

LOCAL GOVERNMENT, BUDGET RULES, AND DEBT MANAGEMENT:  
THE ITALIAN CASE

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# Local Government, Budget Rules, and Debt Management: the Italian Case

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## Abstract

*In Italy local debt regulation mainly relies on a constraint to the ratio of annual interest payments to budget current revenue. Although by construction this rule is unable to prevent the dynamics of debt repayments and future revenues from being inconsistent over time, it has been probably adequate as long as a risk free framework for local authorities borrowing prevailed. For a long time, indeed, local revenue substantially consisted in State transfers and local administrations borrowed at fix rates. This scenario, however, significantly changed in the late Nineties, when Italian local authorities went through a gradual increase in their financial autonomy. In those years, tax autonomy was raised and the weight of State transfers decreased; moreover, local administrations were given the opportunity of directly turning to the financial markets for bond issue and debt restructuring (even by derivative financial instruments).*

*At the same time, EMU fiscal rules were being introduced at the supranational level. Most Member States inevitably experienced problems of coordination between different levels of government, which led to a gradual adoption of domestic fiscal rules; Italy, in particular, since 1999 has adopted the so-called Domestic Stability Pact (DSP). Although so far the multilateral surveillances mechanism has mainly emphasised the compliance on the deficit rule, public debt control recently gained the European agenda. Italian DSP does not rule debt financing directly, so that local debt control still relies mainly on the pre-existing “numerical ceiling” to the interest to current revenue ratio. The ceiling proved not to be binding until the very recently, when the threshold has been progressively reduced. Obviously the DSP affects the level and the management of local debt through the constraints on deficit, but these effects are indirect and difficult to assess, especially because rules have been amended many times preventing sufficient stability of the legal framework.*

*The lack of coordination between the budget constraint and the borrowing limit, on one hand, and the combination of DSP provisions and greater financial autonomy, on the other, generated inefficient incentives to local administrations financial choices (for instance, the spur to subscribe derivatives only to raise cash and improve deficit figures relevant for the DSP). Moral hazard behaviors, window-dressing accounting practices, and an improper use of derivatives has made municipalities' budget ratios very hard to interpret. In the paper we investigate some of these aspects by exploiting a dataset that joins balance sheet data and information about DSP compliance for Italian municipalities. In particular, we try to trace back significant differences in the average value of debt and investment (which debt can finance) between municipalities that are compliant or not compliant to the DSP. From our analysis, no relevant constraint on debt seems to be working through the DSP. On the contrary DSP seems to have triggered a problematic decrease in public investments after capital expenditure has been included among the budget items contributing in the relevant target.*

*The inadequacy of local debt regulation also deteriorates citizen's control over the administrators' behaviour. Indeed, current rules on borrowing or debt restructuring fail in guaranteeing a sufficient degree of transparency about future implications of the financial decisions taken by local politicians, in a situation where the payback period of new debt issue normally exceeds the limit of political mandates. In order to avoid perverse incentives, it would be crucial that citizens are allowed, by some simplified framework, to assess ex-ante the “expected impact” of their administrators' decisions on the future budgets and to monitor ex-post the “actual impact” of such decision over time. In the paper we try to address at least the issue of the choice between fixed or variable rates and illustrate a possible tool allowing: (i) a forward-looking framework for the assessment; (ii) a continuous monitoring of the effects of past decisions; (iii) the disentangling of the impact of local administrator's discretionary choices from the impact of the market evolution (so that responsibilities of the politicians are clearly identifiable). By doing so, we indirectly addressed also the problem of monitoring derivatives' mark-to-market in a specific period, which has recently come to the attention of the Italian public opinion, sometimes raising some misunderstanding of the phenomenon.*

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## 1. Introduction

So far, Italian regulation of local borrowing has mainly relied on a ceiling to the dimension of the annual interest payments relative to revenue from the main current items of the budget. The constraint takes the form of a ratio established by law. This rule cannot obviously prevent the dynamics of debt repayments and future revenues from being inconsistent over time. However, it probably proved adequate enough as long as a risk free framework for local authorities borrowing prevailed, since local revenue substantially consisted in State transfers – centrally pre-determined and relatively stable – and local administrations borrowed at fix rates. Under such circumstances, the dynamics of both the numerator and the denominator of the policy parameter were somehow under the State control, so that local borrowing could be effectively calibrated by the Centre.

This policy scenario significantly changed in the late Nineties, when a gradual increase in financial autonomy of local administrations started off. Local authorities were allowed, among other things, direct access to the financial markets to issue bonds and to restructure their outstanding debt (even by derivative instrument).<sup>1</sup> At the same time, to ensure fiscal soundness and public finances stability of the EMU, the Maastricht Treaty introduced fiscal rules on General Government deficits and debts, which held responsible for incompliance Central States only. The fiscal rule on public debt prescribed the obligation to reduce the debt to GDP ratio under the agreed threshold of 60 percent “*at a satisfactory pace*”, implying a dynamic forward-looking constraint. Over time, the set of rules introduced by the Maastricht Treaty was developed into the Stability and Growth Pact (SGP). SGP explicitly stressed the relevance of pursuing medium term objectives and imposed the submission of medium term Stability Programs to the European Commission for a formal assessment process and for possible requirements of corrective measures by the European Council. This new framework urged to strengthen the control over Local Government accounts at the national level, leading to the adoption of domestic regulations and agreements between levels of government. Recently the European fiscal framework has been reformed, by further strengthening the so-called “preventive arm” and by stressing the focus on public debts’ control.<sup>2</sup>

Under such circumstances, a rule on local authorities’ debt position like the Italian one, based on a static constraint that considers only the outstanding interest to allow new debt issue, is probably bound to become increasingly unsatisfactory. The inadequacy of local debt regulation also arises as far as citizen’s control over the local administrators’ behaviour is concerned, since it fails in guaranteeing a sufficient degree of transparency for the citizens (who are ultimately going to repay the debt by taxes). This problem is enhanced by the payback period of a debt normally exceeding the mandate limit. To avoid perverse incentives, citizens should be allowed to assess *ex-ante* the “expected effects” of local administrators’ decisions and to monitor *ex-post* the “actual impact” of those decisions over time, based on some simplified framework. The necessary tools, however, are

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<sup>1</sup> Restructuring was meant to allow Local Authorities to take advantage of the interest rates reduction following Italian participation in the EMU. The use of derivatives was strictly regulated in the form of IRS or FRA.

<sup>2</sup> During the last decade, and particularly in the most recent years characterized by episodes of crisis of sovereign debts, the attention of the European multilateral surveillance has been strengthened. Under the so-called “Six pack”, enforced on December 2011, the debt criterion has been “operationalized”, so that an excessive deficit procedure (EDP) will also be launched on the basis of a debt ratio violation and not only of the deficit criterion, as it happened so far. Moreover, the fiscal part of the *Treaty on stability, coordination and governance* (the so-called “Fiscal compact”, signed on March 2012 and to be ratified by the Member States during 2013) prescribed the commitment by the Member States to include a balanced budget rule in the Constitutional Laws. In Italy this provision has been recently acknowledged by the Constitutional Law 1/2012, confining debt financing only to economic cycle stabilisation and exceptional circumstances. The new Constitutional provision explicitly prescribes that General Government authorities must ensure balanced budgets and debt sustainability in accordance with the European fiscal rules. Moreover, Local Government debt finance is still allowed only vis-à-vis investment expenditure, but conditional on the whole of local bodies of each Region ensuring an overall balanced budget. Specific limits and operational conditions for debt financing by local authorities (municipalities, provinces, ordinary and special statute regions) are going to be set down in the annual Budget Law.

complex to design, since a real control by citizens can only be envisaged if the system is based on few, easily comprehensible, and transparent indicators. In the paper we make some attempt to address at least the issue of the choice between fixed or variable rates.

