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*European fiscal stance: between rigidity and rigid flexibility*

1. *Introduction*

The European Commission (EC, 2015) has recently adopted a new framework aimed at making the best use of flexibility within the existing rules of the Stability and Growth Pact (SGP). These new guidelines seem to loosen the so-called austerity that appeared in Europe in the second half of 2011. More specifically, some corrections are made on the fiscal targets, which after the introduction of the Fiscal Compact are based on the concept of general government structural balance, i.e. the nominal balance adjusted for cyclical components, as well as one-off factors. Theoretically, a target constructed taking into account the cyclical effects should allow the functioning of the automatic stabilizer of the public balance. This is because in a recession the structural deficit is typically smaller than the nominal one, thus, *caeteris paribus*, also the fiscal corrections should be smaller. However, in the recent past this mechanism failed to work for two main reasons: i) notwithstanding the deep recession, all the Mediterranean countries had to apply restrictive fiscal policies in order to reduce their structural balance, as requested by the zero target fixed by the Medium-term Budgetary Objective (MTO); ii) the methods used by the European Commission to estimate the output gap, i.e. the gap between current and potential GDP used to calculate the structural budget balance, is biased. In fact, we find that the Non-Accelerating Wage Rate of Unemployment (NAWRU), one of the main component of the potential GDP, is pro-cyclical, and as a consequence not adequate to evaluate structural balance.

In this chapter we highlight some methodological errors present in the Commission's approach. In Section 2 we define the fiscal rule based on structural balance. In Section 3 we discuss the role of NAWRU in the European

fiscal rules. In Section 4 we report the new Guidelines in the interpretation of the European fiscal rules, which tried to answer to faultiness of the existing methods. In Section 5 we conclude.

## *2. The structural balance as a target for fiscal policy*

The Fiscal Compact sets the target of fiscal policy in terms of structural balance. The latter derives from the decomposition of the nominal general government balance which values are observable and detected by the National Statistical Offices, into the structural and the cyclical component, both not observable.

In the methodology adopted by the EC, the cyclical component is extrapolated from the output-gap and then subtracted from nominal balance in order to estimate the structural component. However, for countries with high public debt, the MTO imposes that the target value of structural balance is set to zero. Thus, the equilibrium level of government balance is determined solely by the size of the output gap, and therefore only by the automatic stabilizers. Any value that exceeds such level should be eliminated through restrictive fiscal policy.

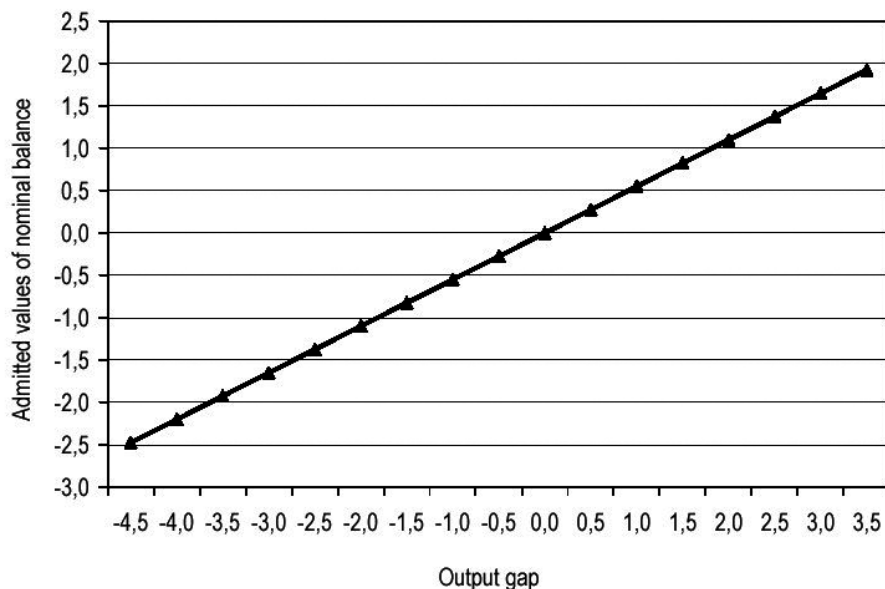
The meaning of this rule is twofold. On the one hand, the rigorous approach is imposed, as in a steady-state equilibrium with zero output gap the fiscal balance should be zero. On the other hand, there is the recognition of the stabilization role of fiscal policy, that can move counter-cyclically registering deficits in the presence of negative output gaps and, symmetrically, surpluses in the presence of positive output gap.

