CAN PUBLIC SECTOR WAGE BILLS BE REDUCED?

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NBER Working Paper No. 17881
March 2012
JEL No. E62,H76,J45

ABSTRACT

This paper analyzes the relation between public wage bills and public deficits in the OECD countries from 1995 to 2009. The paper shows that fiscal drift episodes, characterized by simultaneous increases in the GDP shares of public wage bills and budget deficits, are more frequent during booms and election years, but not during recessions, except for the 2009 exceptionally strong recession. The emergence of fiscal drift episodes during booms and election years is less frequent in countries with more transparent government, more freedom of the press, as well as in countries with presidential regimes and less union coverage. Inversely, fiscal tightening episodes, characterized by simultaneous decreases in the GDP shares of public wage bills and budget deficits, occur less often during booms than during recessions. The emergence of fiscal tightening episodes during recessions and election years is less frequent in countries with more union coverage.

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1. Introduction

In most countries, public wage bills represent a large share of public expenditure (about 55 percent on average in 2009). For this reason, governments that make fiscal adjustments ought to have a hold on the level of their public wage bills (Alesina and Perotti, 1995). In this paper, we analyze the adjustment of public wage bills and public deficits over business and political cycles. We examine how the transparency of governments,[1] the freedom of the press, the union coverage, the political regime (parliamentary versus presidential)[2] and the electoral rule (majoritarian versus proportional) influence the ability to adjust public wage bills.[3]

Our main results are well illustrated by two countries. In Greece, the share of public wage bill in GDP increased from 9.6 percent in 1996 to 12.2 percent in 2008. During the same period, public deficit averaged 4.9 percent of GDP. Strikingly, increases in the share of public wage bill in GDP occurred when the output gap was positive rather than negative. In Denmark, the share of public wage bill in GDP averaged 17.4 percent over the same period. It is much higher than in Greece! However, Denmark managed to control not only the evolution of the public wage bill, which remained stable, but also the public budget which exhibited an average positive surplus of 1.7 percent of GDP. According to our findings, Greece is a typical example of a country where the weak transparency of the government and the lack of freedom of the press induce drifts of public wage bills during booms and election years that governments have no incentive to counteract when economic difficulties arise. At the opposite, in Denmark, transparency of public institutions and freedom of the press put pressure on governments to avoid unsustainable increases in public wage bills. All in all, our paper stresses that the transparency of the government and the freedom of the press contribute to prevent unsustainable increases in public wage bill.

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[1] Recent papers have connected economic policy with the transparency of governments. Alt and Lassen (2006) and Shi and Svensson (2006) show that electoral cycles in fiscal balances are more pronounced in countries with lower transparency. Gavazza and Lizzeri (2009) show that imperfect observability generates an incentive for politicians to offer excessive transfers partly financed through public deficits. Alesina, Campante and Tabellini (2008) and Lane (2003) analyze the cyclical behavior of fiscal policy in OECD countries. Lane stresses that political economy factors play an important role in determining the degree of cyclicality in government spending across OECD countries, especially for wage government consumption. Alesina, Campante and Tabellini (2008) argue that more corrupt countries display more procyclical fiscal policies because when more resources are available (i.e., in booms), the common-pool problem is more severe, and the fight over common resources intensifies, leading to budget deficits, this effect being stronger in more corrupt countries.

[2] Persson (2002) finds that, empirically, presidential regimes are associated with smaller and less persistent responses of spending to income shocks, a stronger post-election cycle in aggregate spending and revenue, but a weaker cycle in social transfers.

[3] Persson and Tabellini (2000, Ch. 9) argue that electoral cycles, showing up in spending or taxes, should be weaker under proportional representation compared to majority rules, because the incumbents' career concerns are stronger with individual accountability stemming from majority rules and because these concerns are at their strongest just before elections.

We start out by describing the relations between public deficits and public wage bills. It turns out that there is no systematic *cross-country* relation between the share of public wage bills in GDP and the level of public deficits. There are very large cross-country differences in the share of public wage bills in terms of GDP, which ranges from 6.3 percent of GDP (Japan) to 17.5 percent of GDP (Denmark) over the 1990-2009 period. But countries with larger wage bills do not have necessarily larger public deficits. However, there is a strong positive *within* country correlation between public wage bills and public deficits, even when these two variables are averaged over five-year periods. This indicates that public deficits tend to increase in countries where public wage bills increase faster than GDP.

In order to describe more precisely the situations where there is lack of control of public wage bills, we define episodes of what we call "fiscal drift", where there are simultaneous *increases* in the share of public wage bills in GDP and in public deficits. We interpret the occurrence of such episodes as the sign of a lack of control of public wage bills and public expenditure. We also look at episodes of "fiscal tightening", where there are simultaneous *decreases* in the share of public wage bills in GDP and in public deficits. Such episodes occur when the control of public expenditure is sustained, at least partially, by a strong control of public wage bills.

With these definitions in mind, we analyze in turn the probability that fiscal drift and fiscal tightening episodes appear. In doing so, we identify when these episodes occur around economic or political cycles, conditional to the degree of transparency of the government, the freedom of the press, the union coverage, the political regime and the electoral rule.

Strikingly, we find that fiscal drift episodes do not come out more frequently during slumps, as could be expected, but during booms. This suggests that fiscal drift episodes are mostly induced by a perverse functioning of institutions. The fact that fiscal drift episodes are more frequent during election years reinforces the relevance of this interpretation. Consistently, we find that booms and election years significantly decrease the probability that fiscal tightening episodes come out.

The analysis of the interactions between cycles and institutions allows us to shed more light on this phenomenon. We find that fiscal drift associated with booms are less frequent when governments are more transparent, when there is more freedom of the press and when the political regime is presidential, while larger union coverage tends to increase the probability of fiscal drift and decrease the probability of fiscal tightening.

The paper is organized as follows. Section 2 presents the relation between public deficits and public wage bills in OECD countries over the last 15 years. Section 3 is devoted to the description

of fiscal drift and fiscal tightening episodes. In section 4, we analyze the relations between the occurrence of fiscal drift and fiscal tightening episodes and the economic cycles, the election years, the transparency of governments, the freedom of the press, the union coverage, the political regime and the electoral rules.

2. Public wage bills and public deficits

2.1. Data

Public wage bills

The definition of public wage bills hinges on the definition of the scope of the public sector. The public sector can comprise only general government employment, or general government and public corporations employment (legal entities that are owned or controlled by the government and produce most of their goods and services for sale in the market at economically significant prices).

There are multiple national sources of data collection, and very few cross-country comparable data on public employment and public wage bills. Unfortunately, there is very limited cross country information on public employment.[4] There is more information on public wage bills, thanks to the rules of accountability of general government expenditures. Public wage bills include the total compensation of employees of the general government sector, which comprises all levels of government (central, state, local and social security) and includes ministries, agencies and non-profit institutions controlled by government.[5] According to this definition, public wage bills do not include the compensation of employees in public corporations.

Measures of public payroll as a share of GDP come from annual national accounts. The UN system of national accounts (SNA) is a set of internationally agreed recommendations to collect data with the latest operational revision dating from 1993. On this basis, homogeneous data for OECD countries are available on the period 1995-2009.[6]

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[4] The OECD has recently released homogenous data on public employment now available for 1995, 2000, 2005 and 2008 (Government at Glance) based on questionnaires that improve the comparability across country. The International Labor Organization also provides, in coordination with the OECD, such information extracted from a combination of different sources (administrative data or surveys) for a varying number of years depending on the country.

[5] Public wage bills do not include public pensions.

[6] There are homogeneous data for all countries since 1995 for most OECD countries, and some data from 1970 to 1995 (few countries with observations as old as 1970, half of the countries with observations as old as 1980).

Unfortunately, the quality of data on public employment does not allow us to decompose changes in public wage bills into changes in employment and in remunerations. Data on wages and on employment do not overlap exactly. Moreover, even if it were the case, data on hours worked, or at least the share of part time jobs, would be needed to address this issue.

Public deficit

General government national accounts usually report net-lending/net-borrowing, which represents the amount the government has available to lend or must borrow to finance its non-financial operations. This figure comprises the interest payable for the service of the debt. Net lending data comes from the OECD annual SNA database. Data are available for most countries since 1980.

2.2. Cross-country correlations between public wage bills and public deficits

Figure 1 shows that there are large cross country differences in the share of public wage bill in GDP over the period 1995-2009. The average share of public wage bill in GDP goes from 6.4 percent in Japan to 17.4 in Denmark. Public deficits are also very different across countries. Hungary is in the worst situation, with an average deficit equal to 6 percent of GDP. Over the same period, Norway had a positive net lending, equal to 11 percent of GDP.

Figure 1 shows that there is no cross-country correlation between the share of public wage bill in GDP and public deficits, even though public wage bill represents a large share of public expenditure. Scandinavian countries have the largest public wage bills associated with the largest positive net lending. At the opposite, Japan, the Czech Republic and the Slovak Republic have the smallest public wage bills but the largest public deficits. Overall, Figure 1 indicates that it is possible to have very large public sectors and sustainable public finances, but also very small public sectors and unsustainable public finances.

2.3. Within-country correlations between public wage bills and public deficits

Figure 2 shows that OECD countries have experienced very different changes over time in public wage bills and public deficits since the mid-nineties. There is no common general tendency across OECD countries. There is a negative trend in Austria, France, Germany, Israel, Luxembourg, Slovak Republic and Sweden. The trend is positive in Belgium, Greece, Ireland, United-Kingdom and United-States. Public wage bills fluctuate without showing any trend in other countries. There is also a strong increase in the share of wage bill in GDP in 2009 in most countries because the recession induced large drops in GDP in most countries.

Although there is no cross-country correlation between public wage bills and public deficits, it turns out that there is a strong correlation between these two variables over time within countries. Table 1 shows the within-country correlation between net public lending and public wage bills when these two variables are averaged over five year periods (i.e. 1995-1999, 2000-2004, 2005-2009). It turns out that there is a significant and sizeable correlation between these two variables, even when one controls for GDP growth, the share of population over 65 year old and below 15 year old. One percentage point increase in the share of public wage bill in GDP is associated with 1.5 percentage point decrease in net public lending.

This correlation suggests that countries where the share of public wage bill in GDP has been increasing since the mid nineties have also experienced worsening public deficits. In the next section, we identify the features of the countries that experience worsening public deficits associated to increases in public wage bills. We also shed light on the features that enable countries to reduce their public deficits thanks to public wage bill compressions.

