provided by Research Papers in Economics

A Note on International Fiscal Policy Practices

By

Thierry Warin

September 2005

MIDDLEBURY COLLEGE ECONOMICS DISCUSSION PAPER NO. 05-20



DEPARTMENT OF ECONOMICS MIDDLEBURY COLLEGE MIDDLEBURY, VERMONT 05753

 $http://www.middlebury.edu/{\sim}econ$

A Note on International Fiscal Policy Practices[†]

Thierry Warin *
Department of Economics, Middlebury College
Minda de Gunzburg CES, Harvard University

Abstract. The paper proposes an overview of the literature in fiscal policies as well as a comparative assessment in an international context. A large section addresses the specific question of the European fiscal rule, namely the Stability and Growth Pact (SGP).

JEL Classification: H0, H5, H6

A largely revised version of this paper is forthcoming in *International Encyclopedia of Public Policy*, edited by Phil O'Hara (Routledge: London and New York).

Thierry Warin, visiting scholar, Minda de Gunzburg Center for European Studies, Harvard University. Assistant Professor, Department of Economics, Middlebury College, Vermont (USA).

1. Definitions

For a long-time, the fiscal question was not at all seen as a potential economic policy or a viable economic tool. It was, indeed, more a national accounting topic than a policy one. Monetary policy has far more historical roots, having been studied a lot earlier by Jean Bodin, John Law, the Mercantilists, and the Physiocrats, to cite a few. Ironically, "monetary indiscipline" could be seen as an effective policy due to the difficulty to define it, when "fiscal indiscipline" was always easy to notice and, compellingly, led to nations' bankruptcy. On the monetary side, money could create an illusion or not – the proponents of this theory were not in favor of a 100% reserve system – and was, in this regard, considered to be a veil (See entry on Monetary Policy Practices). Because fiscal policy entails notions such as revenue, spending, deficit or surplus, it seems that a fiscal illusion could not prevail as it did for the monetary policy. In other words, without illusion, no policies.

Nevertheless, the study of fiscal policy stemmed from the debate on the effectiveness or ineffectiveness of a public deficit. Its roots reach to the origin of macroeconomics devised by Keynes in 1936.

Associated with monetary and structural policies, fiscal policy is one of the three levers a government may use to impact its economy.

The three ingredients in this cocktail require wise and precise dosages.

Each of these three definitions can be broken down in subcategories. Fiscal policy consists of two elements: tax revenues and government spending.

Tax revenues are the result of economic activity and the level of tax rates. Tax rates are decided by the government, as well as some conditions for abatements in order to create incentives or disincentives to produce certain goods and services. For example, abatements can be allowed if a firm abides by an environmental friendly way of producing. The several abatements make the

concept of tax rates unclear. Mendoza and Tesar (1998) have created a proxy to measure the actual tax rate applied to a specific part of the economy: the implicit tax rate. This shows the breakdown of fiscal policy into several different other levers. In retrospect, we find that not only the amount of money raised will affect the economy, but also how the money is raised.

On the spending side, government spending consists of two factors that will also have major effects on the economy: the size of the spending, as well as how the public budget is spent, or which sectors of the economy are favored by the spending. Indeed the government may favor public investment, education, or social welfare. The transmission channel being different for each of these spending categories, the impact on the economy will be different.

In both situations - tax revenues or government spending - the government should look for the most effective way to raise or spend money. In other words, if an increase in GDP is the primary focus, the government should look to target the best sub-categories in either the revenue side and/or the spending side of the public budget.

One criterion to use is the multiplier. According to Hall and Papell (2005), the multiplier is "the amount by which GDP is higher in an economy with a higher level of government purchases in comparison to an otherwise identical economy with lower government purchases."

A budget deficit exists when the sum of government spending, government transfers to the private sector, and interest on the government debt, is less than the amount raised through taxation. The national debt is the sum of all the budget deficits and surpluses.

