In order to assess the consistency of the current thinking on EU fiscal policies, it is important to further review the level, evolution over time and effectiveness of automatic stabilisers in the EU. If we were to conclude in favour of a strong or increasing role for automatic stabilisers in the EU would reinforce the arguments about exit strategies and the necessity of a fast reduction of public deficits. If the opposite were true, an inconsistency would emerge, between the severity of the crisis and the call for a quick reversal of discretionary fiscal policies. If automatic stabilization does not (or no longer) suffice to ensure macroeconomic stabilization, there may be the need to keep discretionary policies to the foreground, not only during this severe crisis, but also in "normal" times.

The rest of the paper is organised as follows. Part II provides a short presentation of the past, current and future EU fiscal setting. Part III presents our own estimations of the scope of automatic stabilisers, and then reviews and discusses different approaches to estimating their effectiveness. Part IV turns to the question of macroeconomic stability and presents our own estimations of the cyclical components of real GDP for the euro area for a different set of frequency bands; our analysis does not allow to support the view that the decreased importance of automatic stabilizers may be justified by the increased capacity of market forces to smooth fluctuations. Part V concludes, with a discussion on the pros and cons of going beyond automatic stabilisers *via* discretionary fiscal policies.

II. Fiscal Rules in Europe

The economic institutions of Economic and Monetary Union in their actual design stem from two main sources (today consolidated into the Lisbon Treaty). The first is the founding Treaty signed in Maastricht in

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4. This is evident from the number of recent papers devoted to this topic in the very recent past, that contrasts with the relative neglect of the previous decade A quick search of "automatic stabilis(z)ers" in the abstract of "journal articles" under EconLit leaves us with 72 articles; as a matter of comparison, searching for "inflation target" gives 726 results over the same period.

1991, and the second is the Amsterdam Treaty of 1997, that completed the setup with the SGP.

The Maastricht Treaty defined the convergence criteria that countries had (and still have) to fulfil in order to be admitted to the single currency area. In particular, it required a deficit to GDP ratio of no more than 3%, and a public debt below 60% of GDP, or approaching that level at a satisfactory pace.

The Amsterdam Treaty contains further provisions regarding fiscal policy that have the objective of increasing transparency and control on public finances. The Stability and Convergence Programmes that each year Member States present to the Commission have to contain a medium-term objective for the budgetary position of close to balance or in surplus, together with an account of the adjustment path towards the objective. The Excessive Deficit Procedure states what deviations from the 3% budget deficit ceiling are acceptable and describes the sanctions for the violators. As of May 2011, no country has been fined, although disapproval of budget positions in some countries has been expressed, and the public finance crises in Greece, Ireland and Portugal highlight the powerful effect of the SGP as a peer-pressure instrument.

The prolonged period of low growth experienced by most Euro area countries (especially the largest ones), and the increasing number of countries struggling to maintain their deficits within the limits set by the SGP, have triggered a debate on the flaws of the current fiscal framework, and on possible reforms aimed at a better functioning of fiscal policy in Europe.[5] The reform adopted by the European Council in March 2005 relaxed somewhat the medium term objective of a zero structural deficit for countries with low debt and/or with high potential growth; furthermore, it contemplates a number of circumstances (e.g. a strong engagement in costly structural reforms) allowing temporary deviations from the deficit ceiling, and longer delays for correcting them.

The requirement to attain a position of close to balance or surplus in the medium term is an important innovation of the SGP with respect to the Maastricht Treaty, and it was left substantially unchanged by the reform of 2005. In fact, it implies the strong consequence that public debt as a ratio to GDP should tend asymptotically to zero, a position hard to justify *per se* (de Grauwe, 2003). The standard pro-SGP argument maintains that the limit of total deficit to 3 percent, coupled with the requirement of structural balance,

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5. For detailed accounts of the debate on reforming the Pact, see e.g. Arestis et al. (2001), Buti et al. (2003), Farina and Tamborini (2007), and Fitoussi and Le Cacheux (2007).

could avoid fiscal indiscipline (thus protecting central bank independence, and ensuring fiscal sustainability), while letting enough room for automatic stabilisation to take care of country specific shocks (see e.g. Brunila et al., 2002). Nevertheless, some empirical studies (see e.g. Barrell and Pina, 2004) pointed to the fact that the initial levels of debt-to-GDP ratios and cyclically-adjusted deficits in some Euro area Member States might have been too high on the wake of adopting the euro to permit the automatic stabilisers to operate freely within the constraints of the SGP.

Despite this criticism, the proposals for reform by the Van Rompuy Group or by the European Commission that have been discussed since the Greek bail-out package was announced in May 2010 do not consider the possibility of a change in the fiscal rule but, rather, a change in control over, and implementation of, national law of finances. The creation of a European Semester, and the requirement, stated in the "Pact for the Euro plus", that European fiscal rules (either on debt, primary surplus or expenditures) should be translated in national laws have certainly been aimed at a better coordination of European fiscal policies but also at the reinforcement of *current* fiscal rules.

After the reform of 2005 and even after the public finance crises of 2010 and 2011, the debate on the SGP has thus continually focused on the full operation of automatic stabilisers which would allow the implementation of a counter-cyclical short run fiscal policy. However, assessments of fiscal policies in the EU have either pointed to their a-cyclicality (Gali and Perotti, 2003) or their pro-cyclicality (Farina and Ricciuti, 2006, Candelon et al., 2010). This raises doubts about the effectiveness of automatic stabilisers all over Europe.