3. Episodes of "fiscal drift" and "fiscal tightening"

Even though larger public wage bills tend to be associated with lower net lending positions within countries, the fact that some countries with high levels of public employment do no experience large and recurrent deficits (e.g. Denmark or Sweden) raises the question about the ability to *adjust* the size of public administration when it becomes necessary. To study this type of adjustment we look at "bad" episodes, where both deficits and wage spending increase, but also at "good" episodes, where both deficits and wage spending decrease.

3.1. Definition of "fiscal drift" and "fiscal tightening" episodes

Fiscal drift episodes

A fiscal drift episode induced by public wage bill drift is a situation where there are simultaneous increases in the GDP share of public wage bill and in the GDP share of public deficit. Obviously, by definition, there is necessarily a public deficit during such fiscal drift episodes (i.e. a negative public net lending during and at the end of the episode, but not necessarily at the beginning). We consider two different definitions of fiscal drift.

There is a "short fiscal drift episode" if there are simultaneous increases in the GDP shares of public wage bill and public deficit during at least one year. There are 105 fiscal drift episodes over 308 country/year observations with public deficits available for the OECD countries over the period 1995-2009.

The second definition is more restrictive: "long fiscal drift episodes" occur if there are simultaneous increases in the GDP shares of public wage bill and public deficit during at least two years. Such fiscal drift episodes occur for 60 country/year observations.

Fiscal tightening episodes

A fiscal tightening episode induced by public wage bill policy is a situation where there are simultaneous decreases in the GDP share of public wage bill and in the GDP share of public deficit. By definition, there is a public deficit at the beginning of fiscal tightening episodes (i.e. in the year preceding the episode). As for fiscal drifts, there are two different definitions of fiscal tightening.

There is a "short fiscal tightening episode" if there are simultaneous decreases in the GDP shares of public wage bill and public deficit during at least one year. There are 129 fiscal tightening episodes over 305 country/year observations with public deficits available for the OECD countries over the period 1995-2009.

The second definition is more restrictive: "long fiscal tightening episodes" occur if there are simultaneous increases in the GDP shares of public wage bill and public deficit during at least two years. Such fiscal tightening episodes occur for 96 country/year observations.

3.2. Description of fiscal drift episodes

Table 2 displays the short fiscal drift episodes for every country. It turns out that short fiscal drift episodes occurred in almost all countries. There are only 2 exceptions: Korea and Norway, where net lending is always positive over the period. Most countries experienced more than one short fiscal drift episodes. The highest number of short fiscal drift episodes, equal to 6, is observed in Slovenia and in the United States, where all fiscal drift episodes appeared in the 2000s. Following countries are Belgium, Greece, Italy, Portugal, and Slovak Republic where 5 short fiscal drift episodes are observed.

Deficits are significantly higher during short fiscal drift episodes. On average, public net lending amounts to -4.5 percent of GDP during short fiscal drift episodes while it averages to -0.5 percent

of GDP excluding these episodes.[7] Not surprisingly, the GDP share of public wage bill also increases much more during fiscal drift episodes (0.46 percentage point of GDP) than outside these episodes where this share actually decreases (-0.12 percentage point of GDP).

Long fiscal drift episodes are observed more scarcely. Only 15 countries among the 32 OECD countries for which data are available experienced long fiscal drift episodes. On average, public deficits and changes in public wage bills are not statistically different during long and short fiscal drift episodes.

3.3. Description of fiscal tightening episodes

Table 3 displays the short fiscal tightening episodes for every country. As for fiscal drift episodes there are no fiscal tightening episodes in Korea and Norway, because their net lending is never negative over the period. Most countries have several fiscal tightening episodes. Countries that reduce almost continuously their public wage bills over the period, like Austria, France, Germany and Israel have a relatively large number of fiscal tightening episodes, comprised between 6 and 8. But some other countries, which alternate periods of reductions and periods of increases in public wage bills, also have several fiscal tightening episodes. This is the case for Poland, Spain and the Netherlands, the UK and the US. At the opposite, Greece, Ireland and Portugal have no more than two short fiscal tightening episodes because their public wage bills increased over almost all the period.

4. Determinants of fiscal drift and fiscal tightening episodes

We are now looking at the determinants of fiscal drift and fiscal tightening episodes. We begin to describe how the interactions between business cycles, political cycles and some institutions may influence the occurrence of these episodes. Then, we present the econometric method and the empirical results.

4.1. Cycles and institutions

The impact of booms on the occurrence of fiscal drift and fiscal tightening episodes is *a priori* ambiguous. On the one hand, increases in GDP mechanically reduce the GDP shares of public wage bills and budget deficits. But on the other hand, as stressed by Alesina et al. (2008), in weakly transparent and strongly corrupt countries, GDP increases can intensify the fight over common resources, leading to larger budget deficits and larger public wage bills. Accordingly, the probability to observe fiscal drift (resp. tightening) episodes should be higher (resp. lower) during booms when

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[7] These figures are equal to -3.5 percent and -0.45 percent respectively if 2009 is excluded.

governments are more opaque and more corrupt. This probability should also be lower in presidential regimes, where there is overall less possibility of discretionary increases in public expenditure and less fragmentation of power than in parliamentary regimes.

At first sight, fiscal drift episodes are more likely to come out during slumps, since reductions in the growth rate of GDP mechanically increase public deficits and the share of public wage bills in GDP. The opposite holds true for fiscal tightening episodes.

The impact of slumps on fiscal drift and fiscal tightening episodes may depend on the quality of the government for two at least reasons. In the first place, in recessions, more transparent governments should have more incentives to adjust public wage bills in order to avoid soaring public deficits: when the actions of the government are transparent, voters are well informed about the use of public money, the effectiveness of spending and the long-term consequences of deficits. In the second place, more transparent governments should also be able to react more quickly: it is easier to cut spending when it is used in a transparent way than to cut rents that are distributed to secure future votes. Political institutions might also play a role as suggested by Persson and Tabellini (2000). For instance, countries with parliamentary regimes and proportional electoral systems tend to experience counter-cyclical changes in public spending and deficits, with a sort of ratchet effect (spending and deficits increase during slumps but do not decrease in the same proportion during booms). Unions in the public sector[8], usually supported by other unions, could also influence the ability to adjust (Alesina, 1999). Because they often defend insiders first, unions are typically opposed to wage or hiring freeze, and even more so to public employment cuts in situations of negative GDP shock, thus delaying the adjustment. They would also tend to ask for more public employment or higher wages during booms, which would tend to foster fiscal drift.

The occurrence of fiscal drift and fiscal tightening episodes can also be influenced by elections. During election years, candidates have incentives to increase public wage bills, possibly at the expense of worsening budget deficits. This type of behavior is likely to be amplified by corruption and lack of transparency (Shi and Svensson, 2006, Alesina et al. 2008). Elections cycles could also be institution-dependent. For instance, majoritarian countries should in theory experience larger election cycles because of the individual accountability of incumbents and incentives to spend more just before elections. One would expect countries with presidential regime to spend less than countries with parliamentary regimes during election years since checks and balances are stricter in

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[8] Union coverage rates, i.e. the share of employees covered by collective wage agreements, can summarize the blocking power of unions better than union density. In some countries, such as France, union density can be very low (about 8%), but union coverage quite high (about 90%) which gives unions a lot of influence in the political debates.

presidential regimes. Finally, in countries where unions are strong, election cycles could be even stronger with higher wages or hiring the years of elections.

4.2. Econometric method

In what follows, we evaluate to what extent the emergence of fiscal drift episodes is influenced by the features of public institutions, booms, slumps and elections. To answer this question, we estimate the following linear probability model[9]:

$$y_{i,t} = a_1 \, y_{i,t-1} + a_2 \, shock_{i,t} + a_3 \, shock_{i,t} * instit_i + a_4 \, x_{i,t} + a_5 \, D_{2009} + \mu_i + \varepsilon_{i,t} \quad (1)$$

where $y_{i,t}$ is equal to 1 if there is a fiscal drift (or tightening) episode in country i at date t, and zero otherwise. What we call $shock_{i,t}$ for simplicity stands for a vector of events in country i at date t influencing the fiscal stance, which includes positive output gaps, negative output gaps and election years. The output gap is computed using the Hodrick-Prescott filter[10]. We distinguish two different variables for the output gap to the extent that positive and negative output gaps may have different effects on the occurrence of fiscal drift and fiscal tightening episodes. The variable "positive output gap" is equal to the output gap when it is positive and to zero otherwise. The variable "negative output gap" is defined similarly (in absolute terms). $instit_i$ stands for a vector of institutional characteristics of country i, w²hich includes the degree of transparency, the political regime (presidential versus parliamentary), the election rule (proportional versus majoritarian)[11] and the union coverage rate[12]. $x_{i,t}$ is a vector of control variables that comprises the share of the population over 65 and the share of population below 15. D_{2009} is a dummy for the recession year 2009. μ_i is a country fixed effect and $\varepsilon_{i,t}$ is a residual term.

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[9] It is well known that the linear probability model for a binary dependent variable yields unbiased estimator but necessarily has a heteroskedastic error term. We deal with this problem by computing heteroskedasticity-robust statistics (see eg. Wooldridge, 2002). The estimation of dynamic panel data discrete choice non linear models with fixed effects and instrumental variables, which is still an area of research for econometricians, is beyond the scope of this paper.

[10] With this specification we regress the outcome of a difference (the probability of drifts or tightening is the result of a changes in surpluses and public wage bills) on the output gap which is also a difference between the output and its long-term trend.

[11] We use the Quality of Government database (http://www.qog.pol.gu.se/) for the type of political regime and the election rule.

[12] We use the Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, 1960-2010 (ICTWSS) from the Amsterdam Institute for Advanced Labour Studies (AIAS), University of Amsterdam. Union coverage rates in the public sector are only available for a fourth of observations in our panel, while the general union coverage rates are available for the full panel. We consider the latter. However, the two types of rates appear to be strongly correlated (the coefficient of correlation is 0.92), and the general union coverage rate (like the coverage rate in the private sector) strongly predicts the coverage rate in the public sector.

We consider different versions of equation (1) including alternative measures of the features of public institutions and definitions of the fiscal drift and fiscal tightening episodes. This equation raises several issues that call for specific treatments:

- First, the presence of the lagged independent variable $y_{i,t-1}$ is justified by the fact that fiscal stances are typically persistent over time. In this dynamic setting the OLS estimated are systematically biased (the residuals are auto-correlated) and do not converge unless we use a large number of time observations, which is not our case. Some techniques such as the Arellano-Bond method allow us to account for this autocorrelation issue.