A government issues bonds to finance its budget deficit. A costbenefit analysis can be drawn from this point: the issuance of bonds will impact the national interest rate by raising it. On the one hand, the national economy will bear the cost in terms of the reduction of investments. On the other hand, the government purchases and the public investment will positively affect the GDP by raising it in proportion to the multiplier. Hence, broadly speaking, if the multiplier's effect is greater than the slowdown in investment, the budget deficit is an effective fiscal policy. In fact, there is one more dimension to this analysis: time. A rising interest rate due to a higher deficit will have a lagged impact of a couple of months, or maybe years, since it takes some time before the investments materialize into new goods and services. However, the public expenses will almost immediately materialize. This is where it is important to make the distinction between cyclical versus structural deficits as well as... political cycles.

The government budget deficit is likely to be higher *ceteris paribus* during recessions. Indeed, by definition, expenditures rise and receipts fall. Moreover, the automatic stabilizers (unemployment benefits, etc.) exacerbate the different changes of the deficit during a recession. When the economy is in a slump, the budget deficit is large. When the economy is expanding, the budget is in surplus.

Brown (1956) developed the concept of full-employment deficit to adjust for cyclical effects. He showed that the deficits observed in the early 1930s in the U.S. were actually large surpluses in the full-employment deficit. The full-employment deficit is the deficit that would occur if the economy were at full employment. In other words, the full-employment deficit takes out the cyclical effects on the budget deficit. In more recent years, the concept of the full-employment deficit has usually been discussed by distinguishing between the structural and cyclical parts of the deficit. The structural deficit is the same thing as the full-employment deficit, and the cyclical deficit is the difference between the actual deficit and the structural deficit.

The result of new public expenses will depend on the initial conditions: if the economy was in recession due to a lack of demand, the suppliers will benefit from this fiscal policy since some of them will now not go bankrupt because of the change in demand. If the economy was not in a slump, however, one can expect the supply to fit well with the demand. In such a case, the new public expenses may create inflationary pressures, at least in the short-run, if supply is inelastic.

This is where the policy-mix between monetary policy and fiscal policy is a relevant notion to analyze. When the government purchases more goods, the increase in government demand increases GDP through the multiplier. But, the increase in GDP increases the demand for money: more money is needed for transaction purposes. If the central bank or the authority in charge of the monetary policy does not change the money supply, the interest rate must be increased to offset the increase in money demand resulting from the increase in GDP. This increase in the interest rate reduces investment demand and net exports, offsetting some of the stimulus to GDP caused by government spending. The offsetting negative effect is called crowding out. However, as aforementioned, time is a key concept in the actual assessment of the different effects of these policies.

Moreover, the policy-mix concept is broader than just an economic approach; it embodies a political dimension too. In western economies the monetary policy is usually managed by an independent central bank whose primary target is the stability of inflation [see entry on Monetary Policy Practices]. The fiscal policy, however, is managed by the government. Indeed, neither policies exist in a vacuum. The monetary policy will have impacts on the government's fiscal decisions. The main instrument of central banks is the refinancing interest rate. The determination of this interest rate will increase or decrease the burden of the deficit, and may change the government's mind-set on running or not running a budget deficit. Conversely, the decision to run a budget deficit will put pressure on interest rates, and will remove some degrees of freedom for the monetary authorities.

This shows how important it is to regard the government and the central bank in terms of leader and follower. Furthermore, the credibility of the different policy announcements made by both actors is also a key element.

2. Fiscal Policy in Theory

The early ages: Keynesianism versus monetarism also in fiscal policy

During the 1930s, using a quantity theory framework, the Chicago economists argued in favor of the use of the fiscal policy to absorb the changes in the business cycle. They favored the use of the fiscal policy to the use of the monetary policy for stabilization purposes. Later they abandoned the notion of a counter cyclical fiscal policy as a principal recommendation. Monetary policy became more important than fiscal policy. According to Warburton (1945), fiscal policy combined monetary policy and government expenditures, however, only the former was relevant. Government expenditure was perceived as merely a substitute for individual expenditure and had no additional effect on the level of activity.