Before turning to our own evaluation of this latter point, it is worth recognising that the EU fiscal framework is based upon an unfriendly view of fiscal policy that largely stems from the New Classical Macroeconomics.

Four main sets of arguments have been advanced to justify this aversion: first, discretionary fiscal policy is subject to a number of delays (from decision to implementation) that make it impossible to use in reaction to shocks. By the time the effects of policy are felt, the shock it was supposed to address may have vanished. Second, fiscal policy produces crowding out effects on private expenditure (in particular investment) up to the point at which the overall increase in income becomes negligible. This may happen because the deficit is financed with borrowing, thus increasing interest rates (directly and because of the inflationary pressure of deficit) and the cost of

investment; or because public spending is aimed at moving the economy away from some sort of optimal or "natural" position, so that rational consumers react in order to bring the system back to its natural level. A weaker version of this argument focuses on the intertemporal budget constraint of rational consumers who anticipate future tax increases to repay for current deficits, and hence react by increasing their current savings and reducing their expenditure (the Ricardian equivalence, see Barro, 1974). Third, drawing on the latest argument in the vein of Barro, it has been argued that fiscal contractions could prove expansionary. Reversing the argument, fiscal expansions would reduce GDP: non-Keynesian effects would arise. Fourth, based on the national accounting identity it is possible to show that an increase in budget deficit may create an equivalent deficit of the current account, hence *twin deficits*, so that total domestic income may not increase, and the expansionary effect may benefit other countries through increased imports.

Many theoretical counter arguments and empirical weaknesses can be found in the above literature, which make it difficult to conclude in a precise way in favour or against the use of discretionary fiscal policy as a tool for stabilisation (see, e.g. Arestis and Sawyer, 2003, 2010; Blinder, 2006). Nevertheless, European fiscal rules have not changed since 2005. As a consequence, automatic stabilisation, to be opposed to policy discretion, remains the cornerstone of fiscal policy design in Europe.

III. The Effectiveness of Automatic Stabilisers in the EU

The effectiveness of automatic stabilisers depends on the sensitivity of government revenues and spending to economic fluctuations and on the sensitivity of economic activity to cyclical changes in government revenues and spending. Among the factors affecting budgetary sensitivity, the literature highlights the size of the public sector, the progressivity of the tax and benefit system, the sensitivity of tax bases to economic fluctuations, the institutional time profile of the tax system,[6] the level of unemployment benefits and the sensitivity of unemployment to fluctuations in economic activity.[7] Other factors, such as the nature and size of shocks, have an influence

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6. By this we mean that automatic stabilisers are more effective if e.g. main tax revenues come from taxes which are very sensitive to economic fluctuations and whose lags are short. For example, corporate taxes are generally very sensitive to the economic cycle but delays in collection reduce the overall effectiveness of this tax as a prominent automatic stabiliser.

7. Darby and Melitz (2008) extend the analysis to a wider set of public spending categories: they show that age- and health-related social expenditures and incapacity benefits have a role to play as automatic stabilizers, as they also help to cushion the business cycle.

on the effectiveness of automatic stabilisers. Finally, the overall flexibility of the economy may also dampen the shocks; that may in turn overstate the effectiveness of automatic stabilisers.

In the following, we first present some macroeconomic estimations of the changing strength of EU automatic stabilisers; then, we review the evolution of the above-mentioned factors over time, distinguishing the macro evidence from the micro evidence on the effectiveness of automatic stabilisers in the EU since the adoption of the euro.

III.1. Automatic stabilisers: Macro evidence

We begin by a simple econometric exercise aimed at assessing the changing strength of automatic stabilisers over time. Starting from total net lending (NL) and the cyclically-adjusted public balance (CAPB), we define *cyclical public balance* (CPB) as the cyclical component of NL: $CPB = NL - CAPB$. All the data come from the OECD Economic Outlook. We then compute the semi-elasticity of CPB and CAPB to changes in the output gap (OG). The first captures the strength of automatic stabilisation, and the second the discretionary stance. By construction, cyclically-adjusted public balance data should not depend on the output gap as the overall public balance has been corrected for the incidence of cyclical evolutions. Nevertheless, CAPB data are not corrected for discretionary measures taken by governments to cope with cyclical evolutions. Thus, the relation between CAPB and OG may capture the will of the government to complement automatic stabilisers with fiscal stimuli (if the output gap is negative).[8]

We performed OLS estimations on Euro area and US data. Results appear in Table 1. They show, first, that the strength of automatic stabilisers in the USA has not changed over the years: the semi-elasticity of the CPB to OG is constant over the three reported time periods. This is not at all the case in the Euro area: after an increase in the 1990s, the strength of automatic stabilisers has steeply decreased during the following decade. The semi-elasticity has been halved between the 1990s and the 2000s, and is close to the US. Second, no discretionary stance is visible in the Euro area in the 1980s and the 1990s (the R^2 is nil) when automatic stabilisers were relatively strong. In the 2000s however, the semi-elasticity of the CAPB to OG changes is significant, although it is half that of the US.

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8. We neglect here the possibility that the CAPB and the OG suffer from measurement errors.

