# BUDGETING VERSUS IMPLEMENTING FISCAL POLICY: THE ITALIAN CASE

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# Budgeting *versus* implementing fiscal policy: the Italian case

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**Abstract**

The budgeting process has been recently reformed in Italy (L. 196/2009) in order to improve control of budget and transparency in the provision of clear information on government fiscal policy. Indeed, the general government final expenditures often deviate significantly from the initial forecasted amounts. Therefore, although the initial budget is often formulated in contractionary stance compared with the previous year's final account, the final outcome turns out to be expansionary. As a consequence, confidence in the reliability of expenditure estimates in the initial budget and in its value as an indicator of the stance of fiscal policy have been undermined.

Using real-time data for Italy, reported in the *Relazione Previsionale e Programmatica (RPP)* and in the *Relazione Unificata sull'Economia e la Finanza Pubblica (RUEF)*, we explore fiscal plans and their implementation for GDP and general government aggregated and disaggregated items of revenue, expenditure and budget balance over the period 1998-2009. Both reports are employed with the aim of measuring the budgetary policy implementation error, following the methodology of Beetsma *et al.* (2009). We focus on the first year of the fiscal plans because budgetary slippages mainly occur in this year (Balassone *et al.* 2010).

The main findings suggest that implemented budgetary adjustment falls systematically short of planned adjustment for GDP, for primary and overall balance. Actually, the main determinants of the implementation error of both primary and overall balance are the expenditures, in particular, capital expenditures. Moreover, it seems that errors in macroeconomic forecasts cannot be considered the driving force of the budgetary slippages. Our results are in line with the strand of literature (von Hagen 1992; von Hagen and Harden 1994; Alesina and Perotti 1999; Tanaka 2003) according to which credible plans are the *conditio sine qua non* for healthy budget outcomes and resorting fiscal transparency and accountability. To improve public budgeting in Italy, we deem necessary a renewed commitment by policy makers in term of planning and control of public expenditures.

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## 1. Introduction

A budget is a plan for the future. Good budgeting requires good forecasting. Revenue and expenditure forecasting is an integral part of the government budget process and it plays an important role in public budgeting and financial management. Moreover, fiscal estimates are "fiscal signals" for outside forward-looking private agents, forecasters and analysts (Davis 1980; Morrison 1986), who base their expectations not only on what happened in the past, but on officially released data for the future. Fiscal forecasts are also essential to deliver fiscal discipline under super-national fiscal rules, such as the Stability and Growth Pact in EMU countries.

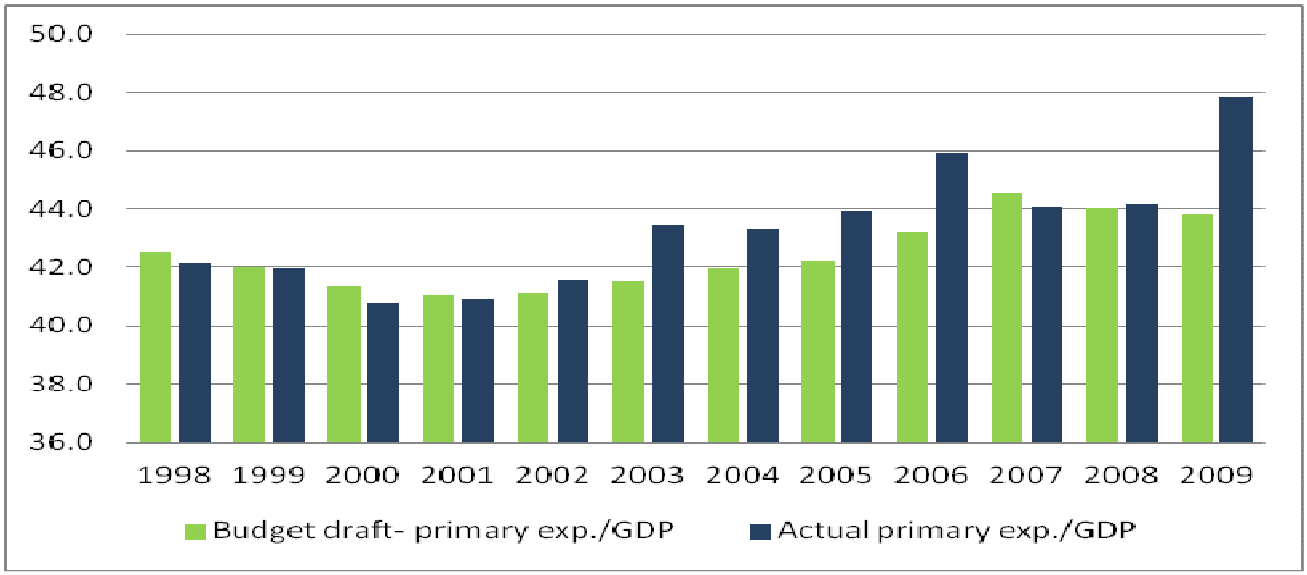
In view of the increasing prominence and sensitivity of budgetary forecasts, we examine the measurement of fiscal forecasting performance and, in particular, we address the problem of the evaluation of the budgetary forecast errors, i.e. the variations between actual revenues and expenditures from their forecasted values. These errors are indicative of the non-optimization or non-attainment of set objectives of fiscal policy. In general, errors in budgetary forecasts can occur because of endogenous and exogenous factors, which include overestimation/underestimation of revenues and expenditures; assessment of GDP growth; price level variations; oil or commodities price shocks; etc. Ample forecast errors may have significant implications: excessive financing of deficits, debt accumulation, cutbacks of crucial public expenditure, such as investment. "A lack of credibility [in budgetary forecasts] increases the likelihood of overshooting the deficit target or increasing the level of arrears. This can arise from pressures created by over-optimistic revenue forecasts and under-budgeting of non-discretionary expenditures (e.g. utilities, salaries, entitlement payments). It can also arise from non-compliance in budget execution (e.g. revenue leakages or unbudgeted expenditures)" (World Bank 2005).

We address the accuracy of fiscal forecasting for Italy, where the budgeting process has been recently reformed (Law 196/2009) in order to improve control of the budget and transparency in the provision of information on government fiscal policy. Indeed, there is evidence of systematic forecast errors in fiscal variables: after 2001, final expenditures have often deviated significantly from their initial amount (Graph 1) and the budgetary stance, although formulated in a contractionary way, proved to be expansionary in its final outcome. Besides, the frequent use of supplementary budgets has undermined confidence in the reliability of expenditure estimates in the initial budget and in its value as an indicator of the stance of fiscal policy (IMF 2001).

To explore the issue of fiscal forecasting in Italy, we follow the strand of literature of Forni and Momigliano (2004), Cimadomo (2007), Beetsma and Giuliodori (2009) and Beetsma *et al.* (2009), employing *first-release* or *real-time* data, which are closer to those available to the policymaker when he/she forms his/her plans and implements his/her policies. The main problem of *ex post* data is that they ignore that budgeting takes place actually in distinct phases: the planning stage (that contains the preparation of the budget proposal) and the

implementation stage (in which taxes are collected and the money is spent). In addition, *ex post* data may differ from *ex ante* plans both because new information have became available to the policymaker during the year and because of changes in policy during the budget implementation. Actually, *ex ante* plans may themselves be biased by excessive optimism, political factors, government myopia and formal respect of fiscal rules. This *ex ante* bias gives rise to underestimation or overestimation of fiscal variables and thus to *ex post* "errors".

Graph 1 – *Primary expenditure to GDP: budget draft and actual data - 1998-2009 (%)*




*Source: Authors' elaborations on RPP and RTC/RUEF data.*

Concentrating on one single country, Italy, allows us to provide a greater detail on the budgetary process, while using the original national documents allows us to analyze a higher number of fiscal variables. This is more difficult with cross-country data as availability and homogeneity problems may arise and then limit the analysis of fiscal forecasting performance across countries. In fact, although a number of studies have compared macroeconomic forecast accuracy of private sector economists and international organizations (Artis 1996; Ash *et al.* 1998; Loungani 2000; Artis and Marcellino 2001; Isiklar *et al.* 2004), many others have focused on single countries (Tanaka 2003 for Japan; Paleologou 2005 for UK; Mühleisen *et al.* 2005 for Canada; Chakraborty and Sinha 2008 for India; Balassone *et al.* 2010 for Italy), given the difficulty in obtaining a cross-country dataset of comparable budget forecasts.

We consider data released from 1998 to 2009 at two steps of the budgetary process: the budget preparation and the budget discussion and approval by the Parliament. The source for the first set of data is the *Relazione Previsionale e Programmatica (RPP).*[1] The *RPP* is issued in September (year *t-1*) and includes the government's plan for the budget of the following year (*t*), which is going to be presented to the Parliament. The source of the second set of data is the fourth (for year *t-1*) *Relazione Trimestrale di Cassa (RTC),* which is published in March

[1] RPP was introduced by Law 639/1949 and revised by further laws (i.e., L. 468/1978). The recent budget reform (L. 196/2009) abolished it.

(year *t*). It incorporates the Annual Budget Law as approved by the Parliament. From 2007 and until 2009 the fourth *RTC* has been included in the *Relazione Unificata sulla Economia e la Finanza Pubblica (RUEF)*,[2] which is also issued in March (year *t*). *RUEF* updates the macro scenario for the ongoing year, presents the budget for the year and surveys the economic and fiscal performance of the country in the previous year.