The paper is organized as follows. Section 2 briefly reviews the process of fiscal decentralization and the adoption of new local budget constraints over the last two decades in Italy. Section 3 describes the evolution of debt limits to local government in the period analysed and shows data of the Italian municipalities on the budget rule compliance, the debt level, and some investment indicators. Section 4 examines possible tools to assess local authorities' debt decisions. Section 5 concludes.

## **2. The process of fiscal decentralization and the adoption of new fiscal rules over the last two decades**

In the 1990s important changes characterized the Italian fiscal framework. On the one hand, a process of gradual strengthening of local government started, in response to social and political pressures mainly originated in the North of the Country. On the other hand, a process of public finance consolidation took place, accelerated by Italy's entry in the European Monetary Union (EMU). These two lines of change, decentralization and new budget rules, were to some extent divergent and their interrelationship is still problematic.<sup>3</sup>

As far as decentralization is concerned, the accountability of local politicians was strengthened not only by the direct election of majors, but also by the devolution to local administrations of public expenditure and by the reinforcement of their ability to raise local taxes. The Mayor is now directly nominated by the electorate, instead of the winning party as before, and is enabled to nominate his own executive committee. Since 1997, local authorities have become the level of government mainly responsible for administrative tasks. On the revenue side, since 1992 municipalities are managing the local tax on property and collecting a local sur-tax on personal income. At the same time, local administrations have been authorized to outsource certain services, to privatize some others and to manage their debt by using the new instruments available in the financial markets.

Under such circumstances, the introduction of a European multilateral surveillance of public finances – based on supranational rules set by the Stability and Growth Pact (SGP)<sup>4</sup> – required the implementation of “domestic” rules to control public accounts of the lower levels of government. Since SGP set fiscal rules on the consolidated budget of the General Government, indeed, coordination between Central and Local Government became crucial. In most Member States supranational constraints on deficits and debts from the SGP were promptly extended, by different regulations, to all public administrations.<sup>5</sup> Since 1999, Italy has adopted the so-called Domestic Stability Pact (DSP). DSP is aimed at ensuring that the Local Government sector pursues an overall balance of public finances. It is a budget rule, annually approved by the Italian Parliament, setting constraints on deficits of local and regional authorities<sup>6</sup> consistent, in principle, with the General Government targets set for deficit and debt in the Stability Program submitted to the European Commission. The rule's working has been studied at length<sup>7</sup> but without achieving a consolidated judgment, also due to its changing virtually every year.<sup>8</sup> In the paper we focus on the municipalities,

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<sup>3</sup> Balassone and Franco (2001a) and Bordinon (2006).

<sup>4</sup> See Balassone and Monacelli (1999) and Brunila *et al.* (2001).

<sup>5</sup> For an overview on local budget rules see OECD (2005) and Gastaldi and Giuriato (2009).

<sup>6</sup> The DSP involves not only Municipalities, but also Regions, Provinces and the Local Health Authorities.

<sup>7</sup> Among many others, see Balassone *et al.* (2001a, 2001b, 2001c); Bosi *et al.* (2003); Giarda and Goretti (2001); Pisauro (2001).

<sup>8</sup> This is probably due to the fact that the decision on the budget constraint is taken every year by the Italian Parliament during the budget session. In other words, the decision may be mainly conditioned by short-term fluctuations in the economy and the related effects on public finances. A detailed descriptions of the budget constraint can be found in Patrizii *et al.* (2006), and Brugnano *et al.* (2009).

since they represent a very relevant sub-sector for public investment and therefore offer a good perspective in investigating the interactions between debt finance (allowed only to finance investment spending), budget rules compliance, and spending decisions.

## 2.1 The Domestic Stability Pact: a new rule every year

DSP does not rule local debt finance directly, which is still subject to a separate pre-existing set of regulation. However, DSP may affect the level and the management of local debt indirectly, due to some characteristics of the deficit rule. First, deficit targets have been modified several times by including or excluding capital expenditure, relevant to the borrowing decisions under the enforcement of a golden rule as it is the case in Italy. Second, both the sanctions and the monitoring system have been amended over time stirring up aspects that are also relevant for debt.

It is also worth noting that the DSP does not involve all the municipalities and therefore only a share of local deficit and debt is currently under DSP control. The DSP budget constraint was initially enforced on all municipalities belonging to Ordinary Statute regions, i.e. more than 80 percent of the Italian municipalities. In 2001, municipalities with less than 5,000 inhabitants were excluded, reducing the share to almost one fourth of the total. In 2005 only local authorities with less than 3,000 inhabitants were exonerated, bringing the enforcement of the budget constraint to less than 40 percent. Exclusions were motivated by the administrative costs of applying the rule, considered excessive for small local authorities with respect to the dimension of the overall budget they potentially represented in terms of a wider control of deficit. Indeed, small municipalities are not so relevant in terms of average deficit and debt, although in numerical terms they represent the vast majority of local administrations.

The changes to the budget constraint over time were numerous. From 1999 to 2001, municipalities had to balance out their budgets; in 2002 and 2003, they were subject to a double constraint, i.e. a balanced budget and an expenditure ceiling. In 2005 and 2006, only the expenditure ceiling was enforced. In recent years the fiscal rule has been modified again setting specific targets for the budgets. Under all these formulations of the DSP, there are some balance sheet items that are more relevant than others to the borrowing choices of local authorities. As Table 1 shows, capital expenditures (which can be financed by debt, contrary to current expenditure) were excluded from the relevant DSP balance until 2004 and taken into consideration thereafter. Interest payments were excluded until 2004, included in 2005, excluded again in 2006, and re-included in more recent years. All these changes influenced not only the borrowing choices but also the level of local public investments realized.

**Table 1**  
**Capital expenditures and interest payments inclusion in the DSP municipality balance**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Capital expenditures</b>	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Interest payments</b>	No	No	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes

*Source:* Budget Bills, several years.

As for the system of sanctions, the purpose of the legislator is clearly to reduce local debt, although the final effect of the DSP on local debt is not so obvious. In particular, from 2003 to 2006 municipalities that were not compliant with the budget constraint were not allowed to borrow to finance local investments. The rule was changed in 2007 and 2008, but it has now been restored to the previous version. More recently, a second way to encourage a reduction in local authorities'

debt has been introduced by allowing some revenue items to be considered in the DSP balance only if the receipts are used to reduce local debt (revenue from the sale of real estate, from the sale of shares in local public companies, and from dividends). Table 2 summarises the changing of these provisions.

**Table 2**  
**Sanctions and items included in the balance**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Revenue from the sale of real estate	No	No	No	No	No	No	Yes	Yes	Yes	No	No	Yes	Yes
Revenue from the sale of shares in companies operating in public services or from dividends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
The sanction is that getting into debt to finance investments is not allowed	No	No	No	No	Yes	Yes	Si	Yes	No	No	Yes	Yes	Yes

Source: Budget Bills, several years.

## 2.2. The Domestic Stability Pact: a difficult evaluation

In order to assess the impact of DSP on local debt, more than one aspect of its functioning must be taken into account.