- Second, the $shock_{i,t}$ variable might be endogenous; in the case of the output gap, it is clear that the intensity of the shock on public finance can be reduced in the short-run by large deficits and higher public employment compensation spending. Thus, this variable needs to be instrumented with variables that are not influenced by the fiscal stance or by the change in public employment spending. We consider two different instruments for the output gap for country i at date t. First, the past values of output gaps of country i. Second, the contemporaneous output gaps of all countries except country i.

- Third, the vector of institutional characteristics $instit_i$ is assumed to be constant over time. Actually, electoral rules and political systems do not change over time in most countries. The measures of transparency display some changes over time. However, transparency might be potentially endogenous; for instance if transparency is measured as the perception of corruption of public officers by voters, this perception might be influenced over time by the economic situation, which in turn can be influenced by the fiscal stance; also, acts of corruption might be more frequently observed at some times than others, such as general elections. For that reason, we interact the shock with the *average* value of the measure of transparency and other institutional variables over the period. This is also justified by the fact that there is little change over time in the measures the institutional variables over the relatively short period of time covered by our data.

Our benchmark specification considers the first definition of fiscal drift episodes, which corresponds to years where there are simultaneously an increase in general government payroll and a decrease in public net lending in a situation of public deficit. The transparency of the government is measured with the corruption perception index of Transparency International, which takes on values from 0 to 10, a higher score corresponding to more transparent governments. In what follows, we use this variable centered on its average value over all the period 1995-2009 for all countries.

4.3.　　　 Empirical results

4.3.1. *The impact of output gap and elections*

This section analyzes the relation between business and political cycles and fiscal episodes. We begin by neglecting the role of institutions by estimating equation (1) without interaction terms between cycles and institutions (i.e. assuming that coefficient a_3 is equal to zero).

Table 4 shows that the occurrence of *short* fiscal drift episodes is more likely when there are elections years and during economic booms. Strikingly, fiscal drift episodes are not more frequent when there are recessions, set aside the effect of the year 2009. This result shows up for different specifications of equation (1), which account for the autocorrelation of residuals and for the endogeneity of GDP shocks. Table 5 shows that the same result holds true for *long* fiscal drift episodes regarding positive output gaps, but not for elections. This clearly stems for the fact that general elections are rarely held two years in a row. Table 6 shows that this pattern is specific to wage spending compared to non-wage spending. Indeed, when we analyze similar episodes of fiscal drift, but this time featuring a simultaneous increase of *non-wage* spending and deficits, fiscal drifts seem to be also associated with economic downturns, not only economic booms. This can be explained by the fact that most non-wage spending is made of transfers which are often counter-cyclical (e.g. income replacement benefits).

Tables 4 to 6 indicate that periods of simultaneous increases in public wage bills and in public budget deficits are not induced by adverse economic events. It seems that it is rather loose management of governments during economic booms as well as during periods of elections that fosters fiscal drifts.

Tables 7 and 8 show that fiscal tightening episodes come out less often during booms than during slumps. The sign of the coefficient associated with election year is also negative, but not significant at 10 percent level of confidence. These results are consistent with those obtained for fiscal drift episodes. All in all, they show that fiscal problems are not resolved during booms. On the contrary, during booms, governments provide less effort to control public wage bills and public deficits.

As shown by Figures 3 and 4, this phenomenon is well illustrated by Greece, where all fiscal drift episodes show up during booms (except in 2009, where the large drop in GDP induced a simultaneous increase in public deficit and in the share of public wage bill in GDP). There has been an increase in the public wage bill by 2.6 points of GDP (from 9.56 to 12.15 percent of GDP) between 1995 and 2008. Most of this increase (2 points) occurred during fiscal drift episodes

corresponding to periods of positive output gap. This clearly indicates that the unsustainable raise in the public wage bill occurred for the most part during booms in Greece, but not during slumps.

4.3.2. The role of institutions

The pro-cyclicality of fiscal drift episodes suggests that miss governance may influence the emergence of fiscal drift episodes. In order to shed some light on this issue, we estimate the impact of the transparency of the government and that of the freedom of the press on the occurrence of fiscal episodes, along with other institutional factors such as the political regime, the type of election rules and the power of unions.

Transparency of government and other factors

The analysis of cross country correlations shows that there is a negative relationship between the transparency of governments and the frequency of fiscal drift episodes, as shown by figure 5. Countries with transparent governments experienced less fiscal drift episodes than countries where the government was weakly transparent over the period 1995-2009. The gap is sizeable, equal to 30 percentage points between the most and the least transparent countries. There is a similar relation between the frequency of fiscal drifts and freedom of the press, as shown by figure 6. Except for these two relations, cross country correlations do not allow us to exhibit any other significant relation between our measures of institutions and the emergence of fiscal drift or fiscal tightening episodes. However, within country correlations enable us to shed some light on the influence of institutions on the ability of governments to adjust public wage bills during business and political cycles. Formally, we estimate the coefficient associated with the interaction term between institutions and business and electoral cycles in equation (1).

Table 9 presents the results when equation (1) is estimated using *short* fiscal drift episodes as dependent variable, and table 10 using *long* fiscal drift episodes, using the Transparency International index as a measure of transparency. Column 1 in both tables estimates this equation using country fixed effects. This column shows, again, that there is an overall positive and significant (at the 5 percent level) correlation between the contemporaneous positive output gap (for a country of average transparency)[13] and the occurrence of fiscal drift episodes. The correlation with slumps is weaker. The relationship with booms is stronger for long episodes (at the 1 percent level). The occurrence of long fiscal drift episodes is not correlated with negative output gaps.

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13 The institutional variables are centered on their means, so that the coefficients of the output gap hold for an "average" country in terms of institutional features.

The crossed effect between booms and transparency is negative and significant at the 5% level for short and long episodes only. This means that the emergence of fiscal drift episodes of at least 2 years is less sensitive to booms in countries where governments are more transparent. In other words, more transparent governments are on average less prone to increase public deficits and public wage bills when the economy grows faster. In countries with the lowest degree of transparency, the relationship between booms and fiscal drift episodes becomes even positive.[14] The effect of transparency is sizeable due to large observed differences in this variable across countries: Mexico, which features the lowest average level of transparency, gets a low score of 3.4, whereas Denmark gets a top score equal to 9.3. This means that booms have a significant and negative impact on the probability of experiencing a fiscal drift in very transparent countries, while they have a significant positive impact of experiencing a fiscal drift in non-transparent countries. Interestingly, the impact of output gaps - negative or positive - is not influenced by the political regime or by election rules. However, fiscal drift episodes are more likely to occur during periods of negative output gap in countries where union coverage is higher. The resistance of strong trade unions to wage and employment compressions during recessions may explain this relationship.

Election years are positively correlated with the occurrence of short fiscal drifts: the coefficient is large and significant at the 1% level. Interestingly, this relationship does not seem to prevail for presidential regimes: the crossed-effects between elections and the corresponding dummy is large, negative, and significant. This supports the intuition that the checks and balances typical of presidential regimes prevent fiscal drift in election years. There is no significant relationship with the type of election rule (majoritarian countries). Also, in more transparent countries, election years are less often associated with long and short fiscal drifts (but the size of the crossed effect is much smaller than that of the political regime)

Column 2 in Tables 9 and 10 presents the results when equation (1) is estimated with the Arellano and Bond method to account for autocorrelation of residuals due to the presence of the lagged dependent variable. The results turn out to be close to those obtained with the fixed effect method for short episodes: the interaction term between the positive output gap and transparency is now significant at the 5 percent level (for short episodes this time), while the positive output gap alone still has a significant effect. The positive relation with elections and the negative crossed effect relation with presidential regimes and transparency are still significant, for short and long episodes. In column 3, we use the same method, but we take into account that the output gap might be endogenous (and so is instrumented by its lagged values and lagged differences accordingly).

[14] For this country, the value of the transparency index is negative and the sign of the estimated coefficient of the crossed effect is also negative, while the sign of the estimated coefficient of the positive output gap variable is positive.

Results turn out to be similar. Column 4 shows the results using the same instruments as in the Arellano-Bond method for the lagged fiscal drift but where we instrument the output gap of each country using the average output gap of all other countries. The direct effect of output gaps does not come up. However, short fiscal drift episodes are still correlated with election years and their interaction with transparency and the type of political regime. Long fiscal drifts are still negatively correlated with the crossed effect of positive output gaps and transparency as well as with the interaction of elections and presidential regimes. All in all, Table 7 and 8 show that fiscal drift episodes are more likely to emerge during booms in countries where there is a parliamentary regime and where the transparency of the government is low.

Tables 11 and 12 are devoted to short fiscal tightening and long fiscal tightening episodes respectively. We use the same empirical strategy as for the study of fiscal drift episodes. Overall, fiscal tightening episodes appear less frequently during booms. But the interaction terms between the output gap and the institutional variables such as the transparency of the government, the political regime and the electoral rule are not correlated with the emergence of fiscal tightening episodes. Election years appear to decrease the occurrence of fiscal tightening episodes. However, this effect is reversed in countries with presidential regime, where election years are more often associated with fiscal tightening episodes. This result is consistent with those of Brender and Drazen (2008) who find that leaders who reduce the deficit during an election year, relative to the previous year, have a higher probability of being reelected.

Freedom of the press

The analysis of cross country correlations shows that there is a negative relationship between the freedom of the press and the frequency of fiscal drift episodes, as shown by figure 6. As for transparency, countries with strong freedom of the press experienced less fiscal drift episodes than countries where the freedom of the press was weak over the period 1995-2009.

In tables 13 to 16, we estimate equation (1) where transparency is proxied by the freedom of press (from Freedom House[15]) instead of perceptions of the exercise of public power for private gain (i.e. the typical definition used to build corruption indexes). Here, like for the two previous measures, a higher index means higher transparency so the results can be interpreted in the same way. Tables 13 and 14 show that the probability that a fiscal drift episode occurs is lower in countries with stronger freedom of the press. In particular, fiscal drift episodes are less frequent during booms and election years in countries where there is more freedom of the press. Tables 15 and 16, show

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[15] Freedom House is a non-governmental organization that supports the expansion of freedom around the world, notably the freedom of press. http://www.freedomhouse.org

that fiscal tightening episodes are not correlated with the interaction terms between the freedom of press and the output gap or the election years, as it is the case with the other measures of transparency.

4.3.3. Robustness

Transparency

Our results about the relation between the occurrence of fiscal episodes and transparency of governments may rely on a specific measure of transparency. In order to deal with this issue, we use an alternative measure of transparency. Table 17 for long fiscal drift episodes[16] (and 18 for long fiscal tightening episodes) is similar to table 10 (respectively 12) except that it uses the World Bank measure of corruption instead of that of Transparency International.[17] Again, the crossed effect between the output gap and corruption is significantly positive for long fiscal drift episodes (but still not significant for fiscal tight episodes) and even larger in size than with the previous measure with all methods of estimation. Positive output gap alone is still, on average, positively correlated with the occurrence of fiscal drift, and negatively correlated with the occurrence of fiscal tightening. The correlations with election years crossed with the type of political regime and with transparency remain unchanged.