Table 1
Strength of automatic stabilisers and discretionary
fiscal policy in the Euro area and the US economy

$CPB = \alpha.\ OG + \beta$					
Euro area			**USA**		
1980-89	**1990-99**	**2000-09**	**1980-89**	**1990-99**	**2000-09**
0.40	0.54	0.26	0.30	0.32	0.30
-0.12	-0.60	-0.64	-0.04	0.02	0.03
0.98	0.66	0.48	0.96	0.96	0.97

Row labels: α, β, R^2

$CAPB = \gamma.\ OG + \varepsilon$					
Euro area			**USA**		
1980-89	**1990-99**	**2000-09**	**1980-89**	**1990-99**	**2000-09**
-0.00	-0.12	0.60	-0.15	1.15	1.19
-4.77	-3.54	-1.40	-4.05	-2.19	-3.64
0.00	0.01	0.90	0.11	0.55	0.75

Row labels: γ, ε, R^2

Sources: OECD, authors' computations.

Although at a rough level, these estimates confirm two things: automatic stabilisers have been less strong in the Euro area taken as a whole over the years, and relatively weak automatic stabilisers can be complemented with a strong discretionary stance as exemplified in the US.

Our rough evidence is consistent with other studies on the subject. Table 2 reports the main conclusions of different well-known macroeconometric models regarding the effectiveness of automatic stabilisation. These models estimate the percentage of fluctuations in output which are smoothed by automatic stabilisers.[9] The most striking result is the heterogeneity among countries in terms of the sensitivity of economic activity to the cyclical changes in government revenue and spending. The standard error of business

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9. Although some models have been recently updated (for example, the QUEST model of the Commission), updates of the estimates of the smoothing national properties of automatic stabilisers are not available.

cycle smoothing through automatic stabilization across countries goes from 2 to 8%, for an average of 19% across models and countries. Moreover, the extent of smoothing for a country is quite different from one model to the other and the standard errors across models are large, ranging from 6% for Germany to 12% for the Netherlands. In spite of these discrepancies, which stem from the different model properties (the early inclusion of Ricardian consumers in NiGEM explains why the smoothing contribution is so small), overall, Table 2 shows that the effectiveness of automatic stabilisers in the EU is low: at best, they smoothed a maximum of 36% of economic fluctuations and at worst only 5% of them. This outcome is definitely consistent with Afonso and Furceri (2008) recent estimates with panel data for the EU: between 1980 and 2005 the smoothing of economic fluctuations by social contributions and social benefits is close to 5%, and to 7% respectively. Moreover, the authors do not find a substantial change in economic smoothing once they limit the sample to more recent years.

Table 2
Effectiveness of automatic stabilisers
across EU countries (in %)

	BUNDESBANK MODEL (1)	QUEST MODEL (2)	NIGEM MODEL (3)	INTERLINK MODEL (4)
FRANCE	19	23	7	14
ITALY	14	21	5	23
NETHERLANDS	14	20	6	36
UK	24	18	n.a.	30
GERMANY	23	17	18	31
UNWEIGHTED AVERAGE	18.8	19.8	9.0	26.8
STD ERROR	4.8	2.4	6.1	8.5

Note: percentage of fluctuations in output which are smoothed by automatic stabilisers.

Sources: (1) Scharnagl and Tödter (2004); (2) European Commission (2001); Barrel and Pina (2004); van den Noord (2000).

Drawing on estimations by Blix (2008), it can be argued that the average cyclical sensitivity of public expenditures to a 1 percent change in the output gap in EU countries is low (-0.2%) and varies much across the sample of countries (standard error equal to 0.2). It comes that the homogeneity of fiscal rules at the level of countries in the EU is contradictory with the heterogeneity of empirical rules since the 1980s.

To summarize, we find evidence that the sensitivity of automatic stabilisers to changes in economic activity has decreased in the Euro area, and that the sensitivity of economic activity to cyclical changes in government revenues and spending has been rather low. The macro effectiveness of automatic stabilisers is therefore dubious.

III.2. Recent changes in revenue and expenditure trends

It was recalled earlier that the full working of automatic stabilisers rests predominantly on the size of the public sector, on the structure of the tax and benefit systems and on the level of unemployment benefits and their sensitivity to economic fluctuations. The evolution of these factors is described in the next subsections.

The size of the public sector

Since the seminal paper of Gali (1994), there have been many attempts to link the size of governments, using either the levels of expenditures or tax receipts, to output volatility/stability. Gali opted for a cross-country study involving only tax receipts, whereas van den Noord (2000) used public spending. Both showed that higher government size corresponds to lower output volatility. Using a sample of 20 OECD countries, Fatas and Mihov (2001) also showed that government size and the volatility of the business cycle were negatively correlated. Government size was measured by the ratio of public expenditures or tax revenues to GDP, and they concluded that larger governments had more effective automatic stabilisers. Lee and Sung (2007) confirmed earlier results by Fatas and Mihov (2001), using IV empirical techniques and making a distinction amongst public spending.

Our own calculations go in the same direction. Figure 1 displays the level and evolution of government size in 8 EU countries. Three groups of countries emerge with one outlier. The Netherlands, Sweden and Germany have reduced the size of their governments, in terms of revenues and expenditures, whereas France and Italy have rather increased it. Greece and Spain, over a shorter sample, constitute a third group in which spending has increased

whereas tax receipts have been reduced. The UK is the outlier: until 2006, this country joined the first group, but the financial turmoil has been so dramatic that public spending (over GDP) has recently sharply increased. This evolution stands in sharp contrast with what had happened since the 1980s. For the countries of the first and, to a lesser extent, the third group, and following Fatas and Mihov (2001), it can be concluded that automatic stabilisers are now less effective than in the past. An opposite conclusion holds for France and Italy.