As far as DSP compliance is concerned, the simplest indicator is given by the number of municipalities that complied with the rule. Another aspect to consider may be the systematic presence over time – or at least a higher frequency – of compliant entities in specific regions, signalling some favourable impact from the socio-economic and institutional framework. Moreover, given the fragmentation of Italian local government, the analysis should necessarily consider the dimension of municipalities (i.e. resident population), to verify whether there are differences in the compliance emerging from scale effects; this kind of analysis has been developed, for instance, in Brugnano and Rapallini (2009), who used information from the balance sheets of Italian municipalities to build a proxy for DSP compliance. Another useful measure of the DSP compliance is offered by the level of the budget surplus/deficit of the compliant or non-complaint administrations. This measure also allows establishing whether the aggregate target has been reached for some more restricted aggregate of municipalities; Paziienza and Rapallini (2008), for instance, propose a simulation of DSP compliance at the regional level.<sup>9</sup>

Although an assessment of the performance of the DSP budget constraint is ambiguous, there seems to be a general agreement<sup>10</sup> that compliance with the rule has been pursued in two main ways: on the one hand, by maintaining current spending on a growing path while reducing capital expenditure; on the other hand, by identifying alternative means of funding, both for investments and for current spending. In any case, apparently DSP does not seem to have directly affected local debt, which has continuously increased throughout the decade. In this paragraph, we present a descriptive overview of the main items of the Italian municipalities accounts for the last decade by using official data from ISTAT and from the Bank of Italy.

To analyse the compliance with DSP one should bear in mind both the fact that municipalities experienced an increase in the degree of tax autonomy compared to the early Nineties (although it remained fairly low in absolute terms), and the fact that current expenditures are characterised by rigidities that do not concern capital expenditure. Table 3 shows that, although the share of local

<sup>9</sup> The simulation is carried out by using the proxy of the DSP calculated for each local government's balance sheet as in Brugnano and Rapallini (2009).

<sup>10</sup> ISAE (2007).

taxes gained relevance at least one third of current revenues have always been provided by State transfers. It can also be noticed that the role of taxes grew from 1998 to 2007, falling significantly thereafter, mirroring the effects the measures eroding the taxable base of ICI, the local tax on property, approved by the Italian Parliament in 2007.

**Table 3**  
**Municipalities' revenue (percentage composition, total revenue=100)**

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Total current revenue</b>	87	85	85	84	85	86	85	86	87	85	87
<i>of which: Direct and indirect taxes</i>	33	34	34	34	36	37	37	36	35	38	31
<i>Grants from other levels of government</i>	42	39	37	39	35	35	35	35	37	32	41
<b>Total capital revenue</b>	13	15	15	16	15	14	15	14	13	15	13
<i>of which, grants for investment from other levels of government</i>	92	91	91	91	92	93	86	88	92	90	90
<b>Total revenue</b>	100	100	100	100	100	100	100	100	100	100	100

Source: Istat.

Table 4 illustrates the dynamics of the total expenditure of municipalities taking 1998 as the base year. It may be noticed that, as expected, from 1998 to 2008 total expenditure increased by 49 percent; this is the result of current expenditure increasing by 52 percent, and capital expenditure by 39 percent. Interest payments declined steadily until 2005. As for capital spending, municipalities steadily supported an increase in gross fixed capital formation until 2004, while the trend started to swing afterwards. As mentioned before, the change of the rule adopted for 2005 and thereafter may account for trends of some items that were included and excluded from the relevant constraint of the DSP.

Finally, Table 4 also shows the growth in debt experienced by municipalities in the 1998-2008 decade. Data present a discontinuity, due to the privatization of the *Cassa Depositi e Prestiti*, a joint-stock company under public control financing local administrations' investment and previously included in the General Government sector. In the table this discontinuity is addressed by splitting the time series and assuming year 1998 and 2003 both as base years. The increase in the comparable periods was of about 42 percentage points in the first sub-period and of 43 percentage points in the second. This trend has to be considered carefully, not only for the difficulty in evaluating the DSP, but also for the overlapping impact of the specific rules on local borrowing.

**Table 4**  
**Municipalities' expenditure and gross debt (growth rates; 1998 = 100 for expenses; 1998=100 and 2003=100 for debt)**

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Total current expenses</b>	100	106	107	116	119	124	130	133	137	141	152
<i>of which: Interest</i>	100	93	84	92	86	84	68	64	70	86	92
<b>Total capital expenses</b>	100	107	111	119	130	137	154	141	141	148	139
<i>of which: gross capital formation</i>	100	105	108	119	124	133	148	136	135	141	134
<b>Total expenses</b>	100	106	108	117	122	128	136	135	138	143	149
<b>Total debt (*)</b>	100	108	133	135	142	100	106	123	136	140	143

Source: Istat; Bank of Italy for debt. (\*) In 2003 the time series is affected by the discontinuity illustrated in the text.

### 3. Local Government debt limit

As long as local authorities experienced narrow fiscal autonomy, financing decisions and debt management were in the hands of Central Government: the financing of local authorities was mainly transfer-based, with most funds earmarked or allocated for equalization. If extra funds were needed, only a fixed-rate mortgage issued by *Cassa Depositi e Prestiti* could be allowed. Moreover, interest expenses and mortgage instalments were secured and even paid by Central Government. This risk-free framework obviously weakened local administrators' budget constraints and expenditure efficiency, generating overspending. What is more, local administrations did not have any need to gain experiences in relating to financial markets and managing financial instruments.

When a sensible degree of fiscal decentralization was introduced in the late Nineties and the share of expenditure covered by intergovernmental transfers gradually declined, investment and debt financing responsibility was completely attributed to local authorities. Notwithstanding a limited share of local debt (it was roughly 2 percent of total General Government debt in 1999), it became progressively clear the newly acquired responsibility should be carefully monitored by Central Government. This need became particularly urgent when the budget balance requirements imposed by the DSP produced incentives to off budget maneuvers. Furthermore, as previously discussed, the DSP does not contain direct provisions on debt.

As regards the borrowing access, local authorities have been traditionally constrained by a golden rule (borrowing is allowed only to finance investment expenditures). This principle became a *hard* rule after its inclusion in the Italian Constitution (article 119) in 2001.<sup>11</sup> In addition, a borrowing constraint was enforced in the form of a limit to new debt issue: this is a numerical ceiling<sup>12</sup> set as the ratio of interest payments to current revenues,<sup>13</sup> which proved to be not binding very recently. High degrees of reliance in the market discipline were probably embedded in the policy design. However, it has to be pointed out that the efficacy of financial markets in disciplining local governments' fiscal choices and in rating local debt highly depend on a set of hypotheses that are rarely met in practice (full and symmetric information, openness of markets, etc.).<sup>14</sup> Since 1996, municipalities have been authorized to directly issue bonds, under a strict set of constraints that include the respect of a golden rule, as well as commission expenses and interest premium ceilings, and a compulsory amortizing method.<sup>15</sup> In the meanwhile, the "euro dividend" led to a sharp decrease of interest rates and the restructuring of old fixed-rate debt became a priority (Figure 1).

In order to restructure the debt stock and to promote new borrowing opportunities, municipalities were authorized to issue "bullet bond", i.e. bonds with a single solution reimbursement of the capital at maturity.<sup>16</sup> With the aim of limiting moral hazard behavior of current local administrations, by issuing debt to be repaid by future administrators, sinking funds or amortizing swap contracts were imposed. Notwithstanding some sizeable emission by largest cities, the municipal bond market has not really developed, probably also due to a lack of transparency of municipalities' budgets.

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<sup>11</sup> The constitutional status of the golden rule required an unambiguous definition of investment expenditure and debt in order to avoid the undue classification of current expenditure items under capital expenditure. Incidentally it has to be mentioned that Italy is presently moving towards a Constitutional framework recognizing the balanced budget principle as a general criterion. However the issue is still debated in the Parliament and has raised complex aspects, both theoretically and technically, to be carefully examined for its actual implementation.

<sup>12</sup> Among the drawbacks of numerical rule, as stressed by economic literature, there are incentives to elude rules by implementing specific accounting practices. In the case of debt this can be done by transferring debt to other entities not subject to the rules, by sale and lease-back contracts or by specific old debt restructuring, as in the case of derivative contracts.