Before focusing our attention on the estimation methodology, we offer some insight on the structural balance time series in Italy. Firstly, we calculate the minimum and maximum values of the structural debt according to the historical data. Secondly, we have a closer look to the trend of the structural balance from 1965 on.

A representation of the theoretical nominal balance admitted according to the European rules is shown in [Figure 1](#). The series is calculated using the output gap estimations of the EC. The data sample covers the period from 1965 to 2013. According to the EC's estimation, the output gap minimum and maximum points are -4.5 and 3.3% in 1965 and 1989 respectively. Considering this range as representative also of the future economic cycle, the extreme values of Italian nominal government balance may vary from a minimum of -2.5% in terms of GDP to a maximum of 2%. According to

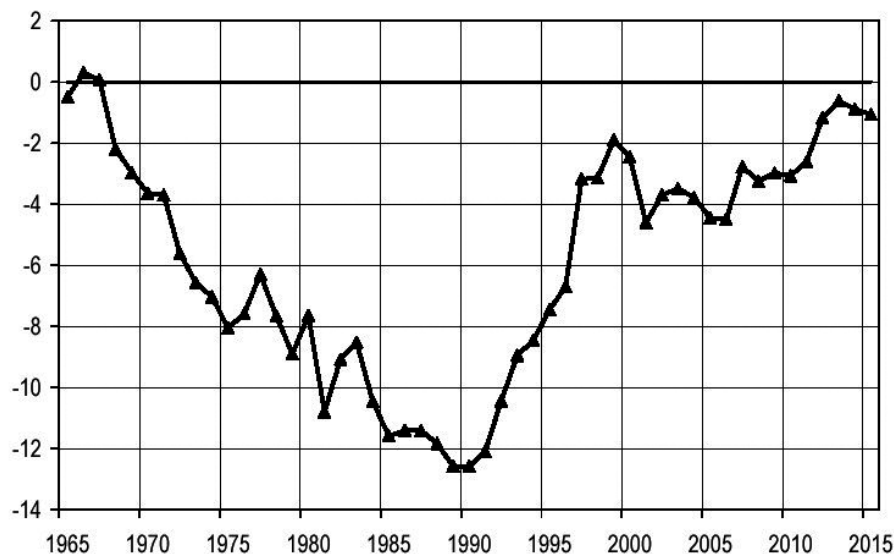
the theoretical relationship between output gap and nominal balance, the 3% limit is already incorporated in the functioning of the rule. Focusing our attention on the surplus values, we can see that the maximum value shown in Figure 1 (1.9%) is very close to the value of 1925, when the Italian nominal balance recorded a surplus of 1.7%. It should also be noted that, in more than 150 years, the Italian government budget has been in surplus only 16 times, the last being in 1925.

Fig. 1 – Admitted nominal debt values in the presence of different levels of output gap



(Source: own calculations on EC and AMECO data)

Figure 2 reports time series of the structural balance calculated from 1965 to 2015. The series is calculated on IMF data for the nominal debt and the EC estimates of the output gap. During this relatively long period, the structural balance has been zero only once, in 1966, and has remained above -0.5% only in 1965 (-0.6% in 2013). Following the sharp correction during the past few years, the current level of structural balance has stabilized at relatively low levels.