Figure 1
General government size in the EU (in % of GDP)
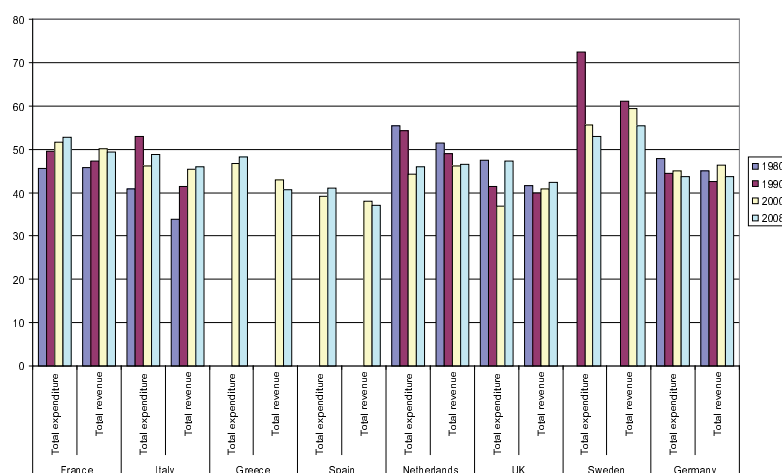
Source: Eurostat.

On average, EU-8 total expenditures and total revenues have decreased since the 1990s. Measured by the standard error of cross-country public spending, discrepancy across EU countries was at its lowest in 2008 (4.1%), in comparison with 11% and 6% in 1990 and 2000 respectively: there has been strikingly more homogeneity in government spending in the EU than in the past, at a time when the size of governments was on average on a downward trend. The same conclusion holds for total revenues.

These conclusions are consistent with Debrun et al. (2008), who found out that above a threshold level of public spending, the effectiveness of automatic stabilisers was sharply reduced. They also pointed to a decrease in effectiveness since the 1990s.

The progressivity of the tax and benefit system

Since the end of the 1990s, there has been a sharp modification in the tax and benefit systems of the EU-15 countries: In many of them the redistributive role of the system has been attenuated (see, e.g. Creel and Saraceno, 2009), while at the same time top marginal tax rates were reduced.

Table 3
Number of tax brackets
and marginal income tax rates[*]

		1981	1991	2001	2008
Belgium	Number of Brackets	23	7	7	5
	Maximum Rate	72%	55%	55%	50%
France	Number of Brackets	12	12	6	4
	Maximum Rate	60%	56.80%	52.75%	40%
Germany	Number of Brackets	2	2	2	2
	Maximum Rate	56%	53%	48.50%	45%
Italy	Number of Brackets	32	7	5	5
	Maximum Rate	72%	50%	45%	43%
Spain	Number of Brackets	30	16	6	4
	Maximum Rate	65.09%	56%	39.60%	27.13%
Ireland	Number of Brackets	5	3	2	2
	Maximum Rate	60%	52%	42%	41%
UK	Number of Brackets	6	2	3	2
	Maximum Rate	60%	40%	40%	40%

[*] Central government rates.

Source: OECD Tax Database (www.oecd.org/ctp/taxdatabase). Calculations of the authors.

Table 3 reports central government marginal tax rates of a few European countries, together with the number of tax brackets. While this measure is only partial (the overall degree of progressivity also depends on the structure of the tax base, on thresholds, exemptions, etc), the trend is unequivocal. One

can easily see that in most countries there was a sharp decrease in both the marginal rate and the number of brackets, going thus towards a less progressive tax system. The complexity of the tax system on the other hand may hide other trends of inframarginal rates and thresholds that may redistribute income towards the very poor, thus implying an increase of average propensities to consume and of multipliers, in spite of the overall decrease of progressivity.[10] Nevertheless, recent studies on the long run evolution of income distribution (see IMF 2007, OECD 2008, and Krueger et al., 2010 among the most recent works) suggest that this possibility is not realistic.

Table 4
Main corporation tax rate, in percentage points

	1990	2000	2005	2009
AUSTRIA	30		25	20
BELGIUM	43	40.2	35.5	35.5
DENMARK	50		28	25
FINLAND	33	29	26	26
FRANCE	42 (distributed profit) 37 (retained profit)	37.8	34.9	34.4
GERMANY	36 (distributed profit) 50 (retained profit)	52	39.3	15.8
GREECE	46 (40: industry)		32	25
IRELAND	43 (10: industry)	24	12.5	12.5
ITALY	36	37	33	27.5
LUXEMBOURG	34	37.5	30.4	21.8
NETHERLANDS	35		31.5	25.5
PORTUGAL	34		27.5	25
SPAIN	35	35	35	30
SWEDEN	52		28	26.3
UK	35	30	30	28

Sources: European Tax Handbook 2005 and 2009, year 1990 reproduced from Sterdyniak (2005, p.24), and year 2000 reproduced from Saint-Etienne & Le Cacheux (2005, p.22).

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10. We owe this remark to Richard Hemmings.

Table 4 displays corporate tax rates in EU-15 countries. Except in Spain where the change occurred later, corporate tax rates have decreased since 1990 or 2000. The common wisdom maintains that this significant and widespread reduction enhances productivity, incentives and entrepreneurship. In the short run, lower corporate tax rates may induce higher profitability that may fuel investment and employment. Nevertheless, besides their distributional consequences, they may also induce to distribute more profits which may then be invested elsewhere in the world economy and which may become unavailable for financing domestic social benefit systems. Moreover, if lower corporate taxes do not succeed in fuelling production and growth, the consequent rise in public deficits in Europe may push governments to reduce transfers and other public expenditures; in this sense, lower corporate taxes may have as a side effect the reduction of automatic stabilisation.