<sup>13</sup> Article 204 of Law 267/2000 (so-called *Testo Unico degli Enti locali*). On this issue see Bardozzetti *et al* (2008).

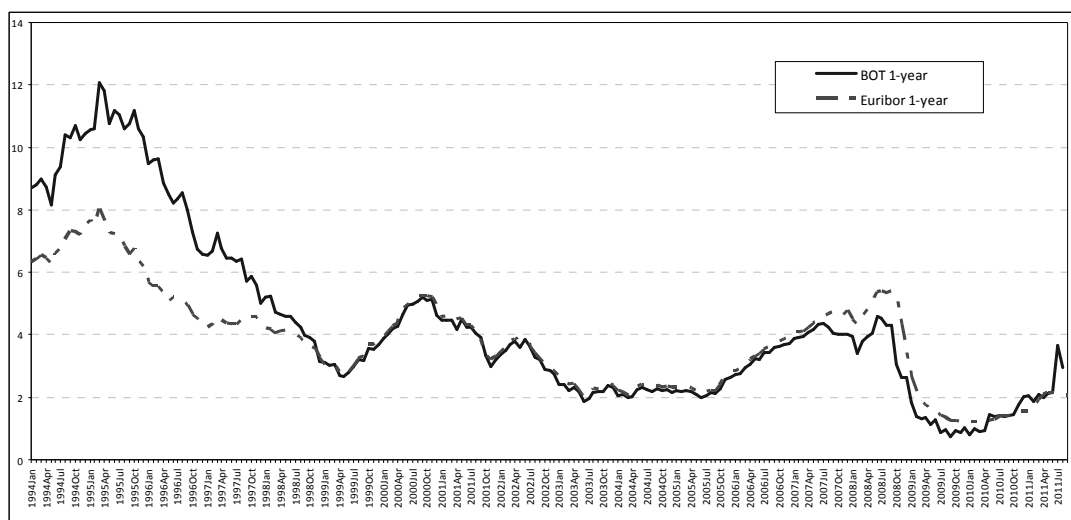
<sup>14</sup> Among many others see Dafflon (2002) and Dafflon (2010).

<sup>15</sup> An amortizing bond must repay part of the principal (face value) along with the coupon payments.

<sup>16</sup> Law 488/2001.



**Figure 1**  
Interest rates trend: 1994-2011 (percentage points)



Sources: European Central Bank and Bank of Italy.

However, derivative contracts – which municipalities started to use in the late Nineties – have become a common tool for reshaping debt and reducing borrowing cost, exacerbating the transparency issue. These are mainly OTC (over the counter) financial contracts that envisage an interest flows exchange – Interest Rate Swap (IRS)<sup>17</sup> – but typically include several clauses and options and need a specific expertise to be evaluated. After a while, clear evidence of improper use of derivatives emerged, especially because the restructuring contract often envisaged a sizeable cash premium cashed by the municipality at the contract subscription (upfront) or because it changed the time span of the underlying debt contract. As a result the use of derivative contracts has been progressively subject to several constraints, among which the use of the simplest form (so called plain-vanilla), the ban of every speculative goal and the ban of any upfront exceeding 1% of the underlying liability. In 2008 derivatives use was totally prohibited pending a new regulation still to be delivered by the Ministry of the Economy and Finance. Table 5 shows the number and some characteristics of the outstanding derivative contracts between Italian local authorities and the banks operating in Italy: after the stricter regulation and the 2008 ban, the role of these contracts seems to experience a rapid decline.

**Table 5**  
Local authorities' transactions in financial derivatives with banks operating in Italy

	No Local Authorities	Of which: No Municipalities	Notional Value	Negative Market Value	Upfront paid (*)	Notional Value/ Ongoing Debt
<b>2005</b>	349	310	29,057	600	33.6	33.2%
<b>2006</b>	586	538	33,041	737	3.7	31.3%
<b>2007</b>	671	621	31,520	902	0.6	28.6%
<b>2008</b>	474	415	26,053	1,061	0.1	24.3%
<b>2009</b>	483	430	22,499	1,023		20.2%
<b>2010</b>	308	256	17,648	1,043		15.9%

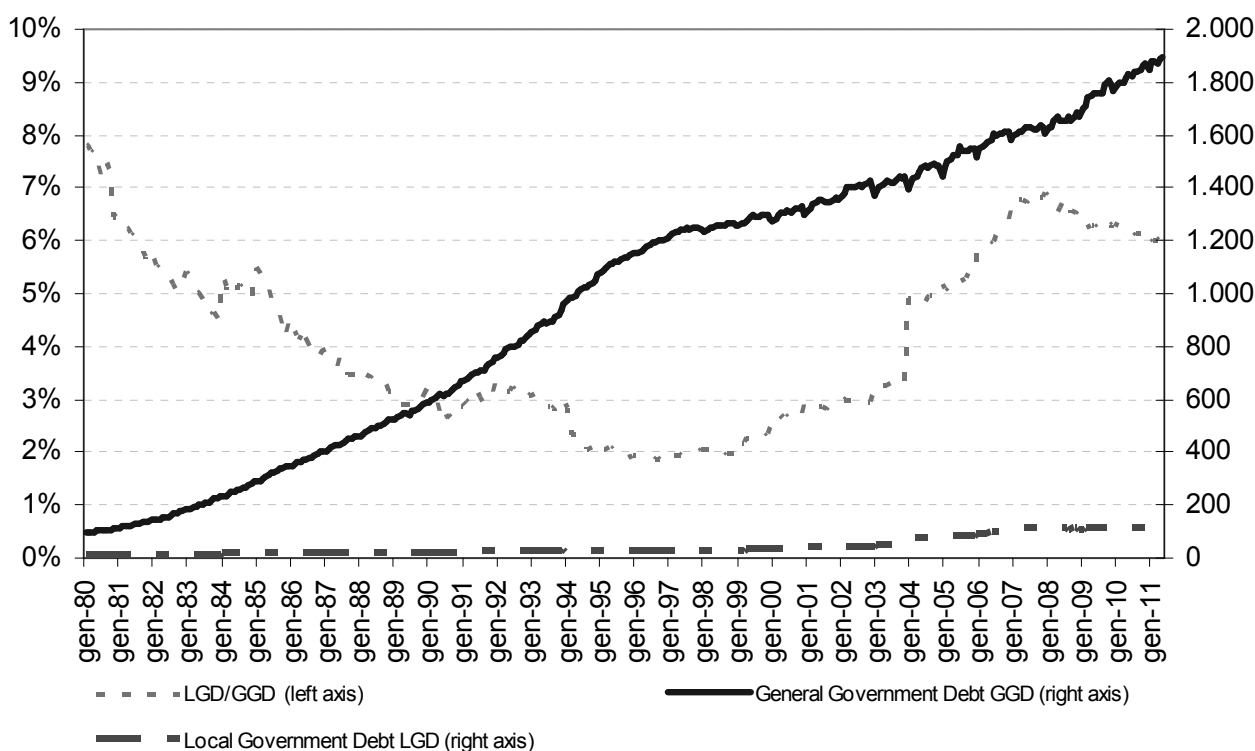
Source: Bank of Italy (2011). Notional value, negative market value, and upfront in million of euros.

(\*) Upfront estimation based on data from three main Italian banking groups (Franco, 2009).

<sup>17</sup> An IRS is a contract by which two parts exchange of interest cash flows, based on specific debt amount (the underlying notional debt, in this case); the flows exchange goes from a fixed rate to a floating rate (or vice versa).

This mixed-up, not-binding set of rules, together with a profound transformation in local public finance and financial markets, created inefficient incentives. The result was a notable increase in the role of debt for local administrations that reached a share of 6 per cent of general government debt in 2011 (Figure 2).