By using data from these official reports published in two different stages of the budget horizon, we capture a sort of snapshot on the "stretching" nature of the budget process. To investigate the nature of the observed differences, we try to decompose them into a planned adjustment and an implementation error, according to Beetsma *et al.* (2009) methodology (see Section 3). This allows us to investigate the source of the budgetary slippages, also by identifying which part of budgetary slippages can be attributed to the revenue or expenditure side of the budget; which part of the slippages can be attributed to a lack of implementation of planned measures; which part is due to forecast biases in macroeconomic variables (such as economic growth or inflation). We also try to analyze constant patterns in the behaviour of the policymaker in order to find evidence of a strategic use of fiscal projections, as already documented by Moulin and Wierts (2006), Beetsma *et al.* (2009) and von Hagen (2010). By using the decomposition proposed by Mincer and Zarnowitz (1969), we distinguish two parts in the implementation error: a systematic error and a discretionary error. To end, we analyze the role of two possible determinants of the implementation error: GDP forecasts and the autumn parliamentary session.

The paper is structured as follows. Section 2 surveys the literature on the subject and Section 3 describes the conceptual framework and the adopted methodology. Section 4 presents the decomposition of the observed fiscal outcomes into fiscal planning and implementation errors for both aggregate and disaggregate general government public expenditures and revenues. This section also includes the analysis on the potential causes of the errors through the variance decomposition analysis. Section 5 discusses the potential determinants of implementation errors. Finally, the main findings and their policy implications are summarized in Section 6.

## 2. A summary of the literature

The literature on budgetary forecast evaluation has searched for proof of cautionary or optimistic biases and has tested the policymaker's efficient use of available information to minimize the forecast error. In fact, the Finance Minister - who produces the projections - can use them strategically to influence the assessment of super-national authorities (European Commission, IMF, World Bank) and the behaviour of the government's spending ministers. The electoral cycle, fiscal rules and budgetary institutions can also influence the production of fiscal forecasts.

Strauch *et al.* (2004) evaluate budgetary forecasts for a group of relatively homogenous countries (Euro zone members) in the years 1991-2002, suggesting that the size of forecast errors may depend on the structural characteristics of a country's budgetary framework. In particular, countries where fiscal policy is based on a commitment or contract approach (Hallerberg and von Hagen 1999), i.e. on pre-negotiated contracts within the

[2] The budget reform (L. 196/2009) replaced *RUEF* with the *Relazione sull' Economia e la Finanza Pubblica* (*REF*).

government coalition (Finland, Netherlands, Belgium), seem to have a cautionary bias in their forecasts due to the costs of renegotiation. On the contrary, in countries where the Minister of Finance has strong discretionary power (delegation approach, such as in France, Germany, UK), there is no need to build a safety margin in budgetary forecasts, as the Finance Minister can make adjustments in fiscal policy when needed. Fragmented forms of governance (Italy and Spain until the mid 1990s) show instead an optimistic bias in their fiscal forecasts.

Von Hagen (2010) extends the analysis of Strauch *et al.* (2004), using data from the annual Stability and Convergence Programs (SCP) for EMU countries for the years 1998-2004. He explains forecasting errors on the base of variables related to the form of fiscal governance (commitment *versus* delegation approach) and to the strength of fiscal rules. There is evidence that governments with a contract approach and strong fiscal rules are excessively cautious in their fiscal forecasts, while delegation countries present an upward bias in their projections. The last result is explained by the greater margin for manoeuvre of governments with delegation fiscal governance, which can more easily adjust their fiscal policy during the year and use their optimistic forecasts to formally respect the Stability and Growth Pact.

Jonung and Larch (2006) and von Hagen (2010) find that average projections errors are negative for GDP, the general government budget balance, revenues and expenditures, meaning that governments tend to be overly optimistic. The large size of the confidence intervals adds that fiscal projections are rather imprecise. Actually, Buettner and Kauder (2009) have reviewed the practice and performance of revenue forecasting in selected OECD countries, finding that the mean forecast errors are small in most countries. However, countries' forecasts differ substantially in precision. These differences can be attributed, to a large part, to the different timing of the forecasts, to the use of macro models and to the number of taxes: a small variety of large tax instruments seems to cause large forecasts errors than a large variety of small taxes.

A basic institutional aspect of fiscal forecasting is the assignment of the forecasting task to specific institutions. Indeed, forecasting is commonly assigned to a department of the government, of the Ministry of Finance (Belgium, France, Italy, Ireland, Japan) or of the Treasury (United Kingdom, New Zealand). In some cases, forecasting is assigned to independent research institutes (Netherlands, Austria) to external experts from academia or to forecasting agencies included in the government group of forecasters. Buettner and Kauder (2009) construct an index of independence of revenue forecast institutions and find that the precision of the forecasts is positively associated with it. Bretschneider *et al.* (1989) argue that the existence of two separate forecasts by the legislative and the executive branch in the US has a positive effect on forecasting accuracy, in particular, when both forecasts are forced into a consensus.

Jonung and Larch (2006) show that the forecasts published by governments relying on independent forecasting agencies have a smaller bias and recommend that all governments in EMU should be asked to use forecasts from independent agencies. They find evidence of considerable variation in the forecasting performance of the EU member countries and they show that the projections are often biased and inefficient. These findings cast some doubt on either the governments' ability to produce good forecasts or their willingness to disclose all the information they have. On the other hand, Leal *et al.* (2007) remind that, although independent agencies are not subject to the potential bias of political and institutional factors, they usually lack insufficient inside information to provide accurate and detailed forecasts of fiscal variables.

Until recently, empirical research on fiscal policy behaviour was largely based on *ex post* (i.e., latest available or revised) data of fiscal outcomes, used to estimate fiscal policy reaction functions (Bohn 1998; Favero 2003; Balassone and Francese 2004; Annett 2006). Indeed, *ex post* data may substantially differ from *ex ante* data, as new or more precise information (for example, on potential output growth) become available in time. Moreover, *ex post* data may differ from the real-time data available to policymakers because construction methodologies change as time passes. Likewise, data from international organisations such as OECD and IMF, which are often used in fiscal policy studies, are "filtered" in the sense that they are based on independent growth projections, and they take into account only those measures that are likely to be implemented in practice. Hence, the goal of producing unbiased forecasts is attached to a high weight in the objective functions of these institutions.

An alternative strand of literature is provided by Forni and Momigliano (2004), Cimadomo (2007), Giuliodori and Beetsma (2009), and Beetsma *et al* .(2009), who employ *first-release* or *real-time* data, which are closer to those available to the policymaker when he/she forms his/her plans and implements policies. Some studies also combine real-time with *ex post* data (Forni and Momigliano 2004; Cimadomo 2007; Hughes Hallet *et al.* 2007; Bernoth *et al.* 2008; von Hagen 2010) to find a reason why fiscal policies, which are counter-cyclical at the planning stage when measured in real-time data, turn out to be pro-cyclical when measured with revised *ex post* data. Hughes Hallet *et al.* (2007), for example, study the size of these differences for the output gap and for cyclically-adjusted budget balances for OECD countries and conclude that fiscal surveillance based on real-time information may be misleading. Von Hagen (2010) concludes that real-time data in the Stability and Convergence Plans are not reliable (unbiased) projections. Nevertheless, when exploring the determinants of the planning and implementation stages of fiscal policy, real-time data seem more suitable, as they capture more accurately the information sets on which the policymakers' decision are based. These real-time forecasts provide also the fiscal framework that the national Parliaments approve.

We evaluate fiscal projections on the basis of real-time data, in line with Beetsma and Giuliodori (2009) and Beetsma *et al.* (2009). While both contributions employ real-time data from international organisations (OECD, Europe's Stability and Convergence Programs), we consider, instead, data from two official Italian reports. We thus measure the fiscal policy implementation error making reference to two different stages along the budget process: the presentation of the government budget proposal for year *t*, as documented by the *RPP* in September of year *t-1,* and the final approval of the Budget Law by the Parliament, as documented by the *RTC/RUEF* in March of year *t*. In this way, both implementation errors and changes due to the Parliamentary discussion are captured. In fact, during the autumn budgetary session the Government and the Parliament can make changes to both expenditures and revenues in the budget to pursue their own political targets, while keeping unchanged the budget balance targets set in the spring programming documents, as required by the budget rules (L. 362/1988) (see session 3 below).

We propose a case-study for Italy, as data problems generally limit the analysis of fiscal forecasting performance across countries. Besides, our focus on Italy allows us to consider specific items of expenditures and revenues, whereas much of the literature has mainly centred on the issue of budget and deficit forecasting (Strauch *et al.* 2004; Jonung and Larch 2006), for which longer time series are available.

## 3. Conceptual framework, data and methodology.

In this section, we first describe the budget process, the data and the related fiscal reports we use. Then, we discuss the methodology applied to formally decompose the observed fiscal adjustment into planned adjustment and an implementation error.

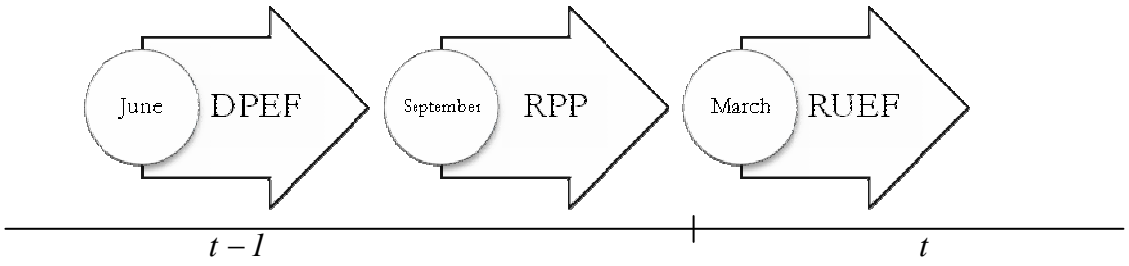
### *3.1. The budget process and related documents.*

In detail, actual fiscal policymaking takes place at different stages and each stage of the budgetary process is affected by its own determinants.[3] Von Hagen and Harden (1995) describe a full budget cycle as consisting of four steps: i) the planning process by the government; ii) the adoption of the Annual Budget Law by the Parliament; iii) the budget implementation; iv) *ex post* control.