Possible tensions on public finances because of lower taxes do not come exclusively from corporate tax rates: taxes on labour incomes have also decreased in the recent past (see OECD, 2006). Only Denmark and, to a lesser extent, Finland, Greece and Sweden, have not witnessed such a decrease. Apart from these countries, tax cuts are general and they may have had a bad outcome on the effectiveness of automatic stabilisers. The latter are also currently hurt by the implementation of the OECD Employment Strategy: Belgium, Denmark, Germany, and the Netherlands all experienced declining replacement rates and/or shortened benefit duration.

The decreasing size of the government may thus impair economic stability, as Fatas and Mihov (2001) argued (see above); but it may also fuel social discontent or unrest. A look at Table 5 shows that except in a few countries (France, Ireland and the UK, even if the latest two experienced reductions in the replacement rates and benefit duration), the employment protection legislation (EPL) index[11] has been reduced since the mid-1980s and, quite often, sharply so like in Belgium, Germany, Italy, Portugal, Spain and Sweden. Lower taxes and lower protection may impair the effectiveness of automatic stabilisers and may contradict their advocates during the current crisis.

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11. The EPL, introduced by Nicoletti et al. (2000), is extensively discussed in OECD (2006). It is built by aggregation of 18 indexes from three main areas: Employment protection of regular workers against individual dismissal; specific requirements for collective dismissals; and regulation of temporary forms of employment. As all aggregative indexes, it is not exempt from criticisms (see e.g. Bertola et al., 2000; Fitoussi, 2003). Nevertheless, it is a useful representation of the trends in employment protection over time.

Table 5
EPL index*. Selected years

	1985	1995	2005	2008
Austria	2.21	2.21	1.93	1.93
Belgium	3.15	3.15	2.18	2.18
Denmark	2.4	1.5	1.5	1.5
Finland	2.33	2.16	2.02	1.96
France	2.79	2.98	3.05	3.05
Germany	3.17	3.09	2.12	2.12
Greece	3.56	3.5	2.73	2.73
Ireland	0.93	0.93	1.11	1.11
Italy	3.57	3.57	1.82	1.89
Netherlands	2.73	2.73	2.12	1.95
Portugal	4.19	3.85	3.46	3.15
Spain	3.82	3.01	2.98	2.98
Sweden	3.49	2.47	2.24	1.87
UK	0.6	0.6	0.75	0.75
US	0.21	0.21	0.21	0.21
EMU11**	-	2.75	2.23	2.2

Source: OECD, Employment Outlook, 2004. Data for 2005 and 2008
from OECD STATS (http://stats.oecd.org/index.aspx).

* Version 1 (unweighted).

** EMU11: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Slovak Republic, Spain.

Unemployment expenditures

Some items of public spending, in particular those linked to the support of the unemployed, help to balance the consequences of shocks. A negative shock on aggregate demand is partly dampened by generous unemployment benefits which sustain consumption of those most dramatically hit by the shock. More active unemployment public expenditures –those labelled under the heading of active labour market policies (ALMP), mostly training– also reduce the costs of unemployment for the unemployed, promoting their employability and improving their probability of finding a new job, thus shortening unemployment duration. Expenditure aimed at fighting unemployment can help to maintain economic stability through a combination of supportive measures for the demand for labour and enhancing the effective supply of labour. Consequently, the sum of passive *and* active unemployment public expenditures reveals the stabilisation properties of unemployment expenditures.

Figure 2
Relationships between the variation in unemployment public expenditures (expressed in percentage points of GDP) and the variation in unemployment rate, both stated in %, EU 15, 1991-1997 and 1998-2005
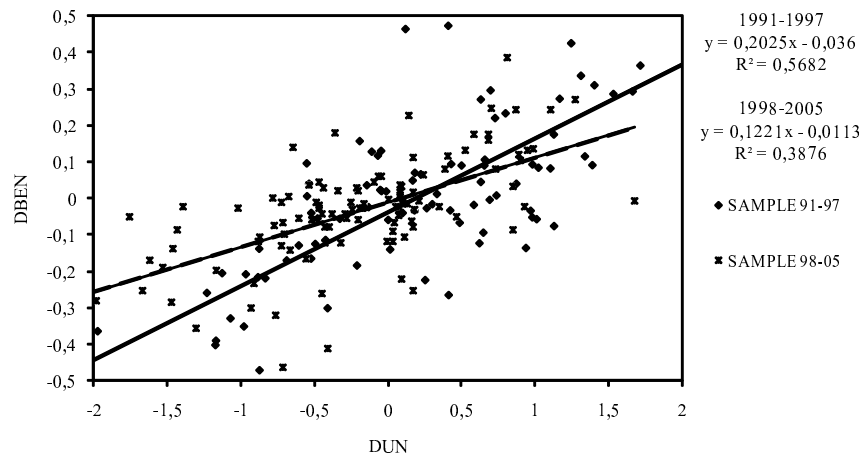
Source: OECD, computations by the authors.