Fig. 2 – *Structural balance in Italy 1965-2016*

(Source: own calculations on EC and IMF data)

### 3. *The role of NAWRU in the European fiscal rule*

The approach for calculating the potential output is commonly agreed at EU level. More specifically, the EC estimates the potential GDP through a function of three factors: i) labour, ii) capital and iii) total factor productivity (tfp). The contribution of the labour depends, positively, on the participation rate, the hours worked and on the working age population, while is affected negatively by the NAWRU.

An increase of the NAWRU at time  $t+1$  implies the reduction of the labour input and therefore of the potential GDP. If at time  $t$  the economy is in recession – which implies a negative output gap – the reduction of the potential at  $t+1$  decreases the absolute value of the output gap, causing a deterioration in the structural balance. Therefore, during negative phases of the economic cycle there is a direct relationship between NAWRU and structural balance, for which the higher is the NAWRU, the higher is the level of structural balance. Hence, as suggested by the fiscal rule, further budgetary measures should be implemented in order to reduce the deficit.

This approach has an important counter-intuitive policy implication:

an increase in structural unemployment must be followed by a tightening in fiscal policy. In other words fiscal policy assumes a pro-cyclical bias.

Moreover, the calculation of the output gap plays a crucial role because it is the output gap value that determinates the amount of the observed deficit attributed to the cyclical state of the economy. The shortcoming of this approach is that the fiscal rule is anchored to an unobservable variable, subject to measurement uncertainty.

Since the NAWRU provides information on the inflationary pressures, it is a useful indicator for monetary policy, as proposed in the seminal work by Modigliani and Papademos (1975) and, in the later version of time-varying techniques, by Gordon (1997).

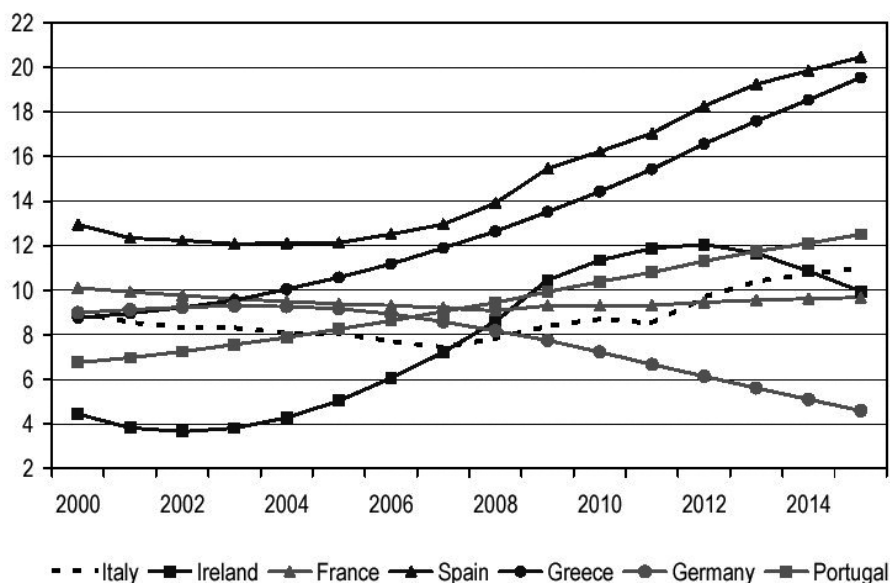
Much less obvious is the use of NAWRU within a fiscal rule framework, since an acceleration of inflation can loosen the constraint on the public budget. This occurs because of the presence of fiscal drag, the reduction of the real value of debt or the increase in nominal GDP, which drives an increase in fiscal revenues. It is not clear, therefore, why a rise in the NAWRU should automatically lead to a tightening of fiscal policy.