With almost the same timbre as the early Chicago view, and prior to the elaboration of his *General Theory*, Keynes (1936) advoc ated in favor of public expenditure as a means to economic improvement. Keynes (1936) defended this analysis based on the multiplier. The idea was to show that, under less than full-employment conditions, an increase in expenditures could increase income rather than prices. This analysis was based upon two core ideas that he developed consecutively. First, money wages were rigid, and second, unemployment could be traced to disequilibrium between investment and savings. Keynes thought that the rigidity of money wages was part of the institutional transformation that the European economies had undergone following the First World War. This assumption came to the forefront of Keynes thinking after the return of Britain to the gold standard in April 1925.

With the publication of the *General Theory*, it became apparent that Keynes not only considered the concept of fiscal policy as a corrective device, but also a way to preserve economic stability. The *General Theory* divided economic categories of final demand into two types of expenditures: those related to income (consumption) and those independent of income (investment). Keynes demonstrated that investment must equal planned full employment savings. As a result, public intervention was desired to

promote investment. Increasing the scale of investment had clear precedence over expanding the level of consumption.

Keynes' analysis of budget and fiscal policies followed the logic of the *General Theory* by creating categories; he separated the public budget into two items: a current budget (government consumption) and a capital budget (government investment).

The division between a capital and an ordinary budget allowed Keynes to discern two types of fiscal policy: deficit budgeting (deficit finance) and capital budgeting. Deficit budgeting is a means to tone down a disequilibrium, whereas capital budgeting is aimed at maintaining equilibrium. The current budget was used as a way to stabilize the cycle. Rather, the current budget should show a surplus, which would be transferred to the capital budget.

The Modern Debate on Fiscal Policy

We will adapt the chronology done by van der Ploeg (2004): (1) the classical view with the supply-side policies; (2) the Keynesian view with the demand-side policies; (3) the automatic stabilizers versus pro-cyclical government cutbacks approach; and (4) the Neo-Keynesian versus New-Classical synthesis in a debate that comes from monetary policy studies -rules versus discretion.

We begin with the classical perspective within which all markets clear without delay, and unemployment is voluntary and may be viewed as freely chosen leisure. Moreover, unemployment may mean non-market transactions, such as household services. The classical view gives predominance to the labour market, since it determines the aggregate employment and national income (van der Ploeg, 2004). Let's imagine an increase in public spending only financed by the issuance of bonds. Since demand-side policies do not affect employment or national income, the classical multiplier is zero. Why is this so? Willing to sell bonds to the public, the government has to propose a higher interest rate. Hence, foreign bonds offer a lower return than domestic bonds. The national currency appreciates since capital flows into the country. With a higher interest rate, money reallocated from investments towards consumption, and the price level rises. In retrospect, according to the classical view, a bond-financed fiscal policy does not enhance

employment or national income. Rather, it induces a higher interest rate, a rise in price level, and an appreciation of the currency. Money is, thus, neutral.

Now, if the rise in public spending is financed by taxes on labour, the tax wedge (the difference between what a worker costs a company and what a worker can spend) rises. As a consequence, employment and national income fall. In other words, the multiplier for public spending financed by taxation is negative.

The Keynesian view, under which the aggregate demand for goods rather than the cost of abour determines employment, stands in contrast with the classical perspective. Prices and nominal wages are fixed in the short run. Time is also taken into consideration in Keynes's analysis. Again, the deficit can be financed in two ways: bonds or taxes. A fiscal policy financed by the issuance of bonds sets in motion a positive multiplier process. On the contrary, if the increase in public spending is financed by higher taxes, the balanced-budget multiplier is smaller than under the bond-financed budget deficit. Indeed, higher taxes reduce disposable income and slow down private consumption. With a lower aggregate demand, no imports, and negligible crowding out, the balanced-budget multiplier is exactly one: a reduction of private spending is the consequence of a rise in public spending, which dampens the Keynesian multiplier.