Political cycle

The variable "election year" accounts for the impact of elections on fiscal episodes in a very crude way. For instance, when an election is held in the first quarter of a given year it might be more relevant to focus on the year just before the election rather than on the year of the election. Moreover, an index for pre-election years and another for post-election years could help better identify the presence of budget cycles. We tested these alternative definitions and none changed significantly the overall impact previously identified of elections on fiscal drifts and the absence of fiscal drift in presidential regimes the year or elections or the year just before (tables are available upon request).

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[16] In this section we show results for long episodes only for the sake of simplicity. However, results are comparable using short episodes instead.

[17] The World Bank measure of corruption, as well as the Freedom of press index used below, are not available for 2009 (the last available year in our dataset) but these indexes are very stable over time and we have considered that their average values over 1995-2008 apply to 2009 as well in order to have comparable results with the main tables that use the Transparency International index (tables 6 and 7). The exclusion of the year 2009 in the regressions in tables 6 and 7 slightly reinforces the correlation of short fiscal drifts with positive output gaps, but has only a marginal impact on the relationship with long fiscal drifts (which are mechanically less often observed at the end of the considered period). The exclusion of the same year from the regressions in tables 8 to 11 has a very small impact on the results overall.

Business cycle

Our finding that fiscal drift episodes occur more frequently during booms than during recessions might be driven by our measure of booms and slumps, which are merely defined as periods of either positive or negative output gap. To show that this is not the case, we define booms and slumps in a more restrictive way. Tables 19 to 22 reproduce tables 5, 8, 10 and 12 but considering this time output gap variations of at least 1% in absolute value (which make up approximately one third of all observed changes in output gaps). Table 19 (respectively 20) shows that the results are very stable: long fiscal drift episodes (respectively long fiscal tightening episodes) are still positively (respectively negatively) and significantly correlated with positive output gaps (and not negative ones). Table 21 (respectively 22) shows that the crossed-effect of transparency with positive output gaps on the occurrence of fiscal drift episodes (respectively tightening episodes) is still negative and significant (respectively not significant), even when the economy experiences large shocks. Results regarding elections years and crossed-effects with the type of regime, transparency or union coverage are broadly unchanged.

Panel composition

Finally, we check that our results are not driven by outliers by removing countries one by one from the panel to check to what extent results could rely solely on one country. Tables 23 and 24 present the estimated coefficients as in Table 10 and 12, column 3, i.e. correlations of long episodes of fiscal drifts and fiscal tightening with shocks and institutions, using the transparency international index and the Arellano-Bond method with endogenous output gaps. Results turn out very stable.

5. Conclusion

This paper shows that there is a strong relation between worsening public finances and increases in public wage bills. However, this relation does not mean that large public wage bills are systematically conducive to worsening public finances. Actually, countries with the highest GDP shares of public wage bill also have the highest public net lending. This means that large public sectors have been compatible with sustainable public budgets in the OECD countries over the last 15 years. Our paper clearly shows that countries unable to adjust their public wage bills to make them compatible with sustainable public budgets are not those which are especially hit by negative economic shocks. Their main handicap is a lack of transparency and a lack of checks and balances

on the political power of elected politicians. And in these countries, in the absence of institutional reform, the fiscal stance might deteriorate even further in upcoming economic booms because of public employment.

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Figures

Figure 1 : Average public wage bill and net lending in OECD countries over the period 1995-2009. Source: OECD
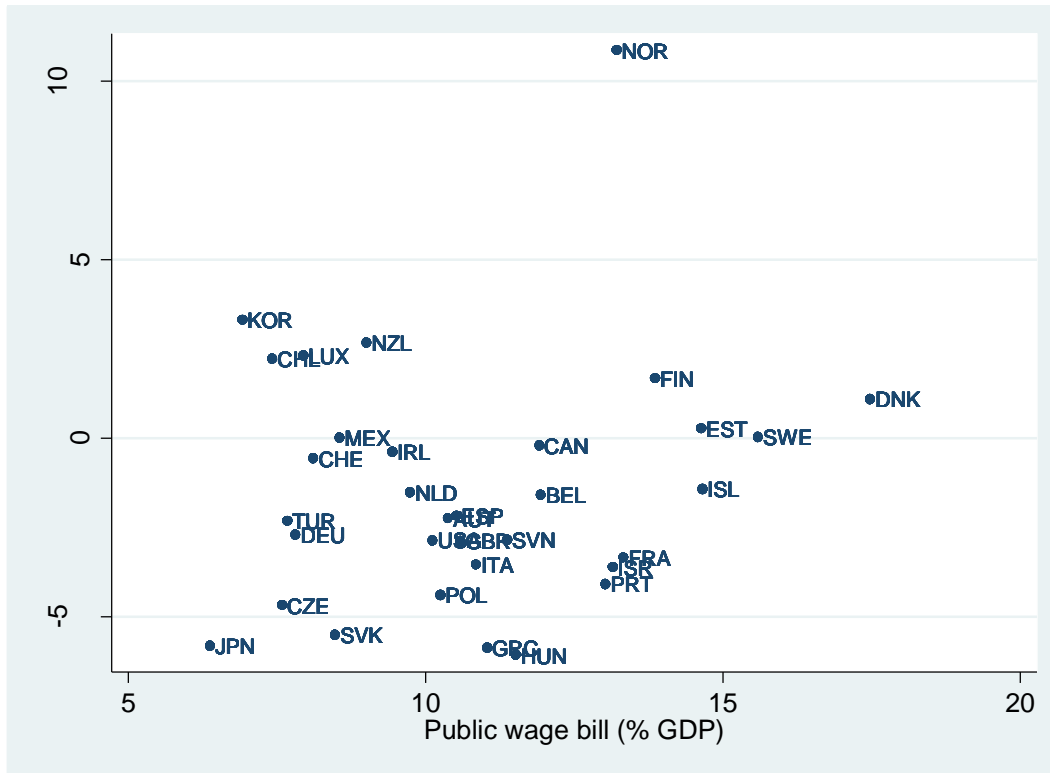
Source: OECD data

Figure 2: Public wage bills in OECD countries over the period 1995-2009.