**Figure 2**  
**General Government and Local Government Debt: 1980-2011** (*billion of euros and percentage points*)



To gain some hints on the role plaid by the DSP and the debt ceiling rule we looked at budget data of local administrations, in particular, of municipalities ruled by DSP.<sup>18</sup> The analysis of the relationships between fiscal rule, capital expenditures and local debt is carried out by using a proxy of the DSP’s compliance directly computed from the balance sheets of the Italian municipalities. More precisely, we use a dataset that encompasses the main budget items of virtually all municipalities in Italy (around 8,100) for the period 1999-2006.<sup>19</sup>

Table 6 presents the implicit cost of debt by the municipality’s dimension and the geographical localization. Since year 2000 the implicit cost generally declined, although at different pace. Bigger municipalities in the North of Italy experienced a faster decline of the borrowing cost probably due to better ability to take advantage of the market interest rate. As already discussed, the borrowing limit has proved not to be binding up to now. The numerical ceiling, expressed in terms of the ratio of interest expenditures to current revenues, was set at 25 percent until 2004 and ranged between 12–15 percent until 2012.<sup>20</sup>

<sup>18</sup> As already described, after year 2000 municipalities with less than 3,000 inhabitants have not been constrained to any specific budget constraint.

<sup>19</sup> Data are from the so-called “Certificati di conto consuntivo”, i.e. prospects summarizing the balance sheets that must be transmitted to the Ministry of Domestic Affairs on an annual basis for a formal assessment by the State.

<sup>20</sup> To strengthen the control on General Government public debt, the budget bill for 2012 set the threshold to 8 percent for 2012, 6 percent for 2013 and 4 percent for 2014. The constraint will probably become effectively binding in the next two years.

**Table 6**  
**Implicit cost of debt (\*) for Italian municipalities according to the municipality dimension and the geographical area**

	1999	2000	2001	2002	2003	2004	2005	2006
<b>(Inhabitants)</b>								
0- 3000	11.6%	12.0%	12.4%	12.3%	12.1%	11.8%	11.7%	10.8%
3000-5000	11.9%	12.0%	11.3%	12.1%	11.4%	10.9%	11.3%	9.6%
5000-10.000	10.8%	11.2%	10.8%	10.2%	10.2%	9.7%	8.9%	7.6%
10.000 50.000	9.5%	9.9%	9.0%	8.9%	8.9%	8.5%	8.0%	8.1%
> 50.000	8.5%	8.9%	7.8%	6.4%	9.0%	6.8%	7.0%	6.4%
<b>(Area)</b>								
North	9.9%	10.4%	10.4%	10.1%	9.9%	9.2%	8.9%	8.3%
Centre	13.5%	13.5%	13.2%	12.7%	13.6%	12.2%	12.5%	11.2%
South	12.5%	12.7%	12.6%	13.3%	12.8%	13.0%	13.0%	11.6%
<b>Total</b>	<b>11.2%</b>	<b>11.5%</b>	<b>11.5%</b>	<b>11.4%</b>	<b>11.2%</b>	<b>10.7%</b>	<b>10.6%</b>	<b>9.7%</b>

Source: Authors' estimation. (\*) Interest payments on total debt.

In Table 7 results of a rough calculation of this constraint are given, showing that municipalities have been very distant from the ceiling.<sup>21</sup>

**Table 7**  
**Borrowing constraint (interest payments on current revenues)**

	1999	2000	2001	2002	2003	2004	2005	2006
<b>(Inhabitants)</b>								
0- 3000	6.9%	6.3%	5.9%	5.6%	5.4%	5.3%	5.2%	5.0%
3000-5000	6.6%	5.9%	5.6%	5.4%	5.2%	5.2%	5.1%	5.0%
5000-10.000	6.4%	5.8%	5.4%	5.3%	5.1%	5.1%	5.1%	5.0%
10.000 50.000	5.7%	5.2%	4.9%	4.8%	4.7%	4.7%	4.7%	4.6%
> 50.000	5.2%	4.9%	4.8%	4.5%	4.4%	4.1%	4.1%	4.1%
<b>Total</b>	<b>6.6%</b>	<b>6.0%</b>	<b>5.6%</b>	<b>5.4%</b>	<b>5.2%</b>	<b>5.2%</b>	<b>5.1%</b>	<b>4.9%</b>

Source: Authors' estimation.

For those administrations that were annually subject to DSP, Table 8 presents two indicators given by the ratios to total revenue of debt and investment expenditure, respectively. As the number of municipalities included in the calculation changes considerably year by year, the time trend has no meaning in this case, but it is clear that there is no significant difference in the average value of debt and investment for municipalities that result compliant or not compliant to the DSP.<sup>22</sup> From these descriptive data it may be concluded that, apparently, the DSP has not influenced debt and investment behavior of municipalities.

<sup>21</sup> Note, however, that the dataset does not contain information required for an exact computation of the borrowing constraint.

<sup>22</sup> A similar result was found by Broyles *et al.* (2009).

**Table 8**  
**Debt and investment indicators for municipalities subjected to the DSP**

	1999	2000	2001	2002	2003	2004	2005	2006
DSP compliant	Debt on total revenues							
No	259%	162%	125%	90%	50%	54%	53%	66%
Yes	294%	90%	48%	100%	55%	55%	62%	49%
Total	279%	136%	88%	94%	53%	54%	57%	65%
DSP compliant	Investments on total revenues							
No	29.8%	30.1%	53.2%	27.3%	29.1%	29.0%	31.4%	25.9%
Yes	30.7%	30.1%	24.9%	27.6%	30.9%	31.6%	22.4%	22.9%
Total	30.3%	30.1%	39.8%	27.4%	30.1%	30.0%	27.4%	25.8%
No. Municipalities	6,701	6,701	1,928	1,938	1,938	1,987	2,961	2,961

Source: Authors' estimation.

These results are consistent with a framework in which there is no coordination between budget constraints and borrowing limit. More precisely, descriptive statistics from both the national accounts and the balance sheets data (i.e. statistics referred to the overall sub-sector and to single municipalities, respectively) show that from the joint effect of the two rules (the DSP and the borrowing limit) a stable path of increasing current expenditures, a decrease in capital expenditures, and an increase of the local debt have derived.

There could be at least two ways to explain these stylized facts. One possible interpretation is that the DSP, together with the difficulties in regulating OTC financial instruments and other forms of elusion by the administrations, may have created inefficient incentives, exacerbating moral hazard behavior and the lack of transparency of local government budgets. For instance, the classification of the upfront from derivative contracts within current revenue may have helped complying with the DSP at the expenses of higher future level of debt. Generally speaking, extreme accounting practices or improper use of derivative contracts can make municipalities' budget ratios very hard to interpret. A second possible explanation may be that debt has been subscribed to close the legal procedure needed to authorize investment projects, while works have not been started due to the deficit constraint from the DSP. In other words, municipalities had the borrowing resources to realize investments, but the fiscal rule on balance sheets did not allow them to spend. This issue is strongly represented by the municipalities associations nowadays, in face of the need to sustain investment to counteract the economic crisis.

#### 4. A proposed framework to assess local authorities' debt decisions

Decisions about borrowing or debt restructuring by local administrators should be subject not only to market discipline and Central Government control, but also to citizens' evaluation, relying on some simplified framework. Such a framework is complex to define not only for the uncertainty of the macroeconomic trends – unavoidably affecting public accounts projections – but also for the volatility of the financial markets, which is even more difficult to address.