In general, the responsiveness of unemployment expenditures to the unemployment rate has decreased, thus reducing the stabilising properties of the system. Figure 2 displays pairs of yearly variations[12] in unemployment public expenditures (active and passive expenditures) and yearly variations in unemployment rates, for the EU-15 countries, distinguishing two sub periods of equal length: before and after the Amsterdam Treaty, hence: 1991-1997 and 1998-2005.[13]

We expect these points to be evenly distributed on an upward line whose slope will reveal the average elasticity of unemployment expenditures to the unemployment rate. There is actually a very interesting pattern in Europe: since 1998, the elasticity of unemployment public expenditures to the unemployment rate has been significantly lower than before (0.1 rather than 0.2 on average). Stated differently, the relationship between variations in unemployment expenditures and unemployment rates was stronger in the preceding period despite the Maastricht public finance criteria.

It is also noteworthy that the level of unemployment expenditures for the same rate of unemployment has decreased since 1998, in comparison with the preceding period. This latter property of the European social system appears clearly in the cases of Italy, France, Spain, Austria and, to a lesser extent, Germany (see, Creel and Saraceno, 2009, for more details).

To sum up, the stylised facts on the reduction of tax rates, the reduction in the progressivity of the tax and benefit systems, and the reduction in the Employment Protection Legislation, all seem to point unequivocally towards a decrease of the effectiveness of automatic stabilisation in European countries.

Therefore, public deficits may be less and less cyclical, or less and less able to dampen fluctuations. In the literature, (e.g., Girouard and André, 2005) it is customary to report elasticities of taxes, transfer payments and other expenditures with respect to GDP growth, elasticities which have generally remained constant over time. Looking at unemployment expenditures only, it is however possible to suggest that for most of EU countries their relationship with GDP growth rate has changed substantially since the end of the 1990s.

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12. With a short sample it has not been possible to perform a panel test with fixed effects, so that we have chosen a specification in first differences to remove country effects.

13. The Amsterdam Treaty in 1997 made clear that the transition period towards the adoption of the Euro would not be followed by a benign-neglect attitude towards public deficits: the convergence criterion of a public deficit below 3-percentage points of GDP was soon to become a rule of conduct within the newly constituted Euro area.

IV. How to Substitute for Automatic Stabilisation?

The decreased strength and effectiveness of automatic stabilisers in Europe, highlighted in the preceding section, cannot be inevitably attributed to bad EU governance. It may simply be due to the fact that automatic stabilisers have recently been less necessary than they used to in the past. It may well be argued that, in a competitive world where markets (for labour, goods and services or finance) are highly flexible, prices adjust rapidly to bring output fluctuations under control.

Although the above-mentioned argument is common among economists who promote more flexibility and "structural reforms" in Europe (see e.g. Sapir et al., 2003), it needs to be supported by identifiable empirical facts. In the vein of McConnell and Perez-Quiros (2000), who documented the decline of US output volatility, we study output volatility in Euro area countries taken as a whole. We remove the mean of GDP growth from yearly GDP growth rates; we then fit a constant and a linear trend to the ensuring gap; and we perform a CUSUM and CUSUM of squares test on the cumulative sum of the recursive residuals.[14] The CUSUM of squares test reports possible instability in the variance of the parameters.

For the Euro area, parameter instability in the variance occurs only around the German reunification years or during the latest crisis (Figure 3). It remains that parameter instability is statistically significant only using the CUSUM test in the former case and the CUSUM of squares in the latter. Although not statistically significant, parameter instability increased between 1985 and 1991, and has been declining over the recent years. The same conclusion holds for the US where results confirm those of McConnell and Perez-Quiros (2000).

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14. A well-known drawback with a CUSUM test based upon recursive residuals is that a shift late in a sample is likely to go relatively unnoticed. A CUSUM test using OLS residuals gives better results for late-sample data, but none of the tests can be considered significantly superior to the other (Ploberger and Krämer, 1992).
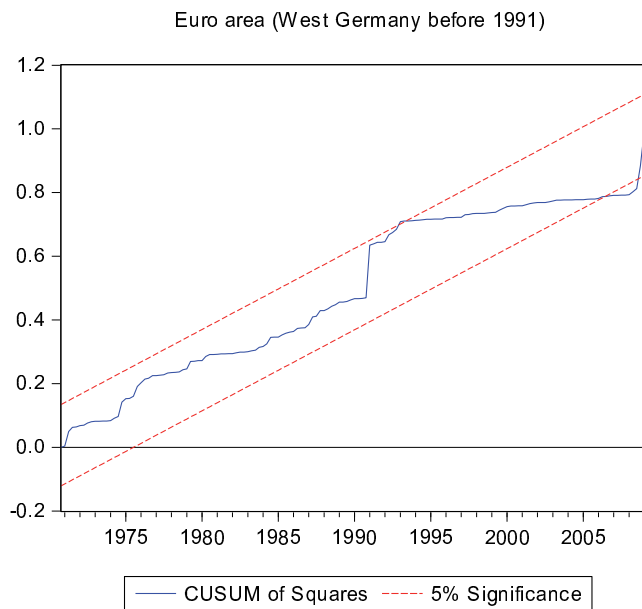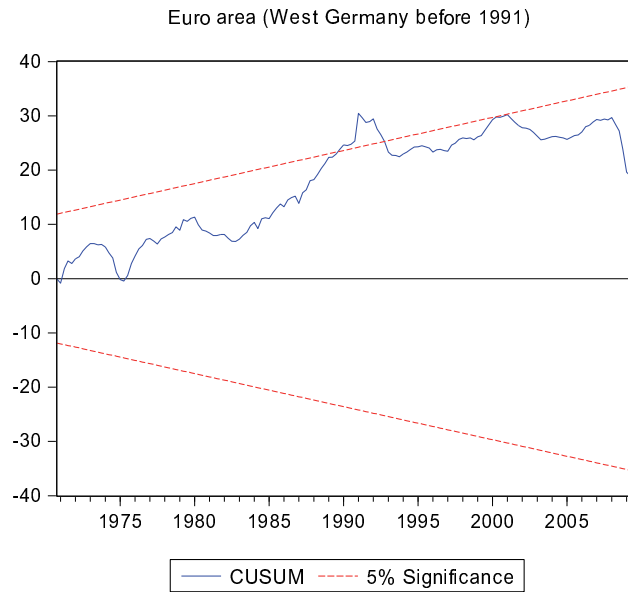
Figure 3
Real GDP growth rates, 1970:1-2006:2