As we have seen, the NAWRU is measured by the EC through the estimation of a Phillips curve, but taking into account the values of R-squared of these estimates (EC, 2010) shows a wide range of values that is between the maximum of Austria (0.65) and the lowest in Italy (0.02). The figure reported for the Eurozone as a whole is 0.13, in line with the findings for the United States (0.16). On average, this values are extremely low, showing that for some countries (besides Italy, surely Portugal, but also Belgium and Germany, for which the R-squared is less than 0.3) the Phillips curve estimated by the EC is not representative of the relationship inflation-unemployment underlying the determination of the structural balance. The fact that R-squared is so low even for the United States highlights the doubts on the general validity of the methodological scheme proposed by the EC. What is surprising is that these bad econometric results have not been set aside, but are currently used to determine the fiscal effort required to single countries, a choice that reduces the credibility of the European fiscal rule.

To understand better this aspect, we consider the data reported in [Figure 3](#), which shows the level of NAWRU attributed to some countries by the EC's estimates in 2014. According to these data, the stability of inflation would require unemployment rates close to 20% in Greece and Spain, more than 12% in Portugal and 10.7% in Italy. Clearly, these calculations are not informative to the policy maker, who in the Italian case

would have, for example, to choose whether to reduce unemployment to below 10% or preserve price stability. A trade-off that appears even grotesque considering that the deflationary environment in which the Eurozone has slipped would suggest the need to promote, not to avoid, a price increase. At this regard it should also be noted that the information extracted from the NAWRU and incorporated into the European fiscal rule are in conflict with the current policy of the ECB, which is promoting an increase in inflation expectations.

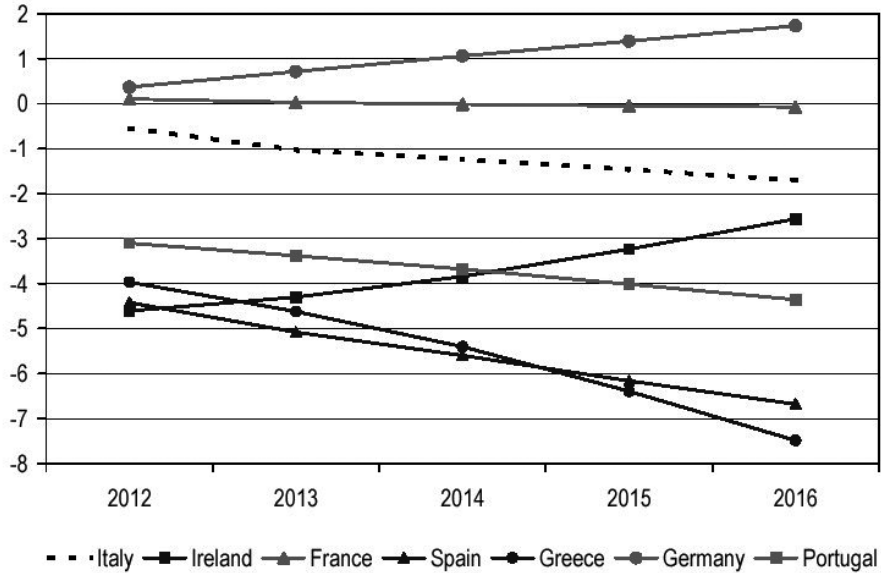
Fig. 3 – Euro area countries: European Commission's NAWRU estimates



(Source: EC 2014)

The use of these 'bad estimates' influences the calculation of the output gap in many countries. Figure 4 shows how the size of the output gap would change if the structural unemployment rate is set equal to the average level observed in the decade before the financial crisis (1997-2007), when the stability of inflation was still preserved. The differences are very strong for all the peripheral countries: the output gap in 2014 would be by 5.5 points wider in Greece and Spain, by 3.7 points in Portugal and Ireland, by 1.2 points in Italy. The differences are even more pronounced in the years 2015-2016.