Another demand side approach exists within the automatic stabilizers versus pro-cyclical government cutback argument: Automatic stabilizers operate counter-cyclically. In a recession fewer taxes are paid, which dampens the adverse effects on demand. During a boom, more taxes are paid and offset some of the positive impacts on demand. Automatic stabilizers are more significant if the tax system is progressive. Such automatic stabilizers reduce the size of the Keynesian multiplier, thereby making fiscal policies less effective.

Finally, with a re-birth of both classicism and Keynesianism in the "rules versus discretion" debate, we come full circle. Here, fiscal policy meets political economy; Strategic behaviour explains why political parties follow a more moderate fiscal policy. In contrast,

there is an older political economy view which holds that right-wing governments follow tight fiscal policies, and left-wing governments follow loose fiscal policies. In another version of this partisan view of the political process Borooah and van der Ploeg (1983), argue that, in times of political popularity, the government can afford to pursue ideological objectives, while under grim re-election prospects, the government forsakes ideological concerns and concentrates on winning the sympathy of voters. Also, according to Rogoff and Sibert (1988), governments implement ideological policies during the first few years of office and leave popular policies for the last years of office, expecting a positive outcome from the following elections.

Due to recessions during the seventies and early eighties, most national governments implemented fiscal policies targeting higher deficits. Paradoxically, the same governments were unwilling to save once the economies were again expanding. To make a parallel with monetary policy, these kinds of fiscal policies can be qualified as discretionary.

What would be the rule side? Some governments decide their public finances by committing themselves to targeting a budget deficit that is a certain percentage of national income. An early example was the medium-term financial strategy implemented by Mrs. Thatcher for the UK. The succession of government cutbacks was procyclical. Of course, during times of recession tax revenues fall, expenditures on unemployment benefits rise, the government deficit rises, and then the national income falls. With such a rule, the government misses its targets. Moreover, the strategy of cutting spending or raising taxes to face the recession throws the economy into an even bigger recession. According to van der Ploeg (2004)a better fiscal strategy is to set targets for the total tax burden and government debt as a fraction of national income at the end of the government's term in office.

3. Fiscal Policy Practices in General

Fiscal policies in the U.S.

Over a period covering 1970 to 1997, the budget of the U.S. federal government was in deficit. In 1990, the Budget Enforcement Act (BEA) considerably reformed the budgetary procedure and set forth overall expenditure limits. The "target" – to make a parallel with the monetary policy studies – was a balanced federal budget. To ensure correct implementation, the BEA creates a procedure called sequestration for discretionary budget items. The goal of this procedure is to balance the spending levels with the spending limit. If an administration increases the budget deficit above the budget cap, Congress provides expenditure authorization in excess of the discretionary spending limit, but all discretionary spending programs are automatically reduced by a common percentage to balance the budget.

From 1998 to 2001, budget surpluses replaced deficits, but since 2002, deficits and, more precisely, rising deficits have replaced the four years of surpluses. Why is this so? The federal government budget consists of purchases, transfers, and taxes.

First, federal purchases of goods and services do not appear to change much as real activity in the private economy fluctuates: during the post-World War II period, federal spending has fluctuated mostly, because of defence spending, and, except for the early 1980s, federal spending has not increased during recessions. Following the recession of 2001, Ederal purchases in real terms increased by 6.4% in 2002. Most of this spending was for the war on terrorism (Hall and Papell 2005).

Second, government transfers rise in recessions and fall in booms, for the most part through the normal operation of benefit programs.

Third, taxes also rise and fall with economic activity. In each recession since 1959, the federal government tax revenue dropped. This was particularly dramatic in the recessions of 1969-70, 1974-75, 1981-82, and 2001. A less dramatic example of revenue decline occurred during the recession of 1990-91. The drop in tax

revenue in these periods was larger in percentage terms than the drop in real GDP.