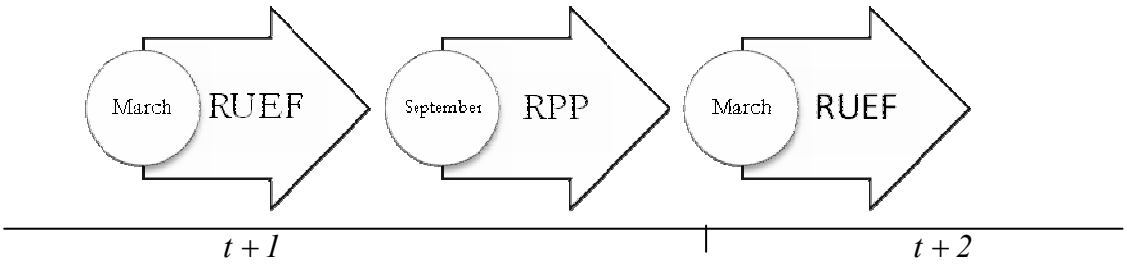
The budget cycle relevant for our analysis is the one in force until 2009, when the Budget Reform Law changed it. For year *t* the budget cycle follows the following steps, which are illustrated in Figure 1.

Figure 1 - *The budget process in Italy*

***Forecast in t-1 and in t for budget of year t***




***Actual data in t+1 for budget of year t***




Note: The figure represents the budgetary process until 2009, reform excluded.

*Source: Authors' elaborations.*

[3] In the majority of OECD countries, the responsibility for budget preparation is assigned to one government agency (the Ministry of Finance or Treasury), but it is usually carried out in collaboration with other government agencies. Forecasts are framed within a medium-term horizon in all countries, mostly in the form of a rolling three-to-five-year forecasting framework (e.g., euro area countries are required to prepare indicative 5-year fiscal plans). However, the period for which fiscal plans are binding, or for which greater detail is presented, is typically much shorter (Mühleisen *et al.* 2005).

The main stages for our analysis are:

i) *Planning*. In the early spring of year *t-1*, the programming sessions open with the Guidelines and rules for the budget preparation, issued by the Ministry of Finance. The Documento di Programmazione Economico-Finanziaria (*DPEF),* issued in June and approved by a Parliament's resolution, presents the macroeconomic and fiscal framework for the following 3 to 4 years, the hypothesis on which the fiscal forecasting are based and the government for the budget balance. This target will be kept unchanged throughout the budget preparation. In September, macroeconomic and fiscal forecasts are updated and when significant changes with respect to the *DPEF* are observed, the Ministry of Finance submits an update note to *DPEF* (*Nota di Aggiornamento al DPEF*).

At the end of September of year *t-1*, both the Budget and the Financial Law (*legge finanziaria*) Proposals are submitted to the Parliament. The Parliament presents fiscal policy interventions which are functional to public finance targets. The macroeconomic framework and the first planned budget forecast including detailed government target for expenditure and revenues items are described in the November volume of the *Relazione Previsionale e Programmatica* (*RPP).*[4]

ii) *The budget approval*. The Parliament budgetary session spans from October to December. The Parliament has the right to change both revenues and expenditures, provided that the target budget balance is unchanged. The Government can also amend its initial budget proposal, under the same condition. In year *t*, the spring issue of the *Relazione Trimestrale di Cassa*[5] (*RTC/RUEF* from 2007) presents the final budgetary forecasts for the year *t* taking into account the final macroeconomic and public finance data for year *t-1* (preliminary outturn data) provided by ISTAT (on 1st March)

iii) *The budget execution,* whose partial results are recorded by *RPP* of year *t*.

In order to analyze the budget planning process we use data from both *RPP* and *RTC/RUEF* over the entire period 1998-2009. For year *t*, *RPP*[6] of year *t-1* is used to assess first budget forecasts (including target proposals) and *RPP* of year *t* is used to assess the preliminary budget implementation. *RTC/RUEF* of year *t* accounts for final budgetary forecast for year *t* (including approved target) and *RTC/RUEF* of year *t+1* accounts for preliminary outturn data.

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[4] In detail, *RPP* is made up of two volumes: the first is presented by the Minister of Economy and Finance (MEF) to the Parliament by the end of September, while the second is issued in November. We draw from this second volume as it presents the last fiscal report for the year (see also Balassone *et al.* 2010). It sets out the estimates of public finance variables for the current year and forecasts for the following year and for the medium term, updating the macroeconomic framework of the *Documento di Programmazione Economico-Finanziaria* (*DPEF*). Moreover, the *RPP* analyzes the Budget Law and its effects. Hence, it has both economic and technical-financial features as it outlines the general economic context where the Budget Law is proposed and, at the same time, it analytically describes the decisions taken during the budget process.

[5] The *RTC* and the *RUEF* contain the public sector cash requirements, the economic trends in the previous year and the updated forecasts for the current year. More precisely, *RTC* and *RUEF* include preliminary forecasts of variables for the next year, estimates of variables for the current year and revised values of variables over the previous year.

[6] The use of *RPP* is also preferable to that of *DPEF* as the latter seldom includes plans for revenues and expenditures. Indeed, *DPEF* usually sets only targets for the primary and overall balances in the years to come and provide information on the size of the fiscal adjustment to be implemented. On the contrary, *RPP* provides a full set of accounts, taking into consideration the budget for the following year as submitted to Parliament at the end of September. In addition, *RPP* includes updated fiscal and macroeconomic projections compared to *DPEF*. This is especially relevant for those, relatively frequent, instances in which the Government passed a mid-year budget during the summer, after the *DPEF* was approved.

The choice of considering two points of observation - Autumn and Spring - and, consequently, two fiscal reports is due to the characteristics of the Italian budget process and to the pressures on fiscal policy during the budget session. Each report, beyond its general function, has a specific value within the "cycle" of the official documents which basically reflects the budget process.

To explore forecast errors, we compare GDP and fiscal variables projections published in each official report (*RPP* and *RTC/RUEF*) at the distance of one year. When using the data from *RPP* (November), the differences we observe are caused not only by the running of time but also by the changes to the budget decided during the Parliament budgetary session. Data from *RTC/RUEF* already include these changes and thus reported differences are the results of the many factors that influence the budget implementation.

*3.2. The methodology*

While many contributions explain the overall fiscal outcomes by estimating a fiscal reaction function, we employ a systematic decomposition of fiscal outcomes into plans and implementation and, given the available information on the underlying macroeconomic scenario, we explore the role of unanticipated economic developments in deviations from the plans. By using the decomposition proposed by Beetsma *et al.* (2009), actual budgetary adjustments (as measured by the change in a budgetary variable) can be calculated as the sum between its planned change (P) and the deviation from it (E):

$$(1) \qquad \underbrace{\left(Y_{t+1}^{t+1} - Y_t^{t+1}\right)}_{A} = \underbrace{\left(Y_{t+1}^{t} - Y_t^{t}\right)}_{P} + \underbrace{\left[\left(Y_{t+1}^{t+1} - Y_t^{t+1}\right) - \left(Y_{t+1}^{t} - Y_t^{t}\right)\right]}_{E}$$

where the superscript referred to the year of the document publication and the subscript referred to the year under analysis. The term on the left-hand side is the *observed* (or *actual*) *fiscal adjustment* - $A = \left(Y_{t+1}^{t+1} - Y_t^{t+1}\right)$ - and measures the actual budgetary adjustment observed between years *t* and *t+1*, based on information available in year *t+1*. The value of *A* can be explained by the *planned change* decided in year *t* and contained in the government draft budget and in the annual budget law - $P = \left(Y_{t+1}^{t} - Y_t^{t}\right)$ - and by the deviations from this plans $E = \left(Y_{t+1}^{t+1} - Y_t^{t+1}\right) - \left(Y_{t+1}^{t} - Y_t^{t}\right)$, the so-called *implementation error*.

The advantage of the above decomposition is that it allows us to mitigate the fact that data may come from different releases and that budgetary figures may differ in the way they are constructed. Therefore, methodological changes that affect, for example, the construction of $Y_{t+1}^{t+1}$ should also affect the construction of $Y_t^{t+1}$ and, thus, (largely) cancel out when differences are taken.