Euro area (West Germany before 1991)
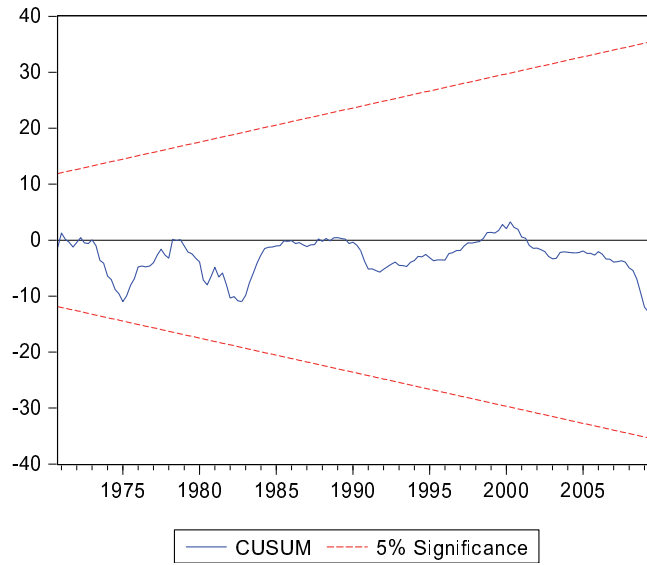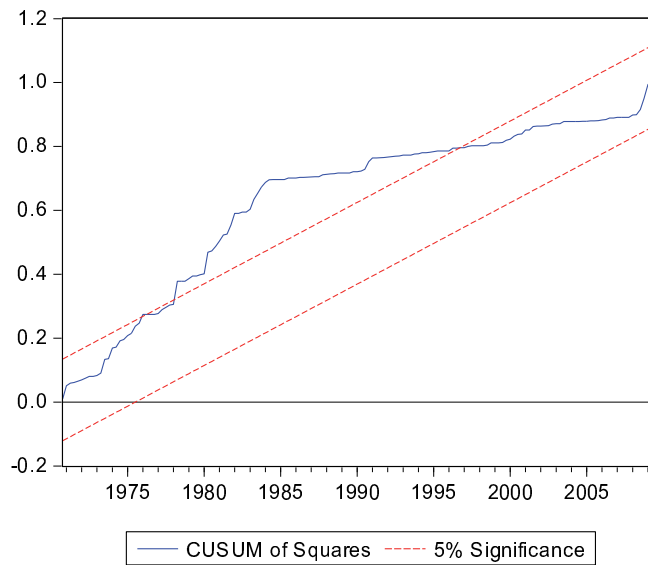

Euro area (West Germany before 1991)

Figure 3
Real GDP growth rates, 1970:1-2006:2 (continued)

USA

USA

Hence, at least since the early 1990s, like the US, Europe seems to have experienced a decline in output volatility. Nevertheless, contrary to what happened in the US, the decreased variability in Europe happened against a background of soft growth through the 1990s, with the largest European countries, notably Germany and Italy, which experienced growth rates close to zero (in 2002-3) and significantly below the EU average. In a context of low growth, it shall not be surprising that the variability of growth decreased.

To eliminate the effect of changing growth trends, we detrended the series and analyzed the behaviour of cyclical components. There are many frequency filters in the macroeconomic literature for trend and cyclical extraction. The three most widely used are Hodrick-Prescott, Baxter-King and Christiano-Fitzgerald. Though they retain their own specificities, they have a common shortcoming: they are not performing well with short samples. For this reason, we used the filter proposed by Iacobucci and Noullez (2005) that over short samples has a better performance with respect to these more widely used filters.[15]

Figure 4 shows the cyclical components of real GDP for the euro area for a number of frequency bands, from medium (6-3 years) to very short (1 year-6 months) cycles. A visual inspection shows that, in particular for the 6-3 year band, we observe an increase in variability in the early 1970s, and in the early 1990s, two periods of macroeconomic turbulence. Nevertheless, the picture shows no clear reduction in variability in recent periods, no matter what frequency we examine. To obtain a less impressionist assessment, we computed, for each of the frequency bands, the standard errors of two subperiods of equal length (1970Q3 to 1988Q2, and 1988Q3 to 2006Q2). The results, reported in Figure 5, show that for all the frequencies (except the very long cycles 18-6 years) the variability in the second period is slightly larger than in the first. Using a cut-off between the periods linked to institutional changes (for example the Single European Act of 1986, or the Maastricht Treaty of 1992), does not alter significantly our findings, which are also robust to detrending the series with the standard HP filter.