Fiscal policies in Great Britain

As aforementioned, although Great-Britain is the land of Keynes, it was keen at following a budgetary rule. Great Britain was the first country to implement a multi-year budgeting method, beginning this practice in 1961. By considering expenditure decisions in a multi-year framework, the target is efficiency. The means are: budgetary discipline, policy rationalization, and expenditure efficiency.

In such a multi-year context, policymakers benefit from a mediumterm view of budgetary policies, allowing them to consider the impacts of expenditure commitments for the next years.

In late spring or early summer, the Chancellor of the Exchequer, his senior advisors, the heads of the Inland Revenue Service, and the Customs and Excise Service set forth the fiscal strategy. The timespan they consider is the next three years. This is a multi-year period rule. The Cabinet Committee on Public Expenditures establishes the Public Expenditure Survey (PES). The PES sets the limits for the aggregate and departmental expenditures for the next years. The PES is fully integrated into the Financial Statement and Budget Report (FSBR) presented to Parliament.

Fiscal policies in Germany

Germany is a federal state. As such, the annual federal budget is preceded by discussions with the states (Länders) and local governments through the Financial Planning Council (Finanzplanungsrat). Headed by the federal Minister of Finance and composed of representatives of all three levels of governments, the Financial Planning Council seeks a consensus on the target levels of expenditure growth, the distribution of public resources, and government borrowing for the forthcoming budget year, plus the three successive years. The recommendations of the Financial Planning Council are not officially compulsory. Hence, the effectiveness of the Council relies largely on two components: on the one hand its expertise; and on the other hand its political credibility. In practice, the federal Minister of Finance favors federal objectives to back the development of national policy.

Fiscal policies in Japan

Japan is an example of a nation having a discretionary policy making system. Public expenditure in the central government budget is the usual instrument for a fiscal stimulus. The initial central government budget is approved by the Diet in April (the beginning of the fiscal year). In the fall, the government proposes a revised budget. Almost every year since 1965, public expenditure has been augmented in the revised budget in the fall.

Precisely, public works expenditure is an important component of the mandatory "stimulus package" put together by the Japanese government over the last couple of decades.

Discretionary spending in Japan is countercyclical. As shown by Bohn (1998), the positive relationship between the primary surplus-to-output ratio and the ratio of the stock of national debt to output ensures that the long-term government budget constraint will be satisfied. This is true for Japan, whose budgetary deterioration in the 1970s was followed by rapid improvement in the 1980s. The positive relationship established in the 1980s, however, broke down in the 1990s, with a quick deterioration of the budget and the resulting increase of the national debt. The yield on Japanese bonds, nonetheless, remained quite low - nearly 1 percent during this period of fast budgetary deterioration.

4. A Special Case: Fiscal Policy Practices in Europe

The European fiscal policy practice is a very special case. Indeed, it is a rule -based fiscal policy, assessed on a three-year period. The rule is both a deficit and debt target. As a supra-national rule, it is compelling for the countries belonging to the Euroland. However, since it is based on three years, the rule allows for some sort of discretion.

On March 23rd, 2005 the European Council agreed to introduce some flexibility into the Stability and Growth Pact (SGP), creating,

in fact, a SGP II. This flexibility is introduced via the concept of "relevant factors," which are country specific. Nevertheless, six years of governance by the Treaty of Maastricht, followed by five years under the rules of the SGP seem to adequately demonstrate the positive externalities created by the European fiscal packages on European countries' economies.

However, some countries are breaching, or are close to breaching the SGP. Using the revised numbers from Eurostat for Greece, the latter was always above the 3% deficit ceiling in our sample. Portugal's deficit in 2001 was greater then 3%, followed by Germany's and France's from 2002 to 2004, as well as the subsequent breaches by Italy, U.K., and The Netherlands in 2004.