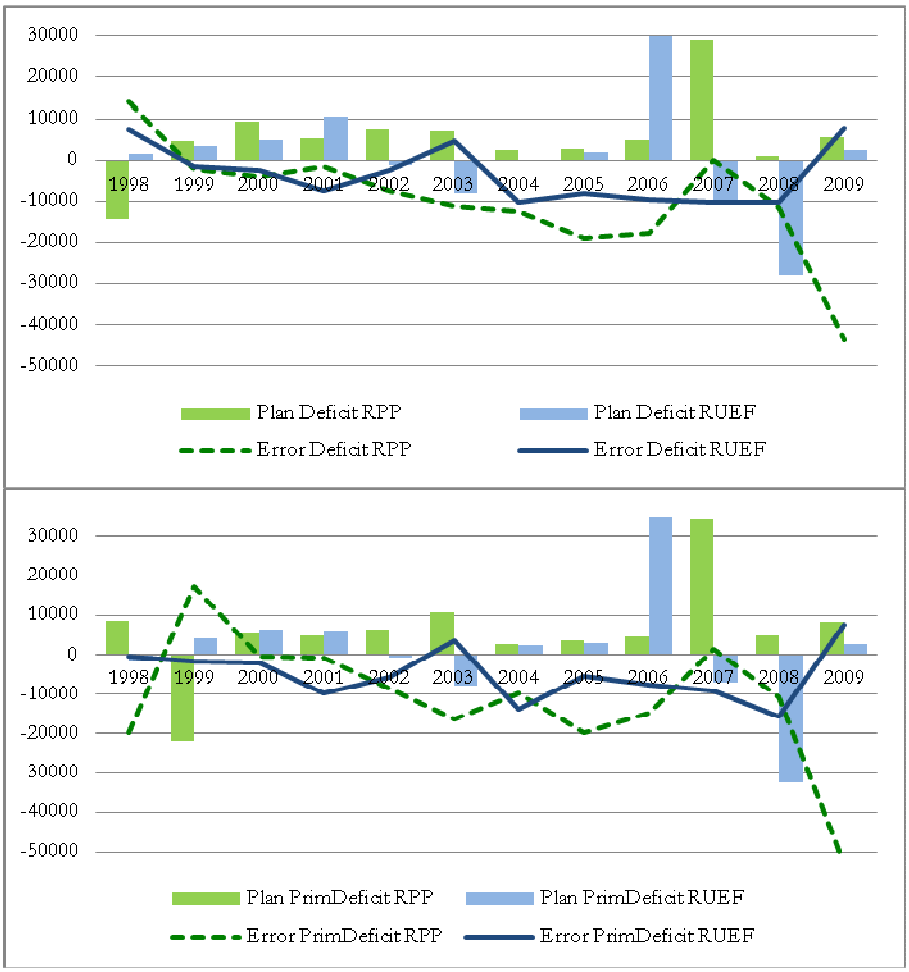
We focus on the first year of the fiscal plan (one-year ahead projections) because in Italy a large fraction of the budgetary slippages occur in the first year of the plan (see Balassone *et al.* 2010). Equation (1) is estimated over the period 1998-2009, using data of the two reports, *RPP* for the draft budget proposed by the government and *RTC/RUEF* for the budget law approved by the Parliament.

According to previous studies (Moulin and Wierts 2006; Von Hagen 2010), we expect that fiscal projections are used strategically, implying that implementation errors are not unbiased. Moreover, we are interested in the size and variability of the implementation errors relative to planned adjustment in order to evaluate the information content of the annual budget law in relation to the observed fiscal adjustment.

## 4. Implementation errors

Graph 2 shows the decomposition of actual total and primary deficit[7] change into planned changes and implementation errors. Data from the government budget draft (*RPP*) generally show planned improvements in the deficit and negative errors, meaning that the actual adjustment was less than expected. Data from the budget law (*RTC/RUEF*) show less ambitious targets (except in 2006 and in 2001 for the primary deficit only) and smaller implementation errors (except in 2001 and 2007), which may be due to better information on macroeconomic variables.

Graph 2 - *Decomposition of deficit measures: 1998-2009 (million EUR)*




*Source: Authors' elaborations on RPP and RTC/RUEF data.*

[7] When we consider the implementation error and the planning for deficit variables, it has to be kept in mind that all the original data used for calculating *A*, *P* and *E* in equation (1) are negative values, so a special attention has to be paid to the signs of the items of equation (1). Positive/negative values mean an improvement/worsening of deficit.

Looking at the two sides of the budget - revenues and expenditures - we observe a great difference in plans and results (Graph 3). For the budget draft (*RPP*), errors in revenues are positive until 2001 and in 2006. For the approved budget, errors in revenues are positive from 2002 to 2006. This means that revenue windfalls are different according to the budget stage which we consider.

On the expenditure side, planned total expenditure increases tend to be higher in the budget law (*RTC/RUEF*) than in the government budget draft (*RPP*). Some exceptions occur in 2003, 2008 and 2009. Implementation errors tend to be positive in both cases (except for 1998-2001 and in 2007 and 2009 considering *RUEF*), thus generating actual expenditure which is larger than planned.

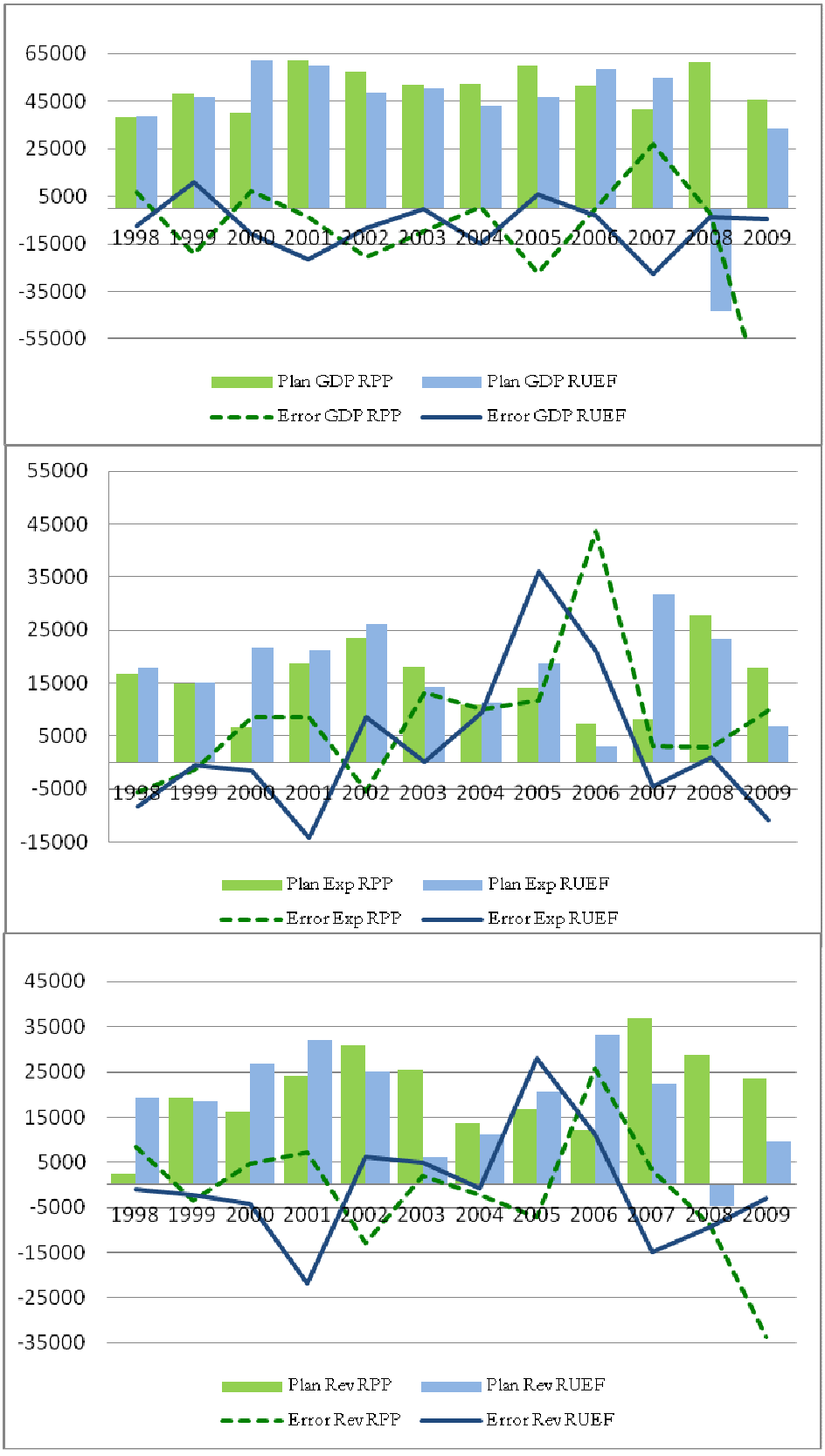
GDP projected increases do not show large differences between the government budget draft and the approved budget (except in 2008). Moreover, during the recession years (2008-2009), errors move towards the same direction and show a negative trend, especially for the budget draft (*RPP*). We will concentrate on the analysis of the disaggregated expenditure (reported in Graph 4), while we will present in the appendix the revenue items for completeness. Nearly for all items of expenditure, there is evidence of large and positive implementation errors in the years 2004-06: these years correspond to the end of the second (2001-05) and to the third (2005-06) right-wing Berlusconi governments. While the election years 2001 and 2008 do not seem to affect so much the budget errors, the election year 2006 shows impressive peaks in the implementation errors of expenditure variables.

Interest expenditure - basically an exogenous item for the policymaker - is subject to fluctuating forecasted changes (negative at the start of EMU and then positive) and large (mainly negative) implementation errors which offset the initial forecasts in many years. Salaries show large and positive implementation errors concentrated in the years 2004-07. Consumption expenditure reveals big difficulties of control: the policymaker's decision to reduce it in the budget draft (1998-2000 and 2006-07) is always denied, as shown by large positive implementation errors. Even when, more realistically, the policymaker forecasts positive variations of consumption expenditure, errors tend to be positive.

However, the policymaker does not seem to revise so much his/her plans for social expenditure between the draft and the approved budget. As could be expected, capital expenditure planning appears to be much more subject to revisions during the autumn budgetary session and, after 2004, it is also subject to large implementation errors, which tend to be positive with the budget law, to correct the policymaker's planned negative changes. Positive plans and negative errors occur with the budget draft only in 2005 and 2008. In turn, primary expenditure confirms the main results, showing positive implementation errors in all years (except in 2002 and 2008).