Graphs by Country

Graphs by Country

Graphs by Country

Graphs by Country

Graphs by Country

Source: OECD data

23
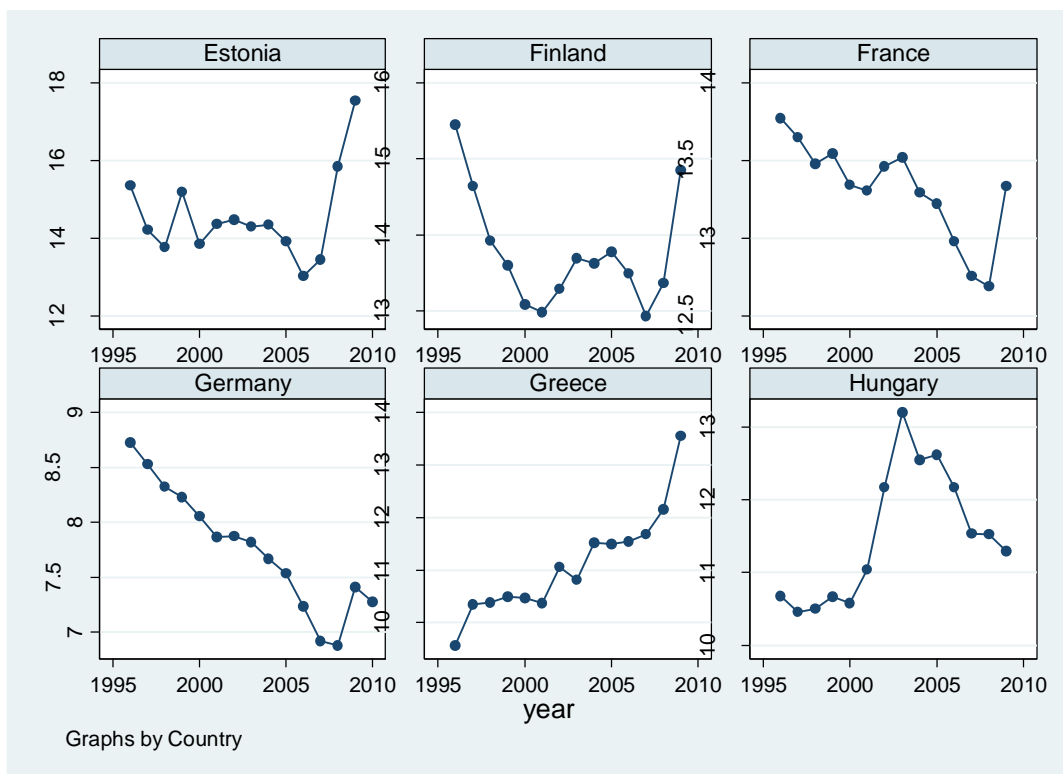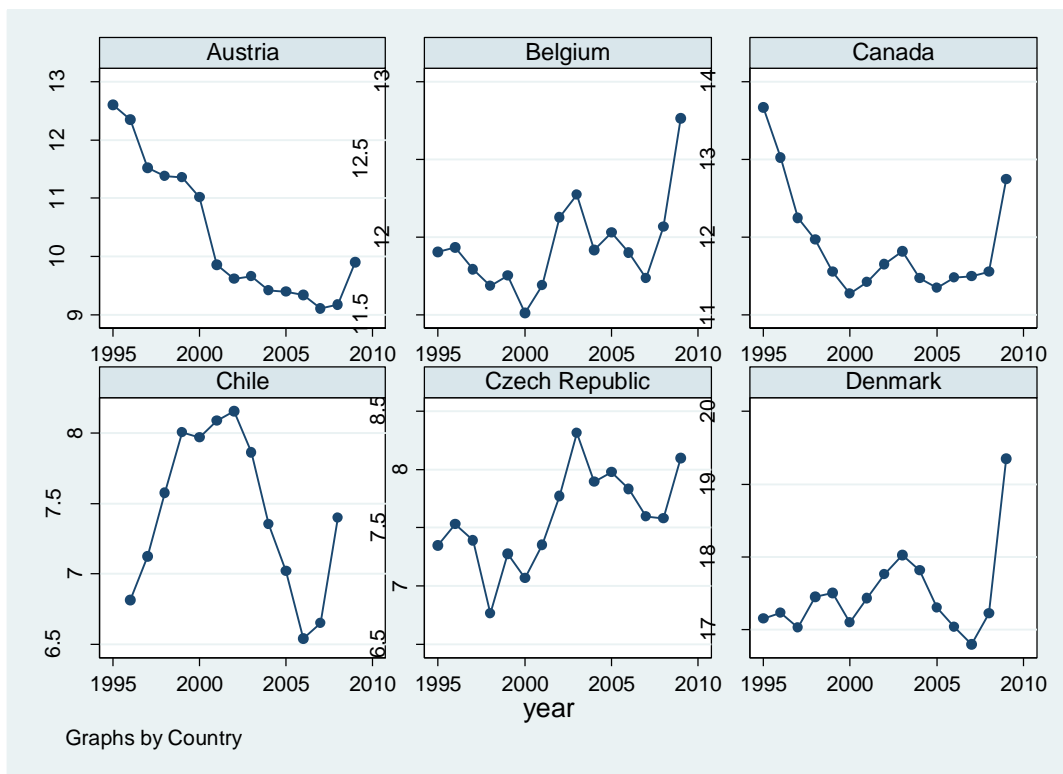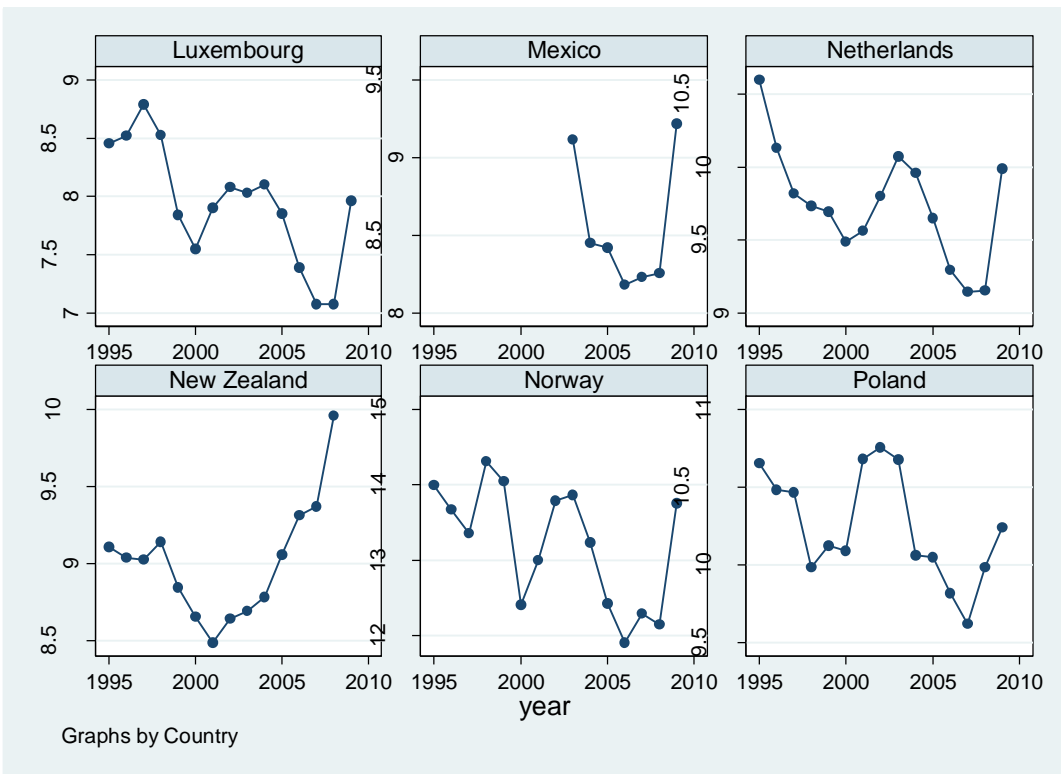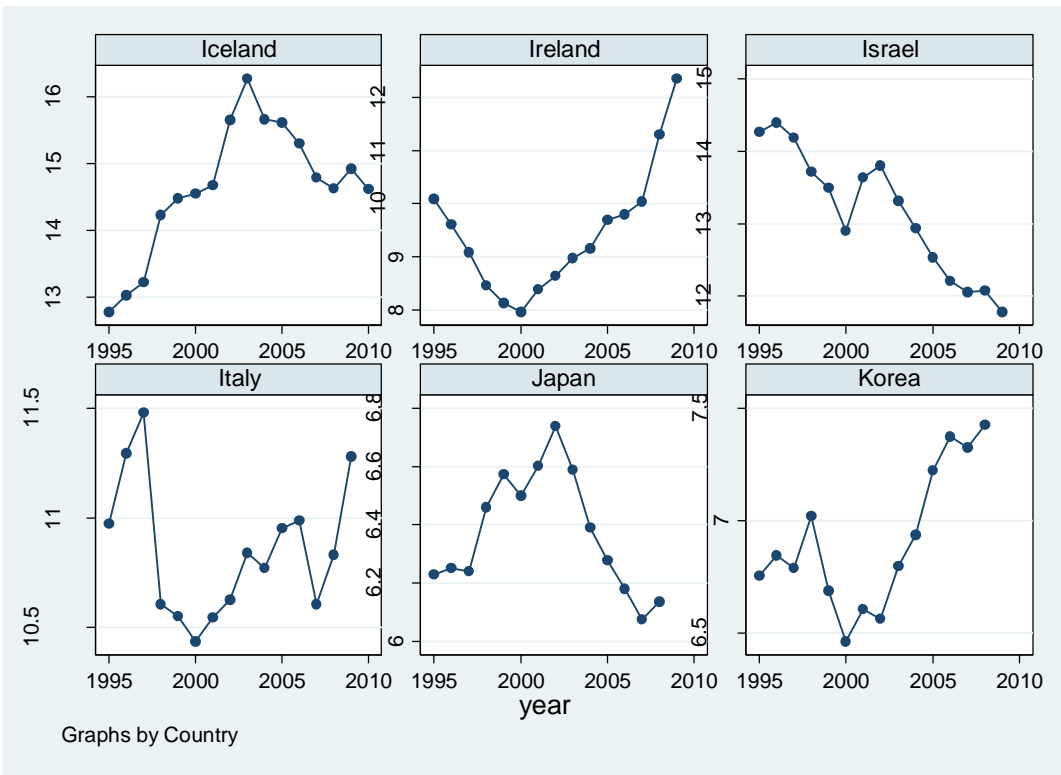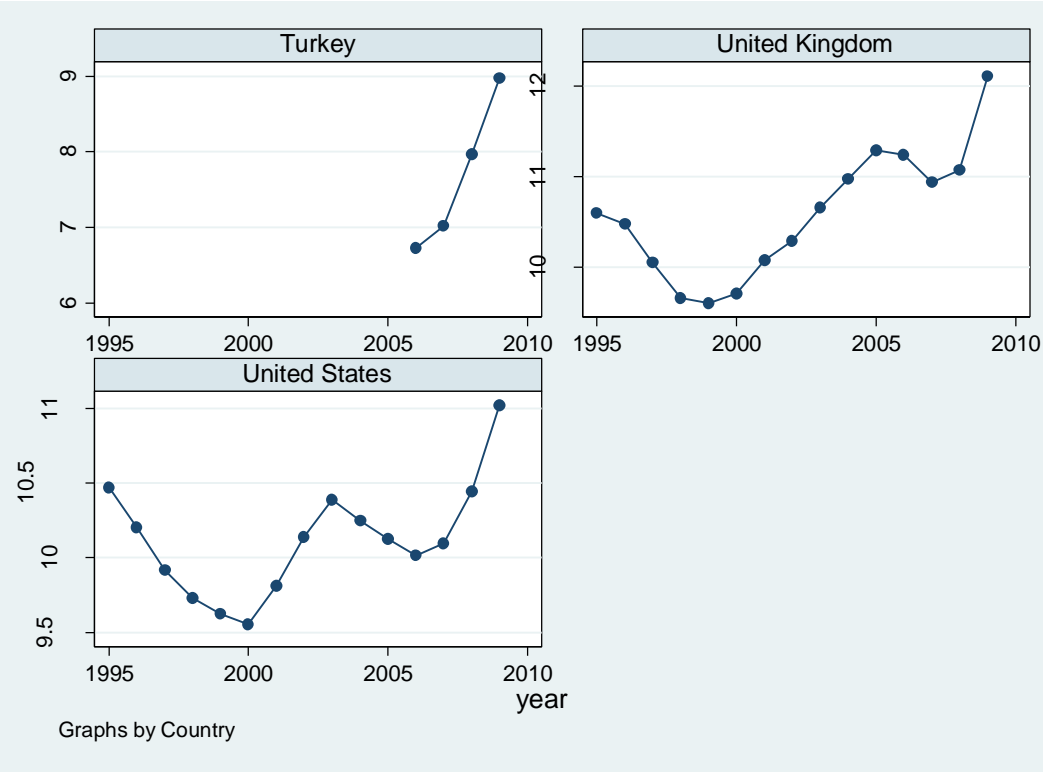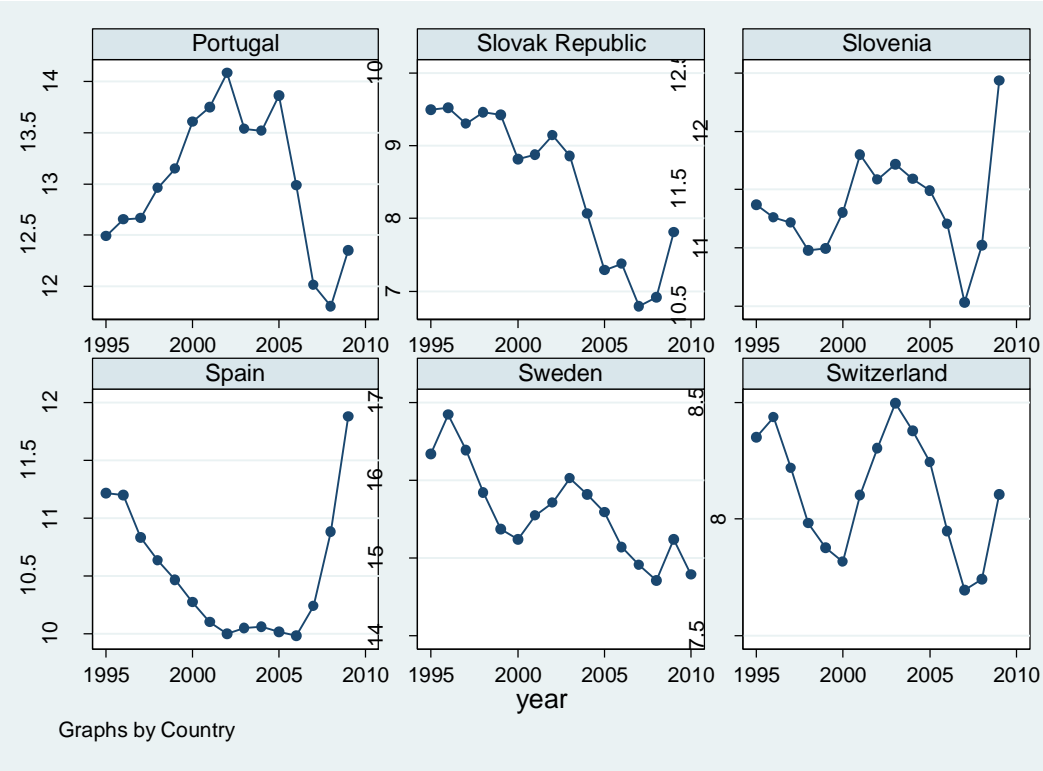
Figure 3: Fiscal drift episodes and output gap in Greece over the period 1995-2009
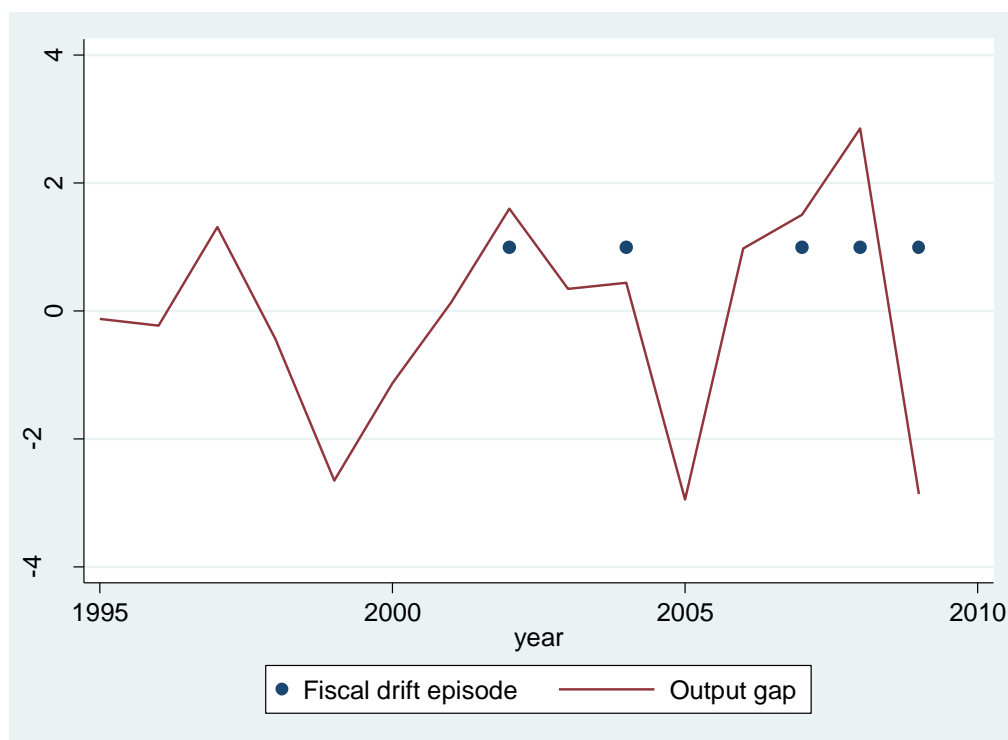
Source: OECD data