The stake is different for countries belonging to the Economic and Monetary Union (EMU), in light of the necessity for economic policy coordination. During the convergence period from 1993 to late 1998, it appeared that some coordination rules were needed once the first European countries were ready to enter into the EMU. To this end, Germany, in 1995, proposed the Stability Pact in order to extend the positive effects of the convergence period, and to prevent countries from contracting their public spending during this period, only to increase it later on. First drafted in Madrid in 1995, heavily debated in Florence and Dublin in 1996, and accepted by France the same year, the SGP, now backed by the two largest countries of the forthcoming EMU, was adopted in Amsterdam in 1997.

The SGP consists of extensions of the fiscal package of the Treaty of Maastricht. To comply with the SGP countries may have a budget deficit within 3% of GDP, or public debt lower than 60% of GDP, although the latter criterion seems to have a weaker timbre. (The 3% rule is less arbitrary than people sometimes believe. With an average nominal growth rate of 5%, and a targeted inflation of 2%, the real growth rate of 3% would balance the deficit of 3% of GDP).

Of the three formal elements of which the SGP consists, the first is political. The pact is a political commitment by all parties involved in the SGP (Commission, Member States, Council) to the full and

timely implementation of the budget surveillance process (European Council (1997a).

Second, there are preventive elements (European Council (1997c): (1) all Member States implement stability and convergence programmes; (2) there exists the possibility to trigger the "early warning" mechanism in the event of a significant slippage in the budgetary position of a Member State. The European Commission then makes recommendations to the Council. This has happened four times: 01/30/2002 for Portugal, and Germany; 11/19/2002 for France; and 04/28/2004 for Italy.

Third, there are dissuasive elements (European Council 1997b). which require Member States to take immediate corrective action and, if necessary, allow for the imposition of sanctions. If a country breaches the SGP, it exposes itself to penalties. These penalties are embodied in the SGP through article 104c of the Treaty of Maastricht via compulsory deposits that, after time, can be transformed into fines if governments do not take measures to decrease their deficits. The non-interest bearing deposits are made up of two elements: a fixed sum equal to 0.2% of GDP and a supplement of 0.1% of GDP for every percentage point by which the budget deficit exceeds the 3% reference level. Derogation is "exceptional and temporary" possible for circumstances, particularly in the case of a negative annual real growth rate. The exemption is automatic for countries if their GDP has declined by at least 2%, and if the excess deficit is temporary and small. Those countries in which the GDP has declined between 0.75% and 2% can also gain exemption from the rule with the consent of the Council. In the new definition of the SGP, "relevant factors" will also be considered. When taking into account "relevant factors" which are already in the Treaty and have to be used in a balanced overall assessment - the decision whether an excessive deficit exists will be fully conditional on the overarching principle that, before these factors are taken into account, the excess over the reference value has to be temporary, and the deficit has to remain close to the reference value. Further, those relevant factors may not be invoked to put an end to an excessive deficit procedure. More emphasis will be placed on debt developments and sustainability.

According to revised budget figures, Greece always breached the deficit ceiling in our sample. The stakes are high. The SGP has been justified by the economic literature in many ways.

The rationale of the Stability and Growth Pact

Firstly, several researchers deal with the question of the sustainability of the budget deficit (Bohn 1995, Mongelli 1999, Nielsen 1992, Perotti, *et al.* 1998), the bottom line of which is preventing idle governments from hampering European growth. Amador (1999) emphasized both the role of fiscal policy, and the behavior of the budget deficit and the public debt over time; an important feature of this model was the defining of sources of uncertainty as "stochastic processes." It is interesting to notice that the deficit as a percentage of GDP, excluding debt interest, is close to zero or even positive (a surplus) for almost all the euro area members. What pushes countries like France, Germany, and Greece below the 3% deficit ceiling is the debt interest.