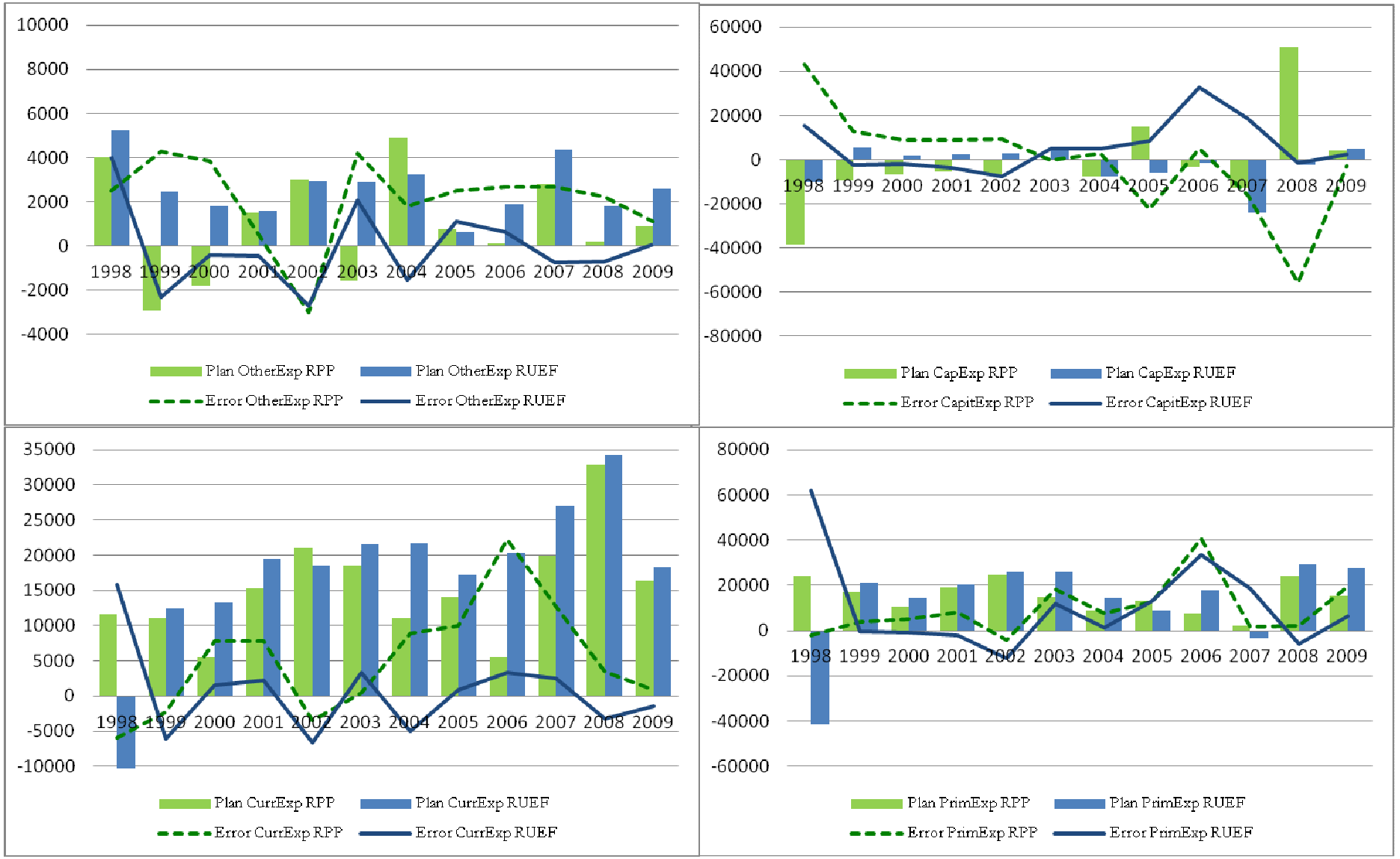
To some extent, positive implementation errors for expenditure items seem to convey the suggestion that the policymaker is incapable of maintaining his/her planned adjustments, thus he/she repeatedly resorts to *ex post* increases. In this vein, some questions may arise. Is the policymaker too optimistic in his/her plans or is he/she just not able to resist to the expenditure bias? In order to shed some light on this issue, we deeply investigate which components are likely to determine variability in the fiscal outcomes and we identify their contribution through the variance decomposition technique.

Graph 3 - *Decomposition for aggregate measures: GDP, expenditures, and revenues: 1998-2009 (million EUR)*




*Source: Authors' elaborations on RPP and RTC/RUEF data.*

Graph 4 -*Items of the expenditure side: 1998-2009 (million EUR).*




*Source: Authors' elaborations on RPP and RTC/RUEF data.*

*4.1. Variance decomposition*

Using the variance decomposition methodology for the observed fiscal adjustment (*A*) means to solve the following equation:

$$Var(A) = cov(A;P) + cov(A;E) \quad (2)$$

where $Var(A)$ represents the variance of the actual adjustment which can be obtained by summing the covariance between actual values and plans - $\mathrm{cov}(A;P)$ - and the covariance between actual values and the implementation error linked thereto ($\mathrm{cov}(A;E)$). Results of equation (2) are reported in Table 1.

Table 1 - *The variance decomposition: 1998-2009 (billion EUR and %)*

| | RPP | | | RUEF | | |
|---|---|---|---|---|---|---|
| **Budget Items** | ***Var (A)*** | ***Cov (A;P)/ Var (A)*** | ***Cov (A;E)/ Var (A)*** | ***Var (A)*** | ***Cov (A;P)/ Var (A)*** | ***Cov (A;E)/ Var (A)*** |
| **EXPENDITURES** | | *(%)* | *(%)* | | *(%)* | *(%)* |
| Consumption | 2476.49 | 46.85 | 53.15 | 4030.76 | 36.71 | 63.29 |
| Salaries | 7036.66 | 36.72 | 63.28 | 6589.47 | 60.48 | 39.52 |
| Social expenditure | 14258.12 | 62.32 | 37.68 | 9852.07 | 62.85 | 37.15 |
| Other Expenditure | 3927.23 | 71.43 | 28.57 | 5861.15 | 34.62 | 65.38 |
| Interest expenditure | 24667.34 | 45.51 | 54.49 | 41891.26 | 61.13 | 38.87 |
| Current primary expenditure | 23859.41 | 155.87 | -55.87 | 19100.83 | 556.63 | -456.63 |
| Capital Expenditure | 79926.63 | -28.98 | 128.98 | 91082.63 | 20.30 | 79.70 |
| **Primary expenditure** | 111275.44 | 9.29 | 90.71 | 120407.47 | 38.94 | 61.06 |
| Current Expenditure | 74933.02 | 45.72 | 54.28 | 70221.62 | 112.83 | -12.83 |
| **Total expenditure** | 116611.55 | 2.09 | 97.91 | 200549.24 | 19.29 | 80.71 |
| **REVENUES** | | | | | | |
| Direct Tax | 57208.39 | 43.80 | 56.20 | 130245.18 | 5.39 | 94.61 |
| Indirect Tax | 140592.26 | -7.54 | 107.54 | 125920.01 | 16.08 | 83.92 |
| Social contribution | 76634.60 | 10.91 | 89.09 | 52066.37 | 104.19 | -4.19 |
| Other revenues (not tributary) | 1289.80 | 4.90 | 95.10 | 2401.45 | 6.04 | 93.96 |
| Capital Revenues | 33601.07 | 56.86 | 43.14 | 59221.82 | 43.09 | 56.91 |
| Current Revenues | 437973.87 | 14.95 | 85.05 | 332607.19 | 39.61 | 60.39 |
| **Total Revenues** | 175366.47 | 19.76 | 80.24 | 271544.18 | 43.41 | 56.59 |
| **Deficit** | 231383.19 | 29.48 | 70.52 | 212993.42 | 78.77 | 21.23 |
| **Primary Deficit** | 305365.05 | 35.00 | 65.00 | 296579.20 | 79.58 | 20.42 |
| **GDP** | 724638.68 | 4.47 | 95.53 | 723301.91 | 92.82 | 7.18 |

Note: The first column represents the variance of *A*, while the second and third ones are covariances as a share of the variance.
*Source: Authors' elaborations on RPP and RTC/RUEF data.*

When considering data from the budget law (*RTC/RUEF*), we find that the implementation error is the main player in determining the variance of the actual changes of total expenditures. Indeed, the implementation error for total expenditures represents about 81 percent of the overall variability. This result appears to be consistent with Beetsma *et al.* (2009). Among expenditure items, this is mostly true for

capital expenditure - as about 80 percent of the total variability is determined by the implementation error - consumption and primary expenditure. On the contrary, for other expenditure items, the main contribution to the variability in the actual value is caused by its covariance with the planned adjustment. As for revenues, the dominance of the implementation error seems to prevail for disaggregated items than for aggregate variables.

Data from the budget draft (*RPP*) display some different findings. Indeed, errors affect revenues, expenditures, deficit and GDP variances and play a crucial role in shaping actual adjustment variability as $\text{cov}(A;E)$ is always greater than $\text{cov}(A;P)$. This result also holds for disaggregated revenue and expenditure items (exceptions are social expenditure, other expenditure, current primary expenditure and capital revenues). In general, this result can be explained by considering the timing of the forecast, normally characterized by a higher degree of uncertainty and lower information availability. Given the relative dominance of the covariance with the implementation errors - mostly with *RPP* data - it makes sense to better analyze the "nature" of these errors.

To identify any regularity in the mood of the policymaker in making forecasts, we consider the difference between the two means squared of the change (Table 2).