Figure 4: Fiscal tightening episodes and output gap in Greece over the period 1995-2009.
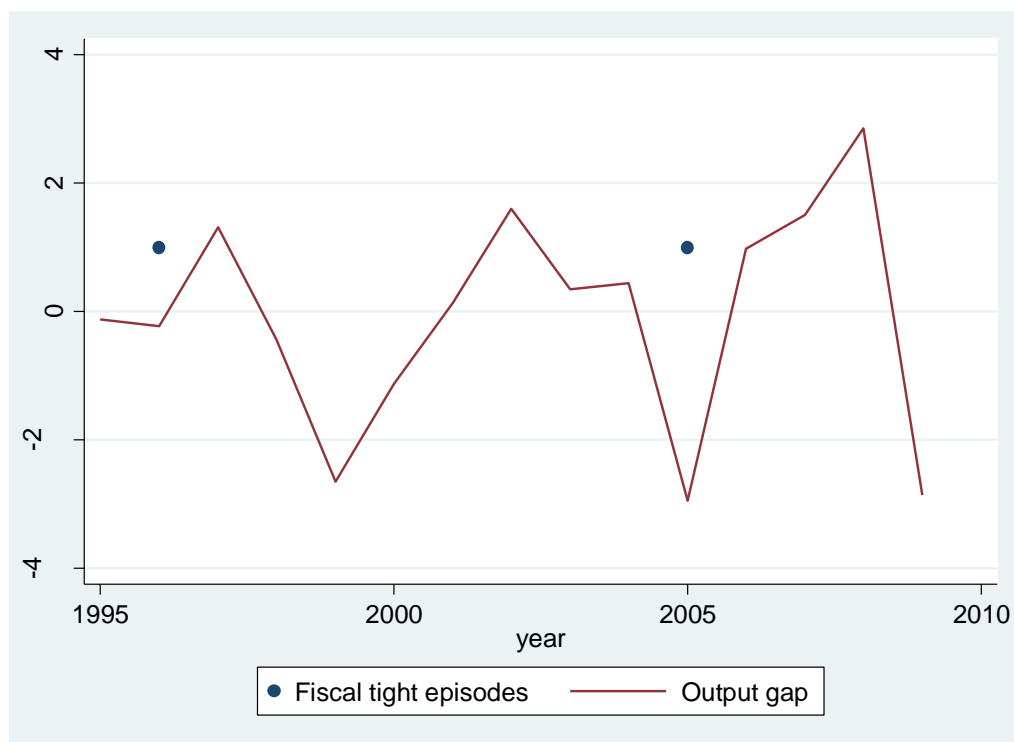
Source: OECD data

Figure 5: Frequency of fiscal drift episodes and transparency of governments over the period 1995-2009.

Source: OECD and Transparency international data

Figure 6: Frequency of fiscal drift episodes and freedom of the press over the period 1995-2009.
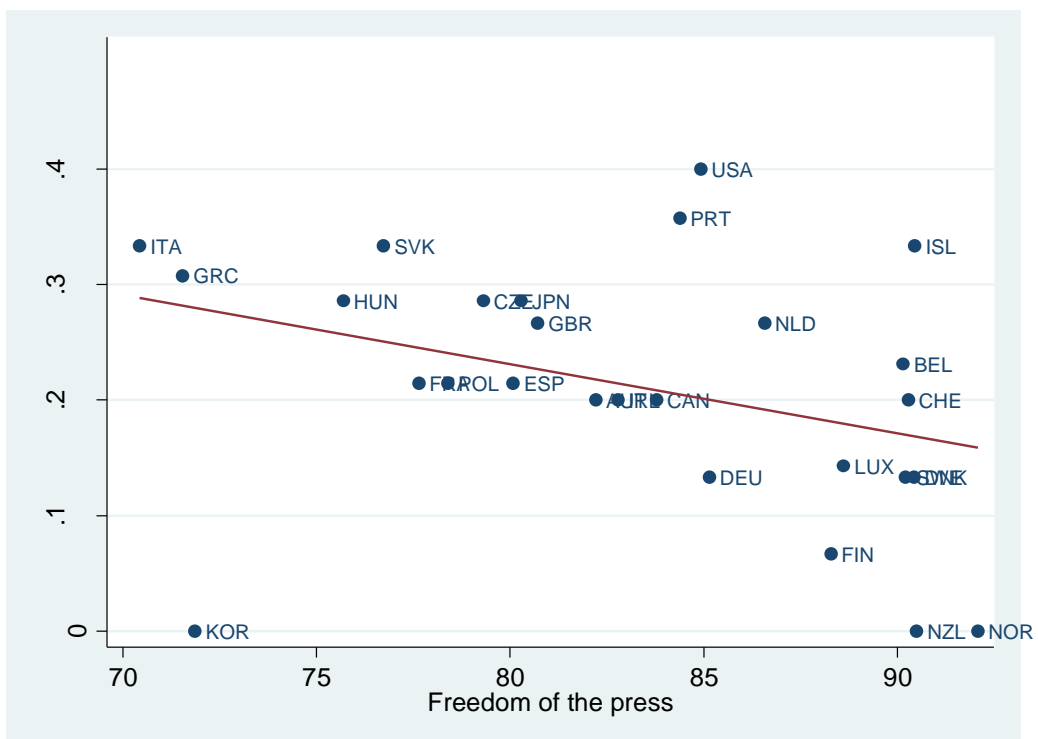
Source: OECD and Freedom house data

Tables

Table 1: Within country correlation between public net lending and public wage bill

```
                   Net lending     Net lending     Net lending
-------------------------------------------------------------
Public wage bill    -1.581***       -1.598**        -1.494**
                    (0.546)         (0.589)         (0.655)
GDP growth                          -0.053           0.057
                                    (0.222)         (0.278)
Pop over 65                                          0.398
                                                    (0.320)

Pop below 15                                         0.041
                                                    (0.237)
Constant            28.731***       29.117***       12.106
                    (9.549)         (10.486)        (9.973)
Country effects      Yes             Yes             Yes
(5-year avg.)
R²                   0.900           0.900           0.907
Adj. R²              0.846           0.843           0.848
Obs.                  84              84              84
-------------------------------------------------------------
```

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis.
OLS with country fixed effects. Period 1995-2009. Variables are averaged over five year periods: 1995-1999, 2000-2004, 2005-2009.

Table 2: Fiscal drift episodes. There is a fiscal drift episode if there are simultaneous increases in the GPD shares of public budget deficits and public wage bills.

	AUT	BEL	CAN	CHL	CZE	DNK	EST	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ISR	ITA	JPN	KOR	LUX	MEX	NLD	NZL	NOR	POL	PRT	SVK	SVN	ESP	SWE	CHE	GBR	USA
1995	•			na	na				•		na	na	na		•		•			na			na		na	na	na					
1996				na												•	•			na						•						
1997																				na												
1998												•	•				•			na					•							
1999				•			•													na							•					
2000																				na					•		•					
2001				•	•							•	•		•		•			na	•			•			•				•	•
2002		•	•	•					•	•	•	•	•		•	•	•			na	•					•			•	•	•	•
2003	•					•			•		•				•	•				na	•						•			•	•	•
2004											•								•									•				
2005		•		•									•			•	•								•							
2006																										•						
2007											•																					•
2008		•	•			•					•			•	•	•				•				•	•	•					•	•
2009	•	•	•		•	•	•	•	•	•	•			•			•	na	na	•	•	•	na	•	•	•	•	•	•		•	•

Note : "na" for not available. Source: OECD data.