The main aspects involved in defining borrowing/debt-restructuring effects concern the length of the payback period and the choice between fixed or variable rates. The payback period normally exceeds the mandate limit of local politicians, so that the assessment of the administrator's choices must provide at least two kind of information: (a) a measure of the public expenditure flows expected to arise under alternative debt options at the moment the decision is taken; (b) an update over time of the assessment, through the monitoring of the result of the initial decision, measured in terms of the differential cost (positive or negative) that was reflected in the budget. The second piece of information should possibly give separate evidence of the effects induced by the market volatility, on one side, and the administrator's discretionary choice, on the other, with the aim of providing a measure of how much is due to the original decision.

Suppose a local administration needs to finance an infrastructure and decides to issue a municipal bond with a repayment period of  $n$  years. Assume also for simplicity that: (a) the available options only differ for the choice between fixed and variable rate; (b) they have an identical payback period; (c) there are no fees for financial intermediaries (which, however, could be easily included). In order to project the interest payments in case of variable rates, the administration can exploit the interest term structure referred the most similar financial instrument in the market, available at the moment the bond is issued. Based on these expected interest flows, the administration can always compute the implicit fixed rate ( $i^f$ ) that would make the bond issue equivalent to the variable rate one at the present market conditions, i.e. the fixed rate that equates the overall discounted value of the future expected interest flows under the fixed and the variable rate profiles.<sup>23</sup> Note that this fixed-variable interest equivalence will only hold: (a) in discounted terms; (b) for the overall expected interest flows (and not for the flows expected in each single period  $t$ ); (c) in the first period, when the bond is issued, because the interest term structure changes thereafter due to the financial markets volatility. In order to assess the administration's debt operation, we simply need to compare the interest flows of the two options focussing on their difference.<sup>24</sup>

A useful way to summarise the entire path of the differences between the two interest profiles (for instance, the gap between fixed and variable rate  $i^f - i_t$ ) is by computing in each period  $t$ : (a) the difference in the interest flows  $\bar{c}_t$  observed for that period; (b) the present value of the interest differences already realized in past periods ( $\bar{c}_k$ , for  $k=1, t-1$ ); (c) the discounted value of the interest differences still expected in future periods, subject to the term rate structure observed at period  $t$  ( $c_k$ , for  $k = t+1, n$ ). This decomposition may be written as follows:

$$[1] \quad \underbrace{\sum_{k=1}^{t-1} \bar{c}_k \prod_{s=k}^{t-1} (1 + \bar{i}_s)}_{\substack{\text{present value of} \\ \text{differences in} \\ \text{(past) interest flows} \\ \text{realized at time } t}} + \underbrace{\bar{c}_t}_{\substack{\text{current} \\ \text{differences in} \\ \text{interest flow} \\ \text{at time } t}} + \underbrace{\sum_{k=t+1}^n c_k (1 + i_{t,k})^{k-n}}_{\substack{\text{discounted value of} \\ \text{differences in} \\ \text{(future) interest flows} \\ \text{expected at time } t}} \quad \forall \quad t=1, \dots, n$$

*based on the interest term structure AVAILABLE at each time t*

where over-lined letters denote variables already realized at time  $t$  and therefore constant in the expression. In particular,  $i_{t,k}$  denotes the spot interest rate for period  $k$  implicit in the term structure

<sup>23</sup> Since we assume no other costs are considered (commissions or fees) this equivalence simply implies that market agents are indifferent between the two options when subscribing the administration's bonds.

<sup>24</sup> The interest flow differences will have positive and negative signs in each single period  $t$ , because by construction they cancel out in discounted terms at time  $t=1$ .

observed in the market at time  $t$ . It is therefore known at any period  $k \leq t$  (denoted by  $\bar{i}_k$ ) and uncertain (subject to market volatility) at any period  $k > t$ .

Expressions [1] can be used to assess not only a new debt issue, but also a debt restructuring operation from fixed to variable interest rates (or *vice versa*). In this case, the difference in the interest flows represents the cost/yield of the debt-restructuring operation itself and not simply a comparison between the theoretical alternative forms of borrowing;  $t=1$  indicates the period in which the administration decided to switch (for instance, from fixed to variable rates). The debt restructuring may occur either by extinguishing the outstanding debt at a fixed rate and issuing new debt at a variable rate or by means of a derivative contract in the form of an interest rate swap (IRS). In case of an IRS (of the type admissible in Italy for local authorities), the administration will subscribe an agreement by which the counterpart, for instance, commits itself to pay lenders (on behalf of the administration) fixed rate interests on the underlying outstanding debt, as originally established when the liability was issued, while the administration commits itself to pay the counterpart the variable rate interests determined by the market; actually, they will only exchange the net interest flow, due by one or the other depending on the rates trends. These net flows are exactly the  $c_t$  of expression [1].

The derivative is a financial asset that may be sold at a market price. Obviously, for an IRS the equivalence of the discounted value of future expected interest flows under fixed or variable rates implies the expected value of net interest flows exchanged with the counterpart is null, i.e. that the derivative was originally subscribed at a fair value.<sup>25</sup> For an IRS, therefore, the last component of expression [1] represents an estimate of the mark-to-market of the contract observed in each period  $t$ . The debt restructuring could also include the payment of an upfront to the administration, which is obviously going to find its compensation in the future net interest flows.

The second step in assessing the administration's borrowing/debt-restructuring choice is to try and distinguish, while monitoring the actual impact of the operation, what is ascribable to the financial market development and what to the discretionary decision to change the profile of the interest payments. By keeping the interest term structure equal to the one prevailing in the market at  $t=1$  (i.e. by freezing it to the one available to the administration when issuing the liability or restructuring), we can obtain a decomposition of the overall interest flows that shows what the administrator *expected in period 1 to happen in any future period t*, if his/her expectations had fulfilled and the market structure had not changed thereafter. Denoting by  $i_k^*$  ( $k=1, \dots, n$ ) such a rate structure, expression [1] may be rewritten as follows:

$$[2] \quad \underbrace{\sum_{k=1}^{t-1} c_k^* \prod_{s=k}^{t-1} (1 + i_s^*)}_{\text{present value of differences in (past) interest flows EXPECTED TO BE realized at time t}} + c_t^* + \underbrace{\sum_{k=t+1}^n c_k^* (1 + i_k^*)^{k-n}}_{\text{discounted value of differences in (future) interest flows THAT WOULD BE expected at time t}}$$

*all based on the interest term structure AVAILABLE at time t=1*

Expression [2] brings a useful benchmark for the assessment of the administrator's behaviour insofar as: (a) it may reveal the local politician's response to the incentive to shift the burden of debt repayment to future administrations and take credit for the benefits of the investment; (b) it

<sup>25</sup> In this example we still neglect fees and also exclude, for simplicity, other elements of the contract like caps or collars.

allows to disentangle the effects of the market volatility from the assessment by expression [1] at each period  $t$  (by taking the difference between each single elements of the decompositions computed by [1] and [2]).

#### 4.1 Simulating the decomposition for a 10-year liability in 2001-2010

To give a practical example of the use of the proposed decompositions, we simulated the impact of a 10 years debt restructuring operation using the term structures of the interest rates observed in period 2001-2011.<sup>26</sup> We considered two cases: absence of any upfront; payment in 2001 of an upfront of 10 percent of the underlying liability to the local administration. The choice of the specific decade allows analyzing the effects of the interest rates decrease following Italy's entry in the EMU. The example may be applied either to a comparison between two alternative debt issues, for which we want to assess the choice between variable and fixed rate, or to a restructuring operation, for instance to an IRS contract of the type pay-variable and receive-fixed.

Figure 3 shows the annual interests flows computed for a debt operation without upfront. The two solid lines represent the evolution over time of the interest flows: at the expected spot rates according to the term structures available in each year (the solid red line); at the 2001 equivalent fixed rate (the blue constant line). The two histograms below show the evolution of the net interest flow obtained as the difference between the two interest flows above: the light blue one represents the interest differential revised in each period according to the current interest curve; the green one simply replicate the differential expected in 2001. As suggested above, these flows may also be interpreted as the flow generated by a corresponding IRS converting an outstanding liability from fixed rate into variable rate.