Fig. 4 – Euro area countries: an alternative measure of output gap (difference with respect to the European Commission's estimates)



Notes: estimated on the base of the average unemployment rate in the period 1997-2007, which was equal to 6.7% in Germany, 5.3% in Ireland, 10.3% in Greece, 11.9% in Spain, 9.6% in France, 8.9% in Italy and 6.6% in Portugal.

(Source: our elaborations on EC, Economic Forecast data)

The comparison of the current estimates of the NAWRU with the average of the decade preceding the crisis – thus with a reference to the long-run – leads to focus on the excess of volatility of the indicator proposed by the EC. The NAWRU is estimated using a Kalman filter, i.e. a statistical algorithm, applied to the Phillips curve. This implies that the measure of potential GDP is subject to continuous revision over time, depending on the update of the historical series (this is a property common to all statistical filters, which are nothing if not a method of interpolation of the original series). The economic analysis makes extensive use of indicators of potential output variable in time and, since Gordon's (1977) contribute, also NAWRU measures that show a certain degree of variability are commonly used. To be useful as part of a scheme of fiscal policy based on a fixed rule, however, these variability should remain within a restricted fluctuation band. Otherwise, economic policy could be subject to abrupt changes,

incurring in risks of overshooting, as in the case of wide shock, statistical filters lose their stabilizing function. This emerges clearly from [Figure 5](#), where we show the large and sudden increase occurred to the NAWRU of peripheral countries in the aftermath of the European recession. This means that, according to the EC's estimates, much of the actual increase of unemployment has structural nature and that would be impossible to compress it if not at the cost of causing an acceleration in prices. Such a model establishes the impossibility for the peripheral countries to return to pre-crisis situation.

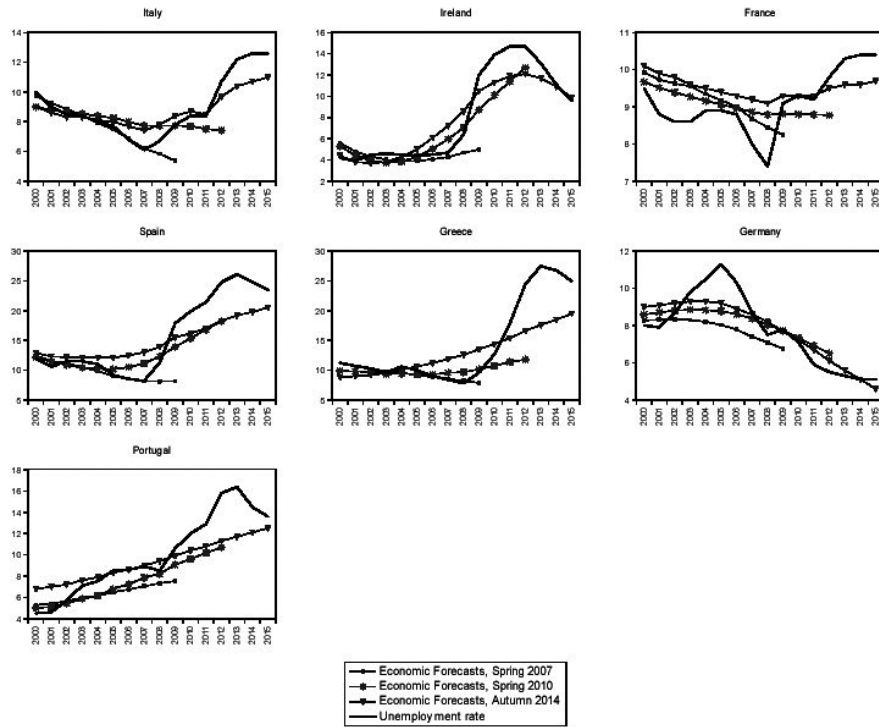
The European methods prove inadequate in ensuring a credible breakdown of structural and cyclical public debt. It is a failure that goes beyond that part of indeterminacy that is impossible to eliminate from the statistical methods of decomposition of the time series. The key element, culpably neglected, is that the measurements proposed by the EC contain an element of non-linearity, which reduces the ability to distinguish the cycle from the trend in the presence of large and persistent shock. Unlike the EC (2013) and Orlandi (2012), we conduct an empirical analysis by implicitly introducing another dimension to the panel linked to different revisions of the estimates of NAWRU in Economic Forecasts half yearly presented by the EC in the period between 2007 and 2014 (Fantacone F., Garalova P. and Milani C., 2015).