Table 2 - *Summary statistics: 1998-2009 (billion EUR)*

| | **RPP** | | | **RUEF** | | |
|---|---|---|---|---|---|---|
| Budget Items | Mean | | | Mean | | |
| | A | P | **$E(A^2)$-$E(P^2)$** | A | P | **$E(A^2)$-$E(P^2)$** |
| **EXPENDITURES** | | | | | | |
| **Total expenditures** | 23.65 | 15.37 | 322940.51 | 20.53 | 17.58 | 112315.56 |
| Consumption | 3.59 | 0.12 | 12866.81 | 4.00 | 2.28 | 10792.56 |
| Salaries | 5.62 | 3.49 | 19430.56 | 4.10 | 4.69 | -5245.53 |
| Social expenditure | 9.22 | 9.91 | -13246.16 | 9.87 | -0.48 | 97095.21 |
| Other expenditure | 3.11 | 1.00 | 8660.91 | 2.56 | 2.62 | -354.14 |
| Interest expenditure | -1.10 | 0.04 | 1206.14 | -2.46 | -0.74 | 5489.04 |
| Current primary expenditure | 21.54 | 10.88 | 345466.71 | 20.52 | 1.62 | 418451.46 |
| Current Expenditure | 20.44 | 15.23 | 185734.93 | 18.06 | 17.46 | 21253.97 |
| Capital Expenditure | -2.23 | -1.70 | 2062.41 | 3.36 | -2.49 | 5057.45 |
| **Primary expenditure** | 24.59 | 15.18 | 374241.66 | 23.88 | 13.38 | 391222.57 |
| **REVENUES** | | | | | | |
| **Revenues** | 19.47 | 20.86 | -56076.17 | 17.77 | 18.32 | -20156.27 |
| Direct Tax | 5.39 | 6.17 | -9004.54 | 4.86 | 7.59 | -33926.97 |
| Indirect Tax | 6.03 | 6.12 | -1168.83 | 6.50 | 5.73 | 9453.02 |
| Social contribution | 4.15 | 6.75 | -28367.84 | 4.89 | 4.46 | 4016.12 |
| Other revenues (not tributary) | 1.81 | 0.86 | 2549.33 | 1.24 | 1.90 | -2064.10 |
| Capital Tax | 1.80 | 0.67 | 2787.79 | 0.48 | -1.25 | -1338.55 |
| Current Revenues | 6.93 | 24.25 | -539944.23 | 17.75 | 20.11 | -89536.93 |
| **Deficit** | -4.18 | 5.48 | -12576.92 | -2.76 | 0.74 | 7083.91 |
| **Primary Deficit** | -5.30 | 5.51 | -2268.12 | -4.09 | 0.92 | 15908.36 |
| **GDP** | 40.16 | 50.87 | -975379.26 | 34.65 | 41.73 | -541127.29 |

*Source: Authors' elaborations on RPP and RTC/RUEF data*

In both documents (in particular for the budget draft), we observe a tendency towards underestimation on the expenditure side. It is measured by the following relation:

$$E(P)^2 < E(A)^2 \tag{3}$$

This seems quite interesting, as "it means that the underestimation arises when past events bear a closer (and positive) relation to the formation of forecasts than to future realization" (Mincer and Zarnovitz (1969), p. 18). As a consequence, the results here obtained confirm that the past has a great importance in determining future realizations for both documents and, in particular, for the budget draft on the expenditure side and for the approved budget on the revenue side. This result is not surprising as generally the public budget is formed by a bottom-up approach. The difference in results between the two documents is quite reasonable given the time span for making projections and the impact of the budgetary session.

## 5. The determinants of the implementation errors

It is now relevant to understand the reasons for the implementation errors and, in particular, the role of the GDP implementation error in affecting all other errors. Table 3 shows the level and the significance of this dependence through the Spearman correlations.[8] Indeed, revenue errors in the budgetary draft (*RPP*) are characterized by a positive and significant correlation with GDP errors, as expected (0.64). Among revenue items, only direct taxes (0.57) are positively correlated with GDP error. Among expenditure components, considering the budget draft data (*RPP*), consumption (0.52), interest (0.68) and current primary expenditure (0.43) are positively and significantly correlated with the implementation error of GDP.

Considering the approved budget data (*RUEF*), while revenues remain significant and positively correlated with GDP (0.57), current revenues become significant (0.64), and interest expenditure continue to be significantly correlated but with a negative sign (-0.55).

The difference in the relations with the GDP error in the two documents could be explained by the different approach of the policymaker at the two stages of the budget process: he/she is initially guided by the tendency of the economy and then by other factors (political considerations, new acts and updated information). So we may conclude that, while implementation error of GDP can be the cause of slippages when preparing the budget draft, this determinant becomes weaker for the forecasts included in the approved budget.

[8] The direct way to identify the determinants would be to calculate a regression with the implementation error as dependent and potential determinants as regressors. The insufficient number of data at disposal does not allow us to use this ordinary tool, so the only possibility is to use an indirect and less sophisticated approach.

Table 3 – *The potential determinants of implementation error: Spearman correlation for GDP and the budgetary session.*

| | ρ (implementation error of GDP, implementation error of items) | | ρ (budgetary session, implementation error of items) |
|---|---|---|---|
| | **RUEF** | **RPP** | **RPP** |
| Budget items | | | |
| **EXPENDITURES** | | | |
| Consumption | 0.45 | 0.52** | 0.30 |
| Salaries | 0.18 | -0.06 | 0.64* |
| Social expenditure | -0.09 | -0.17 | 0.17 |
| Other expenditure | 0.31 | 0.29 | 0.54** |
| Interest expenditure | -0.55* | 0.68* | 0.79* |
| Current primary expenditure | 0.43 | 0.52** | 0.007 |
| Current Expenditure | -0.08 | 0.29 | 0.55** |
| Capital Expenditure | 0.06 | 0.10 | 0.21 |
| **Primary expenditure** | 0.16 | -0.33 | 0.55** |
| **Total expenditure** | 0.44 | -0.16 | 0.47 |
| **REVENUES** | | | |
| Direct Tax | -0.34 | 0.57** | 0.33 |
| Indirect Tax | 0.05 | 0.46 | 0.66* |
| Social contribution | 0.53** | -0.02 | 0.43 |
| Other revenues (not tributary) | 0.43 | 0.14 | 0.08 |
| Capital Tax | -0.33 | 0.05 | -0.15 |
| Current Revenues | 0.64* | 0.22 | 0.34 |
| **Total Revenues** | 0.57** | 0.70* | 0.52* |
| **Deficit** | 0.29 | 0.56** | 0.75* |
| **Primary Deficit** | 0.44 | 0.72* | 0.45 |
| **GDP** | / | / | 0.18 |

Note: Significance level: * 5%; ** 10%.
*Source: Authors' elaborations on RPP and RTC/RUEF data.*

Another candidate for explaining the implementation error is the autumn budgetary session. Hence, we calculate the difference between the forecasted values released in the November and March reports for the same year and for each item ($X_t^{RUEF} - X_t^{RPP}$) over the period 1998-2009. This is a proxy of the effect of the budgetary session. The Spearman correlation between the implementation error (by using *RPP* only)[9] and this new variable is then calculated for each budgetary component (Table 3).

Results suggest that the variation caused by the budgetary session have a strong positive and significant connection with the implementation error for indirect tax (0.66), total revenues (0.52), interest expenditures (0.79), salaries (0.64), current expenditures (0.55), primary expenditure (0.55) and total deficit (0.75). The intuition behind the result for current expenditures is quite easy to understand as this kind of expenditure is the main tool used by the Government to favour, and to some extent to satisfy, its constituencies. Yet, the high positive correlation for interest expenditures is more difficult to explain. We

[9] In this case, we concentrate just on the budget draft as the approved budget includes already the effect of the budgetary session.

deem that a possible explanation could be that, during the budgetary session, a persistent tendency to pushing up the projections for certain items is employed to build a safety margin for the budget implementation.

*5.1. Regularities in fiscal forecasting*

After having considered the exogenous economic and political factors which can determine and influence the formation of implementation errors, we are now concerned with the endogenous elements which can be connected to the way of making forecast. This will reveal the existence of systematic errors.

Mincer and Zarnowitz (1969) first define the theoretical relation between planning ($P_t$) and realizations ($R_t$), satisfying $R_t \equiv P_t + u_t$, and the line of perfect forecast when $u_t$ is null. Then, they describe the accuracy of forecasts through the dispersion around this line by measuring it with the mean square error of the difference between realization and predictions: $E(R_t - P_t)^2$. The last step in their reasoning is to distinguish three possible causes of the dispersion:

- *bias*, i.e. the error given by considering the average of the predictions instead of the realizations;
- *inefficiency* if, in presence of bias, the regression line explaining realizations in term of predictions has a different slope from the perfect line forecast;
- *random* component, which represents the information on the part of the variance of the realizations not explained by the least square regression line:

$$(4) \qquad \sum_{t=1}^{n} (R_t - P_t)^2 = \underbrace{[\underbrace{E(u)}_{bias}]^2}_{} + \underbrace{(1-\beta)^2}_{inefficien}\underbrace{S_P^{\,2}}_{cy} + \underbrace{(1-r^2)}_{random}\underbrace{S_R^2}_{}$$

We apply the same approach to our implementation errors, being aware of the fact that "economic forecasts may be intended and expressed as predictions of changes rather than of future levels".[10] The only difference is that while ordinarily the analysis in term of changes uses a constant basis, usually the last realization at disposal $R_{t-1}$, in our case the basis changes, reducing the base error[11] that is made when considering a constant base.

With respect to Mincer and Zarnowitz (1969), the other difference in our case is connected to the forecaster. The policymaker is, actually, a complex forecaster: for certain items, such as GDP, he/she can be considered as an ordinary one who has his/her main target to predict the most precisely possible; for other items, instead, his/her forecast is instead the implementation of his/her political agenda. This means

[10] Mincer and Zarnowitz (1969), p.14.
[11] The value of the realization in *t-1* is not perfectly known and stable at the time of the forecast.

that the plan can be subject to changes due not only to unexpected events or economic shocks, but also to change of priorities in the political agenda. This is the reason why, instead of talking of error, the name we use for the differences between planning and actual values is implementation error. The implementation error then includes the ordinary forecast error and something more.