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15. Using either an artificial series or Euro zone quarterly GDP data between 1970:1 and 2001:4, Iacobucci and Noullez (2005) show that their frequency selective window-filter fares better than the three above-mentioned filters especially towards the extremes of the series.

Figure 4
Cyclical components for the Euro area real GDP;
selected frequencies
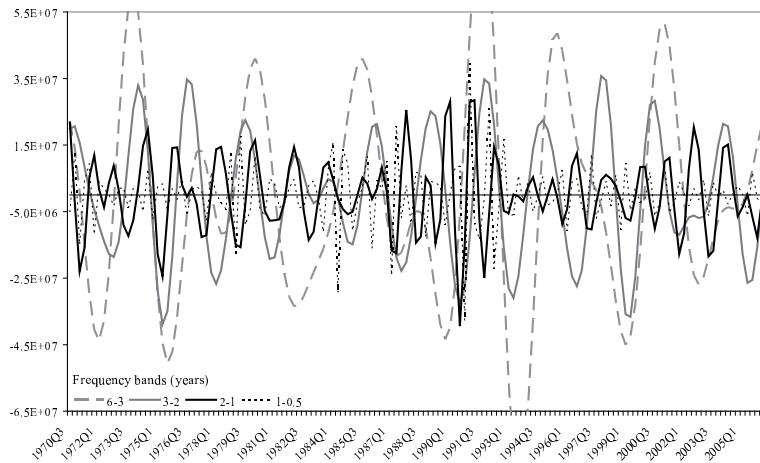
Source: OECD. Series obtained using the Iacobucci and Noullez (2005) filter.

Figure 5
Standard error of the filtered series at different frequencies.
Two subsamples of equal length
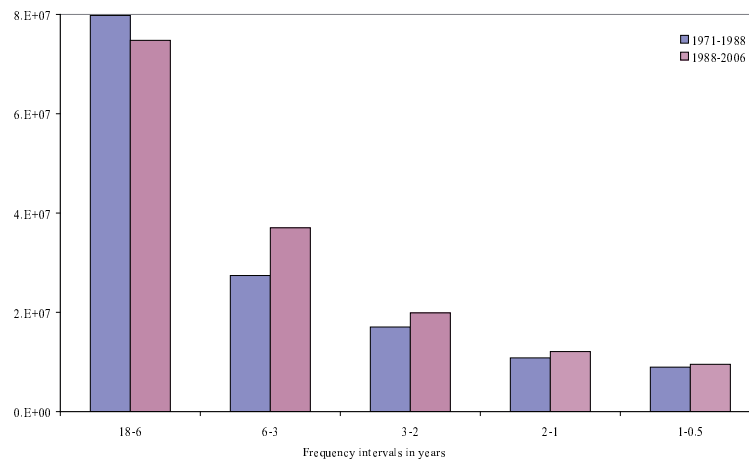
Source: OECD; series obtained using the Iacobucci and Noullez (2005) filter
Calculations of the authors.

As a conclusion, it cannot be argued that the decrease in output variability has made automatic stabilization less necessary than in the past. The argument that the decreased strength and effectiveness of automatic stabilizers is compensated by income stability can thus be dismissed.

Finally, we may notice that, contrary to the US, the Euro area countries are confronted with a very specific policy architecture which leaves monetary and fiscal policy uncoordinated and whose federal budget is both small (1 percentage point of EU-27 GNP) and not allowed to contribute to stabilising the economies. This fetters domestic fiscal policies.

Thus, we can conclude that the likely occurrence of asymmetric shocks in the EU and the institutional framework question the belief that increasing flexibility will be sufficient to assure income stabilisation (especially when average growth will go back to more standard levels). This is somewhat confirmed if we analyze Figure 3 together with Table 5, that documents a significant increase in labour market flexibility. This flexibility did not yield a significantly improved capacity of the economy to react to shocks.

V. Concluding Remarks

In this paper we highlighted a contradiction between the spirit of the Stability and Growth Pact, and the actual behaviour of fiscal policies in Europe. On the one hand the Pact is designed with the objective to rule out any discretion in the conduct of fiscal policy, thus leaving to automatic stabilisation the task of countercyclical policy; on the other hand, though, a number of stylized facts that we reported points to a significant decrease of the role of automatic stabilisation. Progressivity of the tax system and the size of the public sector have been reduced in most European countries, and the sensitivity of unemployment benefits to the unemployment rate has decreased since the late 1990s. Meanwhile, another prominent reason for defending discretionary fiscal policy appeared. A recent strand of literature, started by Blanchard and Perotti (2002), confirms that the empirical evidence is unable to rule out a positive role for discretionary fiscal policy.

Thus, even if we were to adhere to the principles behind the setting chosen by European countries to rule economic policy, and we gave importance only on automatic stabilisation, we would be forced to recognize that the design of fiscal policy in Europe is mostly dysfunctional.

The debate opened at the beginning of this decade on the flaws of the Stability Pact had been closed by the reform of 2005 that took it out of the

political agenda. While it has been reopened by the crisis and the debt difficulties of some countries, there is no discussion today about the respective role of discretionary policy and automatic stabilisation.

We believe on the contrary that this moment of crisis may actually be an opportunity. The current difficulties experienced by an increasing number of Eurozone countries show the risks of imprudent fiscal behaviour. Our paper highlights nevertheless that the impact of fiscal policies passes through a multiplicity of channels and this complexity should be kept in mind both in implementing effective policies and in designing fiscal rules.

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