We find that the cyclical component incorporated in the European Commission's NAWRU estimates is stronger in the last period of the financial crisis (2011-2013) and mainly among peripheral countries. A one point reduction in output gap (negative cycle), evaluated by the EC through a simple Hodrick-Prescott filter, implies an increase in the peripheral countries' NAWRU of 0.374 points (at 5% of significance level). For core countries the effect is smaller and not significant.

In the pre-crisis period (2002-2007), we find that the cyclical effect on NAWRU is for both core and peripheral countries negative and significant.



Fig. 5 – *The revised NAWRU estimates during the European recession*



(Source: our elaborations on EC, Economic Forecast data)

The estimates for the first post-crisis period (2008-2010) show that the cyclical component is smoothly negative for core countries, while for peripheral countries the EC's NAWRU estimates does not depend on the output gap.

#### 4. *The new Guidelines in the interpretation of the European fiscal rules*

The conclusion of our previous empirical paper (Fantacone F., Garalova P. and Milani C., 2015) is that the NAWRU estimated by the EC is being affected by cyclical components, resulting in a pro-cyclical effect of the estimates of potential GDP<sup>1</sup>.

<sup>1</sup> Looking at the analysis of Estrella and Mishkin (2000), it can be said that with the methodology proposed by D'Auria *et al.* (2010) is estimated a short term NAWRU instead of calculating, as would more properly carried out, a long term one.

Doubts about the EC methodology have been raised by the Italian Ministry of Economy and Finance too (see IMEF, 2015), thus, during the Presidency of the Council of the European Union between July and December 2014, the Italian Government put pressure on the new EC, headed by Jean-Claude Juncker, to change the Stability and Growth Pact (SGP).

This political pressure, supported by empirical evidence on the faultiness in the EC methodology used to estimate structural balances, has not produced a revision of the SGP, too difficult to obtain in few months, but just a more flexible interpretation of the existing rules. The flexibility varies depending on whether a Member State (MS) is in the preventive or the corrective arm of the SGP<sup>2</sup>. More specifically, with the communications of January and October 2015 (EC, 2015a, 2015b), the EC introduces three different clauses:

- i) Investment clause. Under this clause is established that national contributions to the European Fund for Strategic Investments (EFSI), created under the Investment Plan for Europe (the so-called Juncker plan), will not be taken into account by the EC when defining the fiscal adjustment under either the preventive or the corrective arm of the SGP. Moreover, for MSs

«in the preventive arm of the Pact can deviate temporarily from their MTO or adjustment path towards it to accommodate investment, provided that: their GDP growth is negative or GDP remains well below its potential; the deviation does not lead to an excess over the 3% deficit reference value and an appropriate safety margin is preserved; investment levels are effectively increased as a result; the deviation is compensated within the timeframe of the Member State's Stability or Convergence Programme» (EC, 2015a, p. 9).

- ii) Structural reform clause. Under this clause, and for MSs in the preventive arm of the Pact, the EC

«will take into account the positive fiscal impact of structural reforms under the preventive arm of the Pact, provided that such reforms (i) are major, (ii) have verifiable direct long-term positive budgetary effects, including by raising potential sustainable growth, and (iii) are fully implemented» (EC, 2015a, p. 12).

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<sup>2</sup> MSs are included in the preventive or corrective arm of the SGP on the basis of the level of nominal fiscal budget in terms of GDP. Those with a ratio higher than 3% are in the corrective arm. Based on 2015 data, these MSs are Croatia, Cyprus, Portugal, Slovenia, France, Ireland, Greece, Spain and the UK.