Keeping this in mind, we consider then the first two components of equation (4) as representatives of the systematic error in forecasts. As the budget is usually formed according to a bottom-up process and according to legislation in force, the possibility of certain regularity in the implementation error is not out of the blue. The third component of equation (4) catches, instead, the mix of discretionality and random effect. In our case, following the definition of implementation error given by Beetsma *et al.* (2009), equation (4) can be rewritten as follows, by dividing for the mean square error and adapting it to a sample:

$$1 = \frac{(\overline{A} - \overline{P})^2}{\sum (A-P)^2} + \frac{(1-\beta)^2 S_P{}^2}{\sum (A-P)^2} + \frac{(1-r^2) S_A}{\sum (A-P)^2} \tag{5}$$

where $\overline{A}$ and $\overline{P}$ are respectively the average of the actual and planned adjustments; $S_A$ and $S_P$ indicate their sample variances ; $r$ [12] is the correlation coefficient between actual and fiscal adjustments; $\beta$ [13] is the slope coefficient of the regression line of *A* on *P*. In this way, it is possible to determine quite easily the weights of the three components (in percentage terms).

The results of the decomposition are, to some extent, as expected (Table 4). It emerges that the major role is played by the discretionary/random component, which corresponds to the "residual" item (on average, 58.44 and 67.13 percent for *RPP* and *RUEF*, respectively). The two other components play a different role for the two documents: for the budget draft, the mean component has a bigger role than the slope component (on average, 24.36 and 17.21 percent respectively); the opposite happens for the approved budget (on average, 13.66 and 19.22 percent, respectively).

The two reports present some differences. For the approved budget, in fact, a systematic bias occurs only for social expenditures, current primary and primary expenditure, leaving open room for possible improvements in forecasting and related techniques. For the budget draft, instead, all components are at work with a different weight. In general, the dominance of the discretionary /random nature of the error reduces the possibility of any correction. Generally speaking, we may conclude that while for the budget draft an adaptive approach (looking at the past for predicting the future which implies the repetition of the same type of errors) can emerge, for the approved budget any kind of regularity seems to be excluded.

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[12] Actually, $r^2_{AP}$ is equal to the coefficient determination of the regression of *A* on *P*.

[13] Because of the few data at disposal, we do not estimate β by a regression but we directly compute it through this equation: $\beta = \frac{Cov(A_t; P_t)}{\sigma^2(E)}$

Table 4 - *Decomposition of the implementation error with RPP and RUEF (%)*

| | **RPP** | | | **RUEF** | | |
|---|---|---|---|---|---|---|
| | Percentage of RMSE accounted for by | | | Percentage of RMSE accounted for by | | |
| | **Systematic component** | | **Random/ Discretionary component** | **Systematic component** | | **Random/ Discretionary component** |
| Budget Items | Mean component (MC) | Slope component (SC) | Residual Variance (RV) | Mean component (MC) | Slope component (SC) | Residual Variance (RV) |
| **EXPENDITURES** | | | | | | |
| **Total expenditures** | 31.24 | 15.64 | 53.12 | 4.52 | 4.03 | 91.45 |
| Consumption | 51.56 | 38.33 | 10.11 | 46.73 | 4.56 | 48.71 |
| Salaries | 25.69 | 37.87 | 36.44 | 7.81 | 10.03 | 82.16 |
| Social expenditure | 2.94 | 34.67 | 62.39 | 11.92 | 44.22 | 43.86 |
| Other expenditure | 0.00 | 0.95 | 0.05 | 0.00 | 0.08 | 0.92 |
| Interest expenditure | 8.18 | 0.53 | 91.29 | 24.40 | 23.15 | 52.45 |
| Current primary expenditure | 63.76 | 29.59 | 6.65 | 9.02 | 90.58 | 0.41 |
| Current Expenditure | 31.89 | 6.78 | 61.33 | 1.06 | 43.81 | 55.13 |
| Capital Expenditure | 0.05 | 84.73 | 15.21 | 22.11 | 22.36 | 55.53 |
| **Primary expenditure** | 39.29 | 12.36 | 48.35 | 22.58 | 54.05 | 23.37 |
| **REVENUE** | | | | | | |
| **Total revenues** | 1.02 | 13.92 | 85.05 | 0.21 | 0.18 | 99.61 |
| Direct Tax | 1.46 | 5.68 | 92.86 | 4.36 | 19.87 | 75.77 |
| Indirect Tax | 0.01 | 24.57 | 75.42 | 0.58 | 0.92 | 98.49 |
| Social contribution | 8.40 | 2.70 | 88.89 | 3.97 | 15.60 | 80.43 |
| Other revenues (not tributary) | 37.46 | 9.97 | 52.57 | 11.35 | 25.90 | 62.75 |
| Capital Tax | 6.77 | 2.37 | 90.86 | 7.99 | 0.07 | 91.94 |
| Current Revenues | 40.09 | 5.45 | 54.47 | 3.42 | 12.54 | 84.05 |
| **Deficit** | 34.39 | 1.01 | 64.60 | 21.65 | 0.01 | 78.34 |
| **Primary Deficit** | 33.69 | 2.03 | 64.28 | 37.25 | 2.26 | 60.49 |
| **GDP** | 13.72 | 1.73 | 84.55 | 32.06 | 2.61 | 65.33 |

*Source: Authors' elaborations on RPP and RTC/RUEF data*

## 6. Concluding remarks

In this paper we propose a case-study for Italy, as data problems generally limit the analysis of fiscal forecasting performances across countries. Besides, our focus on Italy allows us to consider specific items of expenditures and revenues. By using real-time data and following Beetsma *et al.* (2009) approach, we evaluate fiscal projections at two steps of the budgetary process: the budget preparation (*RPP*) and the budget discussion and its approval by the Parliament (*RUEF*), from 1998 to 2009. This allows us to investigate graphically and formally the sources of budgetary slippages distinguishing between documents, budget sides and exogenous factors, GDP forecast errors and the influence of the autumn parliamentary session.

We observe a great difference in plans and results looking at the two sides of the budget - revenues and expenditures. For the budget draft (*RPP*), errors in revenues are positive until 2001 and in 2006. For the approved budget (*RUEF*), errors in revenues are positive from 2002 to 2006. This means that revenue windfalls are different according to the budget stage which we consider. On the expenditure side, planned total expenditure increases tend to be higher in the budget law (*RUEF*) than in the government budget draft (*RPP*). The analysis of the disaggregated expenditures reveals that the policymaker has some difficulties in maintaining his/her planned adjustments, and thus he/she usually resorts to *ex post* increases. This is particularly true for *interest expenditure* and *capital expenditure*.

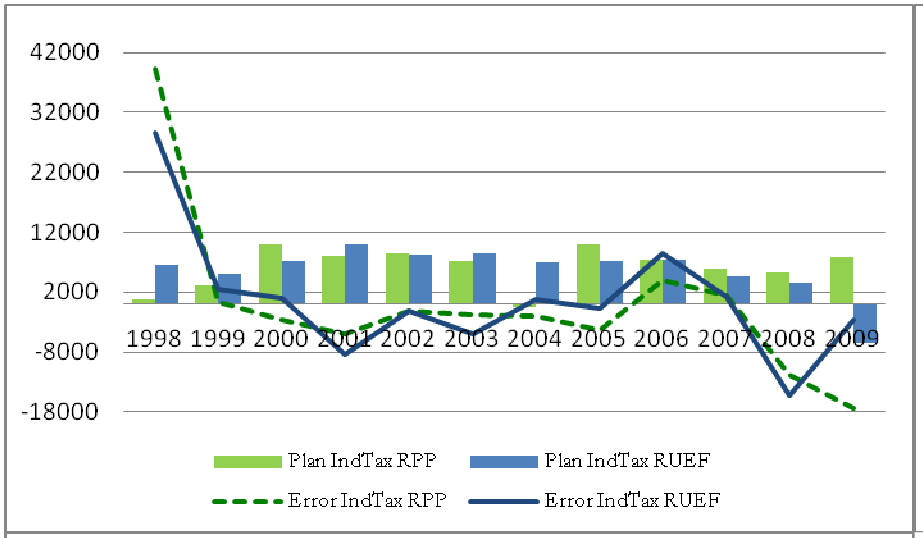
In order to shed some light on this issue, we deeply investigate which components are likely to determine variability in the fiscal outcomes, identifying their contribution through the variance decomposition technique. We find that the implementation error for expenditures represents about 81 percent of the overall variability. This result confirms those of Beetsma *et al.* (2009). Among expenditure components, this is mostly true for *capital expenditure* where over 80 percent of the total variability is determined by the implementation error.