Table 3: Fiscal tightening episodes. There is a fiscal drift episode if there are simultaneous decreases in the GPD shares of public budget deficits and public wage bills.

	AUT	BEL	CAN	CHL	CZE	DNK	EST	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ISR	ITA	JPN	KOR	LUX	MEX	NLD	NZL	NOR	POL	PRT	SVK	SVN	ESP	SWE	CHE	GBR	USA
1995			•	na	na	•		•			na	na	na		na	•				na			na		na	na	na		•	•	•	•
1996			•	na					•	•	•					•				na	•						•		•	•	•	•
1997	•	•	•			•	•	•	•	•					•		•			na	•			•		•		•		•	•	•
1998		•					•	•	•											na	•			•				•	•	•	•	•
1999	•								•						•	•				na	•							•		•	•	
2000	•	•		•			•		•	•					•		•	•		na		•						•				
2001	•																			na								•				
2002																				na								•				
2003																•				na						•						
2004			•	•	•	•			•	•		•	•		•		•				•			•		•	•		•			•
2005	•								•	•	•	•			•	•			•		•			•		•	•	•				•
2006	•	•			•				•	•					•	•					•			•	•						•	•
2007	•				•				•					•	•									•	•	•	•					
2008												•																				
2009															na	na				na												

Note : "na" for not available. Source: OECD data.

Table 4: Correlation between _short_ fiscal drifts and shocks

	I	II	III	IV
Lagged Fiscal Drift	0.099	0.112*	0.080	-0.067
	(0.060)	(0.060)	(0.053)	(0.292)
Neg Output gap	0.029	0.031	0.034*	0.093
	(0.019)	(0.020)	(0.018)	(0.061)
Pos Output gap	0.031*	0.038**	0.034**	0.070*
	(0.015)	(0.016)	(0.015)	(0.041)
Election	0.103**	0.087**	0.097**	0.117***
	(0.046)	(0.041)	(0.042)	(0.042)
Pop below 15	-0.039	-0.048	-0.044	-0.022
	(0.032)	(0.036)	(0.031)	(0.038)
Pop over 65	-0.045	-0.053	-0.054	-0.054
	(0.043)	(0.049)	(0.047)	(0.038)
d 2009	0.540***	0.529***	0.527***	0.479***
	(0.095)	(0.100)	(0.091)	(0.143)
Constant	1.451	1.733	1.673	1.208
	(1.150)	(1.293)	(1.177)	(1.153)
R²	0.172			
Adj. R²	0.157			
Obs.	387	375	375	362

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country _i_ is instrumented by the average output gap all OECD countries but country _i_.

Table 5: Correlation between _long_ fiscal drifts and shocks

	I	II	III	IV
Lagged Long Fiscal Drift	0.591***	0.556***	0.559***	0.297***
	(0.032)	(0.042)	(0.040)	(0.111)
Neg Output gap	-0.004	-0.001	-0.005	0.043
	(0.008)	(0.012)	(0.009)	(0.038)
Pos Output gap	0.037***	0.029**	0.032**	0.103***
	(0.013)	(0.015)	(0.012)	(0.030)
Election	0.003	0.010	0.004	0.020
	(0.034)	(0.036)	(0.033)	(0.031)
Pop below 15	-0.031	-0.070***	-0.031	-0.010
	(0.019)	(0.021)	(0.022)	(0.026)
Pop over 65	-0.023	-0.058***	-0.030	-0.044*
	(0.021)	(0.016)	(0.023)	(0.026)
d 2009	0.126***	0.007	0.108***	0.192*
	(0.040)	(0.054)	(0.039)	(0.104)
Constant	0.927	2.148***	1.038	0.788
	(0.618)	(0.582)	(0.691)	(0.760)
R²	0.350			
Adj. R²	0.338			
Obs.	387	375	375	362

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country _i_ is instrumented by the average output gap all OECD countries but country _i_.

Table 6: Correlation between short fiscal drifts (using non wage spending) and shocks

```
                                     I              II             III            IV
--------------------------------------------------------------------------------------
Lagged Fiscal Drift (non-wage)      0.049          0.036          0.036          0.395
                                   (0.059)        (0.058)        (0.051)        (0.288)
Neg Output gap                      0.046**        0.044**        0.051**        0.129*
                                   (0.021)        (0.020)        (0.020)        (0.070)
Pos Output gap                      0.034*         0.037**        0.037**        0.153***
                                   (0.018)        (0.019)        (0.018)        (0.045)
Election                            0.100*         0.092*         0.088*         0.111**
                                   (0.055)        (0.049)        (0.051)        (0.047)
Pop below 15                       -0.037         -0.062**       -0.037          0.016
                                   (0.027)        (0.030)        (0.026)        (0.040)
Pop over 65                        -0.044         -0.071*        -0.042         -0.038
                                   (0.039)        (0.041)        (0.042)        (0.040)
d 2009                              0.526***       0.566***       0.526***       0.355**
                                   (0.105)        (0.102)        (0.101)        (0.157)
Constant                            1.423          2.283**        1.402          0.162
                                   (0.998)        (1.100)        (1.035)        (1.183)
R²                                  0.154
Adj. R²                             0.139
Obs.                                384            373            373            361
--------------------------------------------------------------------------------------
```

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country i is instrumented by the average output gap all OECD countries but country i.

Table 7: Correlation between short fiscal tightenings and shocks

	I	II	III	IV
Lagged Fiscal Tight	0.203***	0.213***	0.211***	0.074
	(0.045)	(0.046)	(0.045)	(0.201)
Neg Output gap	-0.007	-0.001	-0.007	-0.083
	(0.019)	(0.022)	(0.020)	(0.057)
Pos Output gap	-0.051***	-0.050***	-0.051***	-0.118***
	(0.018)	(0.018)	(0.018)	(0.043)
Election	-0.062	-0.063	-0.054	-0.070
	(0.043)	(0.040)	(0.039)	(0.045)
Pop below 15	0.023	0.063	0.037	-0.003
	(0.024)	(0.041)	(0.030)	(0.038)
Pop over 65	0.022	0.033	0.024	0.023
	(0.018)	(0.030)	(0.024)	(0.038)
d 2009	-0.271***	-0.291***	-0.266***	-0.206
	(0.071)	(0.075)	(0.069)	(0.149)
Constant	-0.430	-1.333	-0.719	0.166
	(0.638)	(1.119)	(0.834)	(1.100)
R^2	0.102			
Adj. R^2	0.086			
Obs.	387	375	375	362

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country i is instrumented by the average output gap all OECD countries but country i.

Table 8: Correlation between *long* fiscal tightenings and shocks

	I	II	III	IV
Lagged Long Fiscal Tight	0.461***	0.491***	0.481***	0.191**
	(0.038)	(0.032)	(0.033)	(0.092)
Neg Output gap	-0.004	-0.005	-0.006	-0.077
	(0.014)	(0.018)	(0.014)	(0.047)
Pos Output gap	-0.043***	-0.052***	-0.045***	-0.101***
	(0.014)	(0.018)	(0.013)	(0.037)
Election	-0.009	-0.009	-0.002	-0.022
	(0.033)	(0.029)	(0.030)	(0.038)
Pop below 15	0.020	0.042	0.019	0.009
	(0.020)	(0.032)	(0.018)	(0.032)
Pop over 65	0.005	0.014	0.006	0.019
	(0.016)	(0.022)	(0.016)	(0.032)
d 2009	-0.160**	-0.167**	-0.160***	-0.109
	(0.061)	(0.077)	(0.059)	(0.126)
Constant	-0.272	-0.812	-0.277	-0.112
	(0.545)	(0.832)	(0.512)	(0.921)
R^2	0.276			
Adj. R^2	0.262			
Obs.	387	375	375	362

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country i is instrumented by the average output gap all OECD countries but country i.

Table 9: Correlation between short fiscal drifts and shocks interacted with institutions (using the Transparency International index for transparency)

	I	II	III	IV
Lagged Fiscal Drift	0.092	0.107	0.092	0.022
	(0.072)	(0.071)	(0.069)	(0.163)
Neg Output gap	0.029	0.024	0.028	0.080
	(0.019)	(0.019)	(0.018)	(0.065)
Pos Output gap	0.032**	0.033**	0.031**	0.106*
	(0.015)	(0.015)	(0.014)	(0.064)
Neg Output gap * Transparency	-0.007	-0.009	-0.007	-0.032
	(0.011)	(0.012)	(0.011)	(0.024)
Pos Output gap * Transparency	-0.022**	-0.027***	-0.022**	-0.029
	(0.010)	(0.010)	(0.009)	(0.023)
Neg Output gap * Presidential	0.004	0.008	0.005	0.133
	(0.076)	(0.076)	(0.072)	(0.276)
Pos Output gap * Presidential	0.035	0.026	0.036	0.333
	(0.077)	(0.087)	(0.074)	(0.300)
Neg Output gap * Majoritarian	0.161**	0.144**	0.162**	0.321**
	(0.069)	(0.069)	(0.067)	(0.147)
Pos Output gap * Majoritarian	0.068	0.061	0.069	0.197
	(0.059)	(0.060)	(0.057)	(0.139)
Neg Output gap * Union Coverage	0.003***	0.003***	0.003***	0.004**
	(0.001)	(0.001)	(0.001)	(0.002)
Pos Output gap * Union Coverage	0.002*	0.002*	0.002**	0.001
	(0.001)	(0.001)	(0.001)	(0.002)
Election	0.136***	0.127***	0.135***	0.145***
	(0.040)	(0.038)	(0.038)	(0.054)
Election * Presidential	-0.277**	-0.256**	-0.277***	-0.398**
	(0.105)	(0.105)	(0.101)	(0.171)
Election * Transparency	-0.058***	-0.059***	-0.058***	-0.075**
	(0.019)	(0.019)	(0.019)	(0.030)
Election * Majoritarian	-0.067	-0.058	-0.066	-0.130
	(0.088)	(0.082)	(0.084)	(0.128)
Election * Union Coverage	0.001	0.001	0.001	-0.000
	(0.002)	(0.002)	(0.002)	(0.003)
Pop below 15	-0.058	-0.064	-0.059*	-0.034
	(0.037)	(0.042)	(0.036)	(0.050)
Pop over 65	-0.065	-0.079**	-0.066*	-0.016
	(0.040)	(0.035)	(0.038)	(0.050)
d 2009	0.542***	0.543***	0.543***	0.519***
	(0.098)	(0.099)	(0.094)	(0.150)
Constant	2.077*	2.366**	2.087*	0.850
	(1.176)	(1.187)	(1.126)	(1.409)
R^2	0.241			
Adj. R^2	0.201			
Obs.	382	353	353	325

Note : * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country i is instrumented by the average output gap all OECD countries but country i.