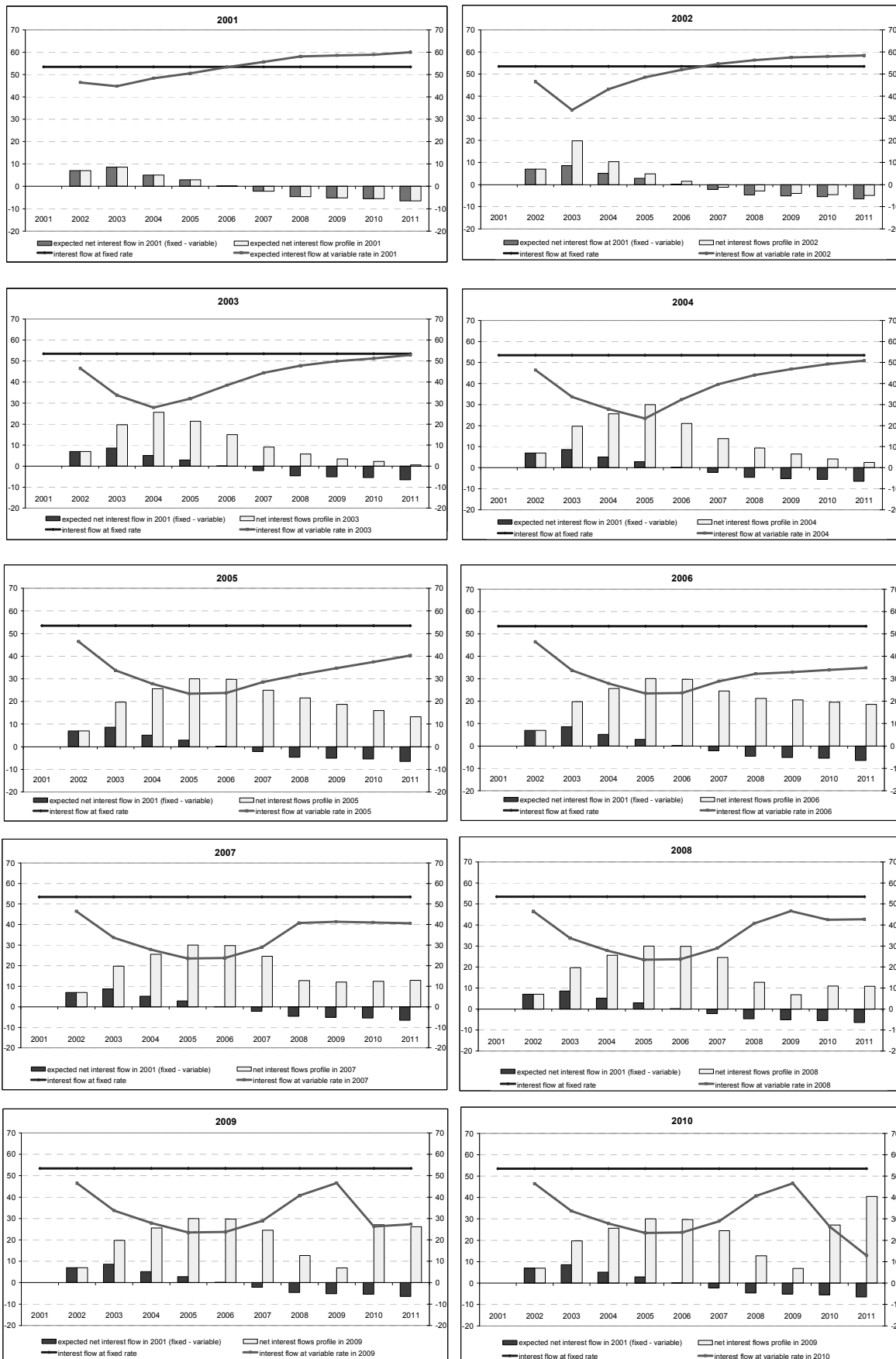
From the graph it is apparent that an administration choosing or shifting towards variable rates in 2001 would have expected a favorable interest flow profile in the first half of the decade, compensated by an unfavorable profile in the second. It is also clear that the financial market evolution would have actually rewarded such a choice anyway since 2003, when the interest term structures started to generate variable rates always below the original fixed rate.

This information may be summarized in a much simpler way by using the decomposition of expression [1], which in each period, besides giving the current net interest flow, sums up the overall present value of past net flows and the expected value of future ones. These three components are represented for each year by the histograms in Figure 4 (respectively the green area, the orange striped one, and the blue squared one). The red solid line represents the sum of the three components and therefore gives an overall assessment of the debt operation: if the present value of the three components in period  $t$  is positive, the administration is gaining from the operation, subject to the expected trends in the financial markets at that time; if the present value is negative, it is loosing. The computation has been carried out for both a no-upfront case (upper part) and a 10%-upfront case (lower part).

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<sup>26</sup> In particular, we simulated a debt restructuring operation from fixed to variable rates for a 1 million euro liability. We extracted the interest rates from the Bloomberg term structures of euro swaps observed in period 2001-2011. The fixed rate was computed on the 10-year swap rate observed at the subscription (2 January 2001), and was equal to 5.345 percent. The variable rates were indexed to the 12-month swap rate of the previous year's first working day without adding any spread. Each period realized interests were computed under the hypothesis of annual lending/borrowing of the flows until each evaluation period  $t$ , and by applying the actual rates at that date. The future expected interest flows were discounted at the market spot rates in the evaluation period  $t$ .

**Figure 3**  
**Annual interest flows from a 10-year liability in 2001-2010 (no upfront) (thousand of euros)**





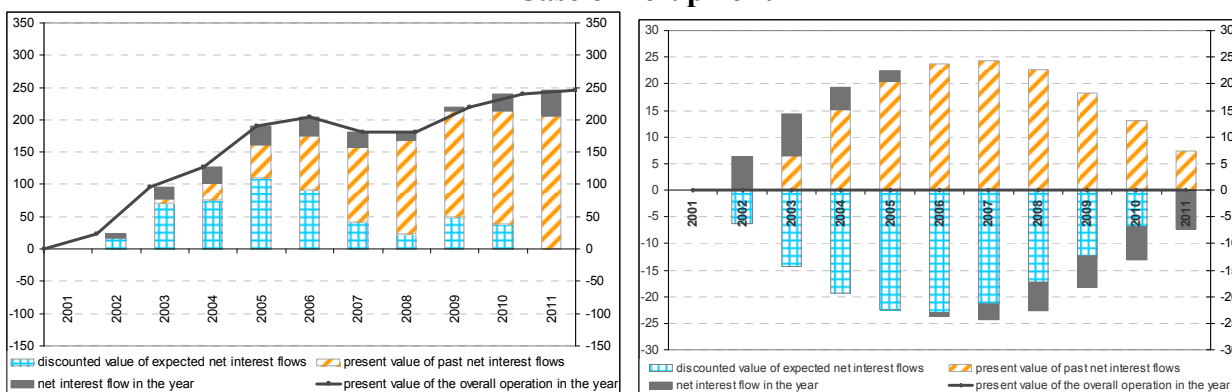
The left-hand-side of Figure 4, represents the decomposition from expression [1]. The right-hand-side represents the corresponding decomposition computed from expression [2], which freezes the term structure of the interest rate at the 2001 information set. All the main conclusions from the first-sight inspection of the single flows in Figure 3 are confirmed. Figure 4 also highlights, however, that the profile of the expected interest flows is such that the discounted value of the sum of the positive and negative expected flows is *always positive* since the very beginning. The postponement of interest flows to the future, which is initially neutral in discounted terms by construction (see the right-end-side of Figure 4), quickly became rewarding due to the market evolution. The negative flows in the second half of the decade were almost immediately more than compensated by the positive interest flows realised in the first half. This is not the case only in the presence of an upfront (assumed for instance equal to 10% of the outstanding liability) which obviously implies higher future negative net interest flows to repay for the anticipation of resources (lower part of Figure 4).