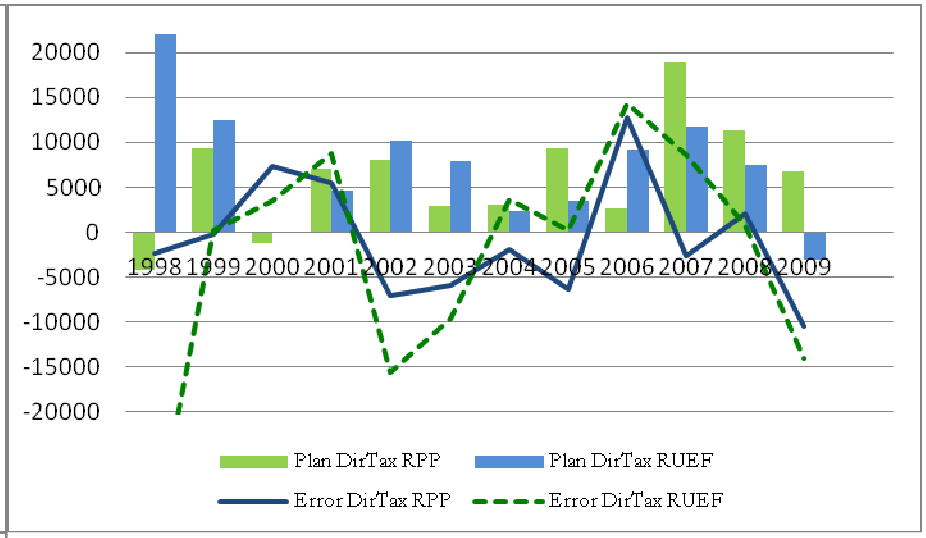
Searching for the role of the GDP implementation error and of the budgetary session in affecting all other implementation errors, we employ the Spearman correlation. These reveal that the implementation error of GDP can be the cause of budgetary slippages when preparing the budget draft, while its influence becomes weaker for the forecasts included in the approved budget. The budgetary session shows a strong role for *interest expenditure*, *current expenditure, revenues, primary* and *total deficit*. While this result is perfectly comprehensible for current expenditure, given the role of the expenditure as main tool used by the Government to favour its supporters, it appears less comprehensible for interest expenditure. The only possible explanation of this result is given by the fact that there is, during the budgetary session, a persistent tendency of pushing up the projections for certain items, just to use them to build a safety margin for the budget implementation. By looking at the regularities in the policy maker behaviour at the time of forecasts, it is evident a tendency to underestimate expenditures, confirming the big role of past performance in determining future forecasts. This result is not surprising as the Italian budget is formed by a bottom-up approach.

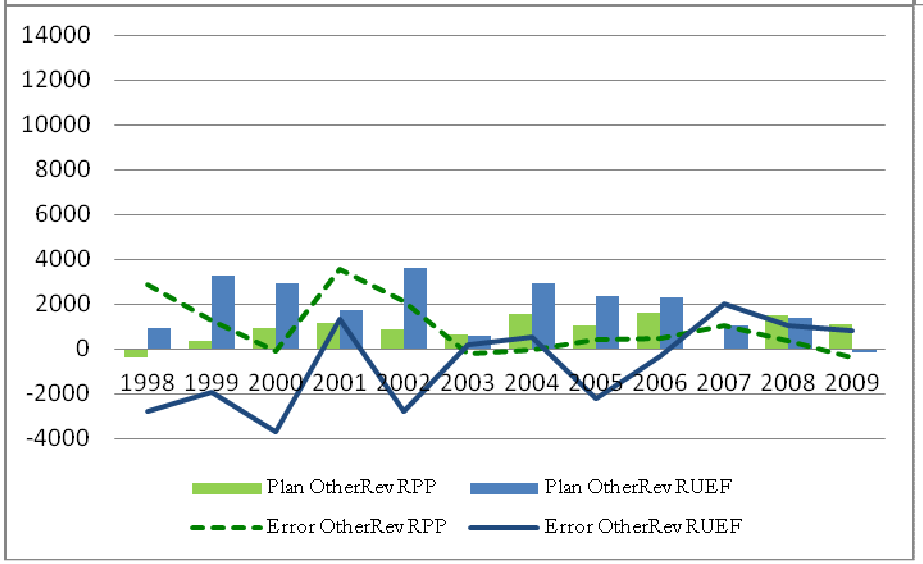
When searching for systematic errors in fiscal forecasting, we apply Mincer and Zarnowitz (1969) methodology. Our findings conclude for a systematic bias in the approved budget only for *social expenditures*, *current primary* and *primary expenditure*. This opens to possible improvements in forecasting and related techniques. For the budget draft, instead, the dominance of the discretionary/random nature of the error basically reduces the possibility of any correction.

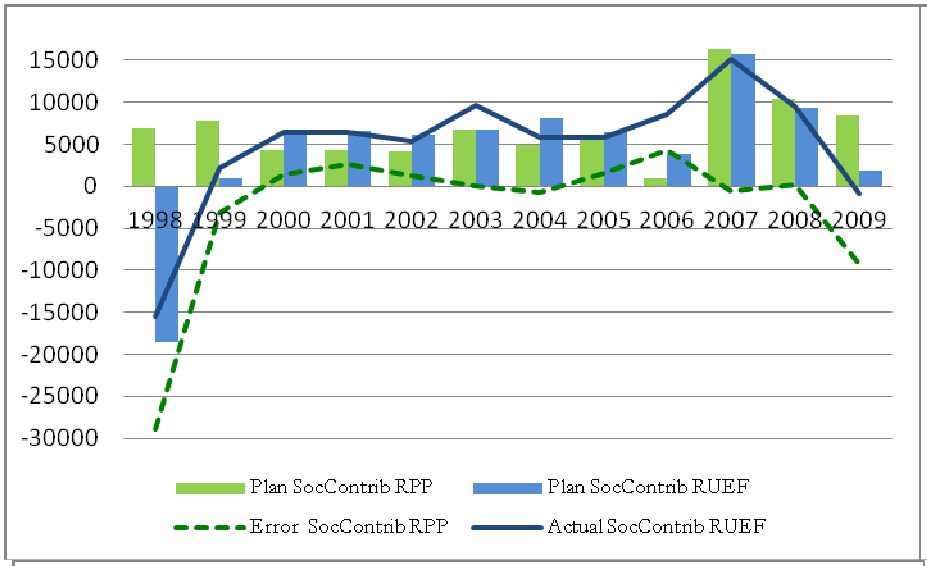
Our results lead us to conclude that improvements in the implementation of fiscal plans cannot be expected from the policymaker goodwill, but they could be worked out by means of more stringent fiscal rules and controls. We thus advocate the adoption of coherent and stringent medium term fiscal planning, which could be complemented by a set of fiscal rules, such as expenditure ceilings and debt brakes.

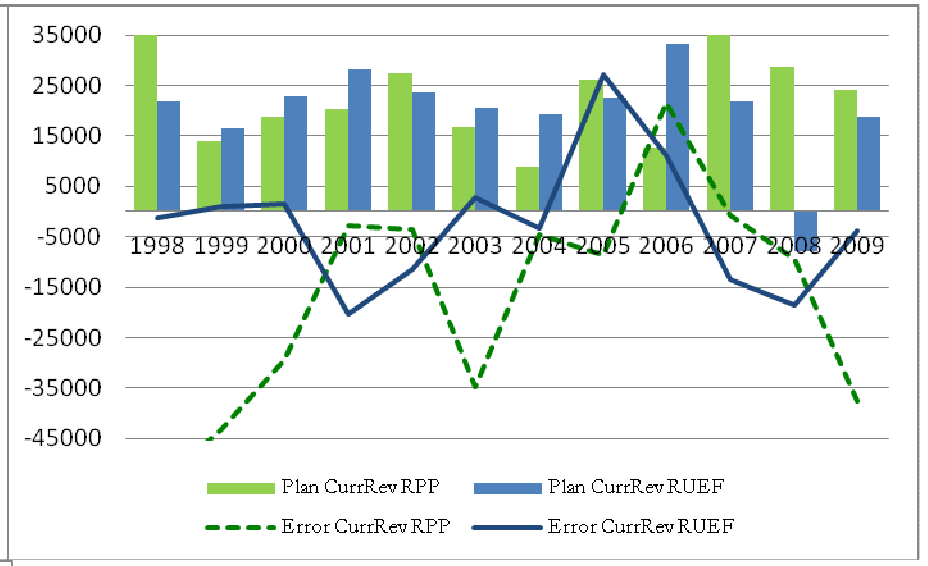
**Appendix -** *Items of the revenue side: 1998-2009 (million EUR).*

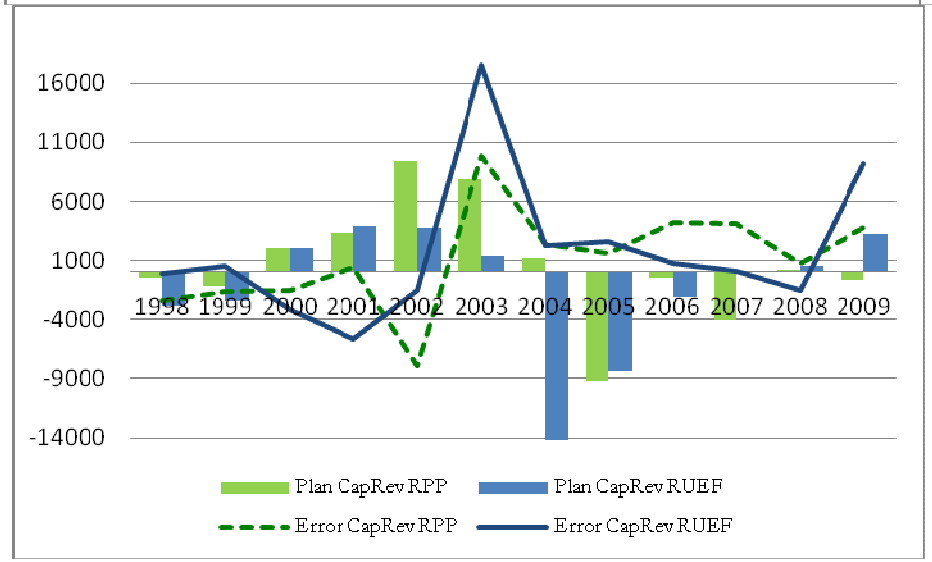





*Source: Authors' elaborations on RPP and RTC/RUEF data*

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