Secondly, Beetsma (2001) develops a policy-mix argument, with other supporters of the SGP asserting that the advent of a central monetary authority was important in establishing the correct mix of fiscal and monetary policy in the Euro-zone (Issing 2002).

Thirdly, and different slightly, is the question of fiscal coordination among member countries. Here, the issue is not coordinating the monetary policy with a country-specific fiscal policy, but rather coordinating fiscal policies collectively. A lack of coordination could lead to asymmetric economic shocks on both the aggregate demand and aggregate supply in every country, as well as hinder the European convergence. However, coordination is not synonymous with convergence (Krugman 1993).

Fourth is the matter of free-riding. Uhlig (2002) focused his discussion of free-riding and the SGP on the effects of centralized monetary policy combined with decentralized fiscal policy. Uhlig regards the SGP as essential in preventing free-riding in the form of excessively high deficits. The cause for concern over debt levels hinges on the independence of the central bank, because excessive levels of debt might lead to a crisis in which the ECB might be morally, although not legally, bound to bail out insolvent countries.

This defense of the SGP is not, however, without its opponents; a large share of the literature dissects the relationship between centralized monetary and decentralized fiscal policymakers, and finds that the SGP might not be needed under some conditions (Fourçans and Warin 2000, Leith and Wren-Lewis 2002, Vranceanu and Warin 2001).

The fifth issue is moral hazard, which differs from free riding to the extent that it is "post-contractual opportunism." In other words, once the pact is signed, countries' loss functions change. Dixit (2001), and Dixit and Lambertini (2001) demonstrate that fiscal discretion leads to equilibrium levels of output and inflation far different than Pareto-optimal choices.

The sixth consideration is structural externalities. In order to abide by the fiscal rules of the SGP, countries are forced to make needed structural reforms (Warin 2005). These changes occur in the form of how much and how governments raise taxes, and how much and how they allocate public expenditures.

A seventh reason is the maintenance of the credibility of the European central bank through insuring its leadership as the monetary authority. As noted by Buti and Van den Noord (2004), the EMU is, "[commonly] seen as a regime of monetary leadership where fiscal policy is to support the central bank in its task to keep inflation in check." This power is drawn from the following European Council resolution which accompanies the Pact: "[it] is also necessary to ensure that national budgetary policies support stability oriented monetary policies." When the Maastricht Treaty was drafted, many observers believed that the European budgetary situation could undermine the credibility of the future European Central Bank (Beetsma and Bovenberg 1995). If a country's fiscal situation becomes unsustainable, other countries might be forced to bail out of the insolvent national government. Alternatively, the European Central Bank may be forced to monetize national debts, and in so doing, create additional inflation in the EU. Bolt (1999) summarizes this argument stating that, "It is in [the following] context that the Pact for Stability and Growth must be regarded: it seeks to supplement the common monetary policy framework within EMU with sound fiscal policies by the Member States so as

to relieve the burden on the ECB's monetary policy and to leave room for the operation of the automatic stabilizers." Cooper and Kempf (2000), nonetheless, call for some flexibility at the fiscal level, as the central bank lacks the tools necessary for stabilization in the presence of country specific shocks.

In retrospect, the SGP does not seem to provide an effective answer to the seven branches of the literature studying the potential need for a fiscal rule. This is not surprising, since the SGP is more a politically designed rule – extending the Treaty of Ma astricht – than an economically designed rule.

References

Amador (1999), "Fiscal Policy and Budget Deficit Stability in a Continuous Time Schotastic Economy", *Working Paper Universidade Nova de Lisboa*.

Beetsma (2001), Does EMU need a Stability Pact?, in *The Stability and Growth Pact*, ed. BRUNILA, BUTI and FRANCO, pp. 23-52. Palgrave.

Beetsma and Bovenberg (1995), "The Interaction of Fiscal and Monetary Policy in a Monetary Union: Balancing Credibility and Flexibility", *Working Papers Tilburg Center for Economic Research*. (95101).