**Figure 4 - Annual decomposition of the value of the net interest flows (thousand of euros)**

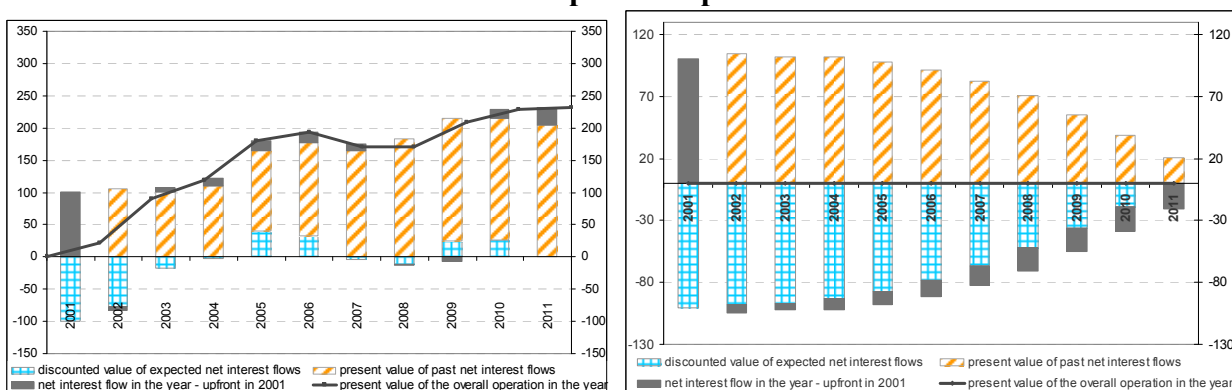
*Annual term structures*

*2001 term structure*

**Case of no-upfront**



**Case of a 10-percent-upfront in 2001**



This exercise was implemented not so much to give any specific measurement of the performance of debt operations in the decade, but rather to offer an example of possible frameworks to assess debt decisions by local administrators in a relatively simple way and, most of all, in a forward-looking way. It was also meant to highlight how any debt issuance or restructuring could be monitored over time in a dynamic way, avoiding the difficulties of assessing the impact of these operations on the annual budget by a simple one-off picture. This last issue is particularly relevant

when derivatives are used for restructurings: in a situation like the one simulated here, for instance, in years 2007-2008 there should have been no particular surprise for the local administration and for its citizens in finding that once an upfront of 10,000 euros had been received in 2001 the mark-to-market of the outstanding IRS was negative, since the initial expectation when subscribing the derivative was even much worse than that and actually the market trends helped containing the potential loss associated to a possible call back of the contract. Obviously things are much more complex in reality due to piling up of several operations and the presence of many other components generally included in the contracts.

## 5. Conclusions

European fiscal rules address General Government deficit and debt as indicators for soundness and sustainability of public accounts and are explicitly built with reference to medium term frameworks. Although for many years the emphasis of the multilateral surveillances mechanism was mainly on deficits, most recent reforms are trying to strengthen public debts control. Fiscal rules, by focusing on the consolidated General Government sector, raised problems of coordination between different levels of government, which led to the adoption of fiscal rules at the national level by most Member States. Italy has adopted a Domestic Stability Pact since 1999. Somewhat reflecting the original emphasis on deficit of the supranational Stability and Growth Pact, the DSP does not rule debt financing directly, although some characteristics of the Pact may have affected local governments in their debt management. Local debt is still subject both to a *hard* golden rule and to a separate pre-existing rule on new borrowing. The former was introduced in the Constitutional law since 2001, and the latter is a limit to the issuance of new debt, provided by a numerical ceiling to the ratio of interest payments to current revenues in force since a very long time. This limit proved to be not binding until very recently, when the numerical threshold has been progressively reduced. Current rule on local authorities' debt position is therefore based on a static constraint and is probably bound to become increasingly unsatisfactory. It remains to be seen how the recent Constitutional revisions, introducing a balanced budget provision, will affect this framework in the future.

The DSP effects are difficult to trace back and assess, since rules have been amended many times preventing sufficient stability of the legal framework. By exploiting official statistics and data on Italian municipalities' budgets, our analysis shows a fall in capital expenditures and an upward trend for current expenditures and local debt, despite the joint effect of the three constraints (the DSP, the hard golden rule and the borrowing limit). By using information about DSP compliance for Italian municipalities, we also observed that there is no apparent significant difference in the average value of debt and investment (which debt can finance) for municipalities that are compliant or not compliant with the DSP. Therefore we found that no relevant constraint on debt is apparently working through the Pact. The different budget rules, therefore, do not appear to induce efficient behavior by local municipalities. On the contrary, they apparently produced a problematic decrease in public investments after capital expenditure had been included among the budget items defining the DSP target. The observed increase in local debt (inconsistent, in principle, with a decrease of investment) indicates that debt may have financed also current expenditure and therefore window dressing practices may have been employed in order to comply with the budget and debt rules. The use of derivatives as a way to change the inter-temporal profile of debt and interest payments can be part of this picture. These unsatisfactory results are certainly due to the high instability of the rules (the Domestic Stability Pact changed almost every year), but also to other more systemic factors, such as the lack of coordination between budget constraints and borrowing limits, the waving path to fiscal federalism, and the still limited assignment of fiscal power to municipalities.

The inadequacy of local debt finance regulation also prevents citizen's control over the local administrators' behaviour. Regulations on borrowing or debt restructuring fail in guaranteeing a

sufficient degree of transparency about the future implications of the financial decisions taken by local politicians, in a situation where the payback period of new debt issue normally exceeds the limit of political mandates. To avoid perverse incentives citizens should be allowed to assess *ex-ante* the “expected impact” of local administrators’ decisions on the future budgets and to monitor *ex-post* the “actual impact” of such decisions over time, based on some simplified framework. In the paper we made some attempt to address at least the issue of the choice between fixed or variable rates. By doing so, we indirectly addressed also the problem of the assessment of derivatives market-to-market in a specific period, which has recently come to the attention of the Italian public opinion raising several misunderstanding of the phenomenon. More specifically, we tried to elaborate a set of indicators for the assessment of the debt position of the local administrations which could help: (i) adopting a forward-looking framework for the assessment; (ii) implementing a continuous monitoring of the effects of past decisions; (iii) the disentangling of the impact of local administrator’s discretionary choices from the impact of the market evolution (so that responsibilities of the politicians are clearly identifiable). This framework could be useful, but the main issues remain the need for public accounting to adjust so as to properly provide the necessary information and the need for the overall set of rules to be jointly considered when implementing partial changes of the legal framework so as to avoid perverse incentives.

As for the use of derivatives by local administrations, which is now been suspended in Italy to avoid undesirable effects in difficult public finance conditions, we could stick to the advice by The Economist review: «*Some politicians and others responsible for financial regulation blame the growing use of derivatives for increasing volatility in asset prices, and for being a source of danger to their users. Economists mostly regard derivatives as a good thing, allowing more precise pricing of financial risk and better risk management. However, they concede that when derivatives are misused the leverage that is often an integral part of them can have devastating consequences. So they come with an economists’ health warning: if you don’t understand it, don’t use it.*»<sup>27</sup>

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<sup>27</sup> Economics A-Z: definition of Derivatives.

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