For those MSs in the corrective arm of the Pact, the EC

«will take into account the existence of a dedicated structural reform plan, providing detailed and verifiable information, as well as credible timelines for adoption and delivery, when recommending a deadline for the correction of the excessive deficit or the length of any extension to that deadline» (EC, 2015a, p. 14).

- iii) Refugee clause. Under this clause, and thanks to the flexibility imbedded in the Pact in order to react to unforeseen circumstances and unusual events, the expenditure incurred to manage the refugee crisis will not be taken into account by the EC when defining the fiscal adjustment (EC, 2015b). However, costs will be evaluated case-by-case and on the basis of documented evidence.

The communication of January 2016 takes also into account the cyclical conditions of the economy. The EC has set a matrix with a more precise relationship between cyclical position and fiscal adjustment making a distinction between ‘exceptionally bad times’ (real growth lower than 0% or output gap lower than -4%), ‘very bad times’ (output gap between -4% and -3%), ‘normal times’ (output gap between -1.5% and 1.5%) and ‘good times’ (output gap greater than 1.5%). The corresponding annual fiscal adjustment for the MSs which debt to GDP ratio exceeds 60% is 0.25 percentage points (pp) during exceptionally bad times, 0.25 pp if the growth is below the potential and 0.5 pp if the growth is above the potential during ‘very bad times’, greater than 0.5 in ‘normal times’ and greater than 0.75 in ‘good times’.

## 5. *Conclusions*

In the midst of the recession generated by the sovereign debt crisis, the Eurozone countries have redefined the fiscal targets in terms of structural balance. In this way, they tried to balance the needs of rigidity, that remained prevalent, with the recognition of a stabilizing role of the public budget. This step has not, however, been accompanied by an adequate reflection on the methodologies with which to estimate the many unobservable variables that are at the basis of the measurement of debt structure. The solution that has been chosen is entrusting these measurements to the Output Gap Working Group that estimates the output gap

of the Member States. So, in the new fiscal rules have been incorporated methodologies that, until then, had been designed to provide a broad indication of the economic discussion, without any claim to assume a normative value. Such neglect has taken away credibility to the goals of structural balance.

The analysis carried out in this chapter have highlighted the many limits of the measurements proposed by the European Commission, which are not econometrically significant, too unreliable over time and strongly influenced by the state of the economic cycle. Particularly affected by this distortion appear to be the peripheral countries of the euro area, which at the height of the financial crisis that has affected them have undergone a revision of the estimates of NAWRU far more severe than that of the core countries. This point is particularly critical, since the use of the structural balance is motivated by the desire to isolate the changes induced on the public finances from fluctuations in the economic cycle, as to focus surveillance on discretionary component of the public budget. In fact, the persistence of strong elements of cyclicity in the calculation of the structural balance has resulted in an extension of the fiscal tightening and Eurozone slipping into deflation. The new Guidelines on the Stability and Growth Pact implicitly recognize the inadequacy of the analytical system adopted and can facilitate the recovery of the stabilizing function of public budgets. However, the higher flexibility is subject to uncertainty about the interpretations of existing rules. Besides, the new Guidelines add other procedures, complicating even more the already complex sets of rules.

In any case, two years have been lost, allowing some Eurozone countries, mainly the Mediterranean ones, high product losses and high social costs. The weakness of the European model, however, goes beyond the inadequacy found in the methods of estimation of the structural variables. It is the general rule, which requires the achievement of a balanced budget, to be a problem. At present, only Germany and Luxembourg record public balances in equilibrium and this means that all other countries should follow programmatic paths providing a gradual reduction in debt. Overall, Europe is therefore engaged in a fiscal effort of very large proportions, something that is certainly not alien to the detachment that is causing among the growth rates of the US and the Eurozone.

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