Bohn (1995), "The Sustainability of Budget Deficits in a Stochastic Economy", *Journal of Money, Credit and Banking*. 27 (1): 257-271.

Bohn (1998), "The Behavior of U.S. Public Debt and Deficits", *Quarterly Journal of Economics*. 949-963.

Bolt (1999), "Fiscal Restraints, ECB Credibility, and the Stability Pact: A Game-Theoretic Approach", *DNB Staff Reports*. (38).

-

Bolt (1999), p. 1.

Borooah and van der Ploeg (1983), *Political Aspects of the Economy*, Cambridge: Cambridge University Press.

Brown (1956), "Fiscal Policy in the Thirties: A Reappraisal", *American Economic Review*. 46: 857-879.

Buti and Van den Noord (2004), "Fiscal Policy in EMU: Rules, Discretion and Political Incentives", *Economic Papers*. 04 (206): 1-42.

Cooper and Kempf (2000), "Designing Stabilisation Policy in a Monetary Union", *NBER Working Paper*. 7607.

Dixit (2001), "Games of Monetary and Fiscal Interactions in the EMU", *European Economic Review*. 45: 589-613.

Dixit and Lambertini (2001), "Monetary-Fiscal Policy Interactions and Commitment Versus Discretion in a Monetary Union", *European Economic Review*. 45: 977-987.

European Council (1997a), "Resolution of the European Council on the Stability and Growth Pact", *Official Journal*. C (236): 0001-0002.

European Council (1997b), "Speeding up and Clarifying the Implementation of the Excessive Deficit Procedure", *Official Journal* L (209): 0006-0011.

European Council (1997c), "Strengthening of the Surveillance of Budgetary Positions and the Surveillance and Coordination of Economic Policies", *Official Journal*. L (209): 0001-0005.

Fourçans and Warin (2000), "Fiscal Policy in the European Monetary Union: An Analytical Framework", *Global Economy Quarterly*. 1 (3).

Hall and Papell (2005), *Macroeconomics*, New York: W. W. Norton & Company.

Issing (2002), "On Macroeconomic Policy Co-ordination in EMU", *Journal of Common Market Studies*. 40 (2): 345-358.

Keynes (1936), *The General Theory of Employment, Interest and Money*, London: Macmillan.

Krugman (1993), Integration, Specialization and Regional Growth: Notes on 1992, in *Adjustment and growth in the European Monetary Union*, ed. Torres and Giavazzi, pp. Cambridge: Cambridge University Press.

Leith and Wren-Lewis (2002), "Compatibility Between Monetary and Fiscal Policy under EMU", *Unpublished manuscript*. (University of Glasgow).

Mongelli (1999), "The Effects of the European Economic and Monetary Union (EMU) on Fiscal Sustainability", *Open Economies Review*. 10: 31-61.

Nielsen (1992), "A Note on the Sustainability of Primary Budget Deficits", *Journal of Macroeconomics*. 14 (4): 745-754.

Perotti, Strauch and von Hagen (1998), "Sustainability of Public Finances", *CEPR and ZEI*.

Rogoff and Sibert (1988), "Elections and Macroeconomic Policy Cycles", *Review of Economic Studies*. 55: 1-16.

Uhlig (2002), "One Money, but Many Fiscal Policies in Europe: What are the Consequences?" *CentER Discussion Paper*. (32).

van der Ploeg (2004), "Macroeconomics of Fiscal Policy and Government Debt", *European University Institute Working Paper Series*.

Vranceanu and Warin (2001), "EMU: Optimal Fiscal Strategy and the Punishment Effectiveness", *Review of International Economics*. 9 (3): 494-504.

Warburton (1945), "The Monetary Theory of Deficit Spending", *The Review of Economic Statistics*. XXVII (2).

Warin (2005), "The Hidden Structural Features of the Fiscal Rule: A European Saga", *International Advances in Economic Research* . 11 (1): 29-38.