Table 10: Correlation between _long_ fiscal drifts and shocks interacted with institutions (using the Transparency International index for transparency)

	I	II	III	IV
Lagged Long Fiscal Drift	0.598***	0.568***	0.598***	0.316**
	(0.038)	(0.038)	(0.037)	(0.124)
Neg Output gap	-0.001	-0.005	-0.002	0.006
	(0.010)	(0.012)	(0.009)	(0.051)
Pos Output gap	0.038***	0.033**	0.038***	0.084*
	(0.013)	(0.014)	(0.012)	(0.050)
Neg Output gap * Transparency	-0.007	0.005	-0.007	-0.032*
	(0.006)	(0.007)	(0.006)	(0.019)
Pos Output gap * Transparency	-0.021**	-0.011	-0.021***	-0.038**
	(0.008)	(0.009)	(0.007)	(0.018)
Neg Output gap * Presidential	0.012	0.081*	0.012	0.144
	(0.038)	(0.043)	(0.037)	(0.220)
Pos Output gap * Presidential	0.061	0.155**	0.061	0.298
	(0.072)	(0.072)	(0.069)	(0.241)
Neg Output gap * Majoritarian	0.037	0.039	0.037	0.238**
	(0.028)	(0.029)	(0.027)	(0.116)
Pos Output gap * Majoritarian	0.017	0.029	0.017	0.143
	(0.036)	(0.039)	(0.034)	(0.109)
Neg Output gap * Union Coverage	0.000	0.001	0.000	0.002
	(0.000)	(0.000)	(0.000)	(0.002)
Pos Output gap * Union Coverage	0.001*	0.001*	0.001*	0.001
	(0.000)	(0.001)	(0.000)	(0.002)
Election	0.008	0.010	0.008	0.013
	(0.021)	(0.023)	(0.020)	(0.042)
Election * Presidential	-0.209***	-0.202***	-0.208***	-0.252*
	(0.053)	(0.054)	(0.051)	(0.135)
Election * Transparency	-0.025***	-0.023***	-0.025***	-0.029
	(0.009)	(0.008)	(0.008)	(0.024)
Election * Majoritarian	0.092**	0.080*	0.093***	0.053
	(0.035)	(0.042)	(0.033)	(0.100)
Election * Union Coverage	0.002***	0.002**	0.002***	0.002
	(0.001)	(0.001)	(0.001)	(0.002)
Pop below 15	-0.039*	-0.069***	-0.039**	-0.034
	(0.020)	(0.018)	(0.019)	(0.038)
Pop over 65	-0.023	-0.045***	-0.023	0.004
	(0.018)	(0.016)	(0.017)	(0.039)
d 2009	0.118***	0.026	0.118***	0.268**
	(0.041)	(0.050)	(0.040)	(0.120)
Constant	1.071*	1.945***	1.074**	0.550
	(0.563)	(0.484)	(0.543)	(1.075)
R²	0.400			
Adj. R²	0.369			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country _i_ is instrumented by the average output gap all OECD countries but country _i_.

Table 11: Correlation between *short* fiscal tightenings and shocks interacted with institutions (using the Transparency International index for transparency)

	I	II	III	IV
Lagged Fiscal Tight	0.193***	0.189***	0.192***	-0.291
	(0.051)	(0.051)	(0.049)	(0.215)
Neg Output gap	-0.005	-0.003	-0.005	-0.125
	(0.017)	(0.020)	(0.016)	(0.079)
Pos Output gap	-0.051***	-0.052***	-0.052***	-0.155**
	(0.018)	(0.017)	(0.017)	(0.076)
Neg Output gap * Transparency	0.000	0.000	0.000	-0.003
	(0.011)	(0.012)	(0.011)	(0.030)
Pos Output gap * Transparency	-0.011	-0.010	-0.011	-0.039
	(0.011)	(0.010)	(0.010)	(0.030)
Neg Output gap * Presidential	-0.038	-0.043	-0.037	-0.170
	(0.057)	(0.057)	(0.054)	(0.335)
Pos Output gap * Presidential	-0.069	-0.089	-0.068	-0.345
	(0.072)	(0.072)	(0.069)	(0.361)
Neg Output gap * Majoritarian	-0.083***	-0.060*	-0.082***	-0.311*
	(0.029)	(0.034)	(0.028)	(0.168)
Pos Output gap * Majoritarian	-0.062	-0.031	-0.061	-0.333**
	(0.050)	(0.053)	(0.047)	(0.169)
Neg Output gap * Union Coverage	-0.002***	-0.002**	-0.002***	-0.004
	(0.001)	(0.001)	(0.001)	(0.003)
Pos Output gap * Union Coverage	-0.001	-0.001	-0.001	-0.002
	(0.001)	(0.001)	(0.001)	(0.003)
Election	-0.056	-0.063*	-0.056	-0.043
	(0.038)	(0.036)	(0.037)	(0.065)
Election * Presidential	0.144	0.147	0.145	0.173
	(0.102)	(0.091)	(0.098)	(0.205)
Election * Transparency	0.034	0.027	0.033	0.003
	(0.022)	(0.022)	(0.021)	(0.036)
Election * Majoritarian	-0.099	-0.084	-0.098	-0.030
	(0.108)	(0.099)	(0.103)	(0.154)
Election * Union Coverage	-0.004*	-0.004*	-0.004*	-0.002
	(0.002)	(0.002)	(0.002)	(0.003)
Pop below 15	0.023	0.034	0.022	0.010
	(0.032)	(0.038)	(0.030)	(0.057)
Pop over 65	0.029	0.013	0.029	0.008
	(0.021)	(0.027)	(0.020)	(0.061)
d 2009	-0.274***	-0.284***	-0.273***	-0.216
	(0.074)	(0.074)	(0.071)	(0.182)
Constant	-0.529	-0.497	-0.520	0.342
	(0.812)	(1.012)	(0.780)	(1.637)
R²	0.144			
Adj. R²	0.099			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*.

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Table 12: Correlation between *long* fiscal tightening episodes and shocks interacted with institutions (using the Transparency International index for transparency)

	I	II	III	IV
Lagged Long Fiscal Tight	0.460***	0.475***	0.460***	-0.035
	(0.040)	(0.043)	(0.038)	(0.154)
Neg Output gap	-0.000	-0.006	-0.000	-0.056
	(0.014)	(0.019)	(0.014)	(0.065)
Pos Output gap	-0.043***	-0.062***	-0.043***	-0.085
	(0.012)	(0.019)	(0.012)	(0.062)
Neg Output gap * Transparency	0.012	0.017*	0.012	0.005
	(0.009)	(0.009)	(0.009)	(0.023)
Pos Output gap * Transparency	0.002	0.008	0.002	-0.012
	(0.007)	(0.008)	(0.007)	(0.022)
Neg Output gap * Presidential	-0.036	-0.064	-0.036	-0.150
	(0.057)	(0.064)	(0.054)	(0.262)
Pos Output gap * Presidential	-0.072	-0.135	-0.072	-0.230
	(0.066)	(0.085)	(0.063)	(0.286)
Neg Output gap * Majoritarian	0.001	0.015	0.001	-0.172
	(0.037)	(0.046)	(0.036)	(0.137)
Pos Output gap * Majoritarian	-0.057***	-0.018	-0.057***	-0.295**
	(0.018)	(0.029)	(0.017)	(0.146)
Neg Output gap * Union Coverage	-0.001	-0.001	-0.001	-0.004*
	(0.001)	(0.001)	(0.001)	(0.002)
Pos Output gap * Union Coverage	-0.001**	-0.001*	-0.001***	-0.004*
	(0.001)	(0.001)	(0.001)	(0.002)
Election	-0.006	-0.011	-0.006	0.037
	(0.026)	(0.023)	(0.025)	(0.051)
Election * Presidential	0.134*	0.166***	0.134**	0.034
	(0.066)	(0.054)	(0.063)	(0.163)
Election * Transparency	0.019	0.024*	0.019	-0.015
	(0.015)	(0.014)	(0.014)	(0.029)
Election * Majoritarian	-0.058	-0.037	-0.058	0.015
	(0.070)	(0.059)	(0.067)	(0.121)
Election * Union Coverage	-0.003*	-0.002*	-0.003**	-0.002
	(0.001)	(0.001)	(0.001)	(0.002)
Pop below 15	0.032	0.038	0.032	0.040
	(0.022)	(0.032)	(0.022)	(0.046)
Pop over 65	0.016	0.019	0.016	0.025
	(0.017)	(0.016)	(0.016)	(0.049)
d 2009	-0.152**	-0.195***	-0.152***	-0.145
	(0.057)	(0.075)	(0.055)	(0.142)
Constant	-0.640	-0.769	-0.639	-0.719
	(0.609)	(0.768)	(0.590)	(1.311)
R²	0.307			
Adj. R²	0.271			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*.

Table 13: Correlation between *short* fiscal drifts and shocks interacted with institutions (using the Freedom of Press index as a proxy for transparency)

	I	II	III	IV
Lagged Fiscal Drift	0.092	0.103	0.092	0.051
	(0.071)	(0.070)	(0.068)	(0.171)
Neg Output gap	0.027	0.021	0.026	0.071
	(0.019)	(0.020)	(0.018)	(0.061)
Pos Output gap	0.033**	0.033**	0.032**	0.096
	(0.015)	(0.016)	(0.015)	(0.061)
Neg Output gap * Press	-0.008*	-0.006	-0.008*	-0.020*
	(0.005)	(0.006)	(0.004)	(0.012)
Pos Output gap * Press	-0.006**	-0.005*	-0.006**	-0.011*
	(0.003)	(0.003)	(0.003)	(0.006)
Neg Output gap * Presidential	0.007	0.026	0.008	0.051
	(0.074)	(0.072)	(0.071)	(0.264)
Pos Output gap * Presidential	0.035	0.032	0.035	0.237
	(0.076)	(0.083)	(0.073)	(0.281)
Neg Output gap * Majoritarian	0.150**	0.141**	0.151**	0.275*
	(0.064)	(0.064)	(0.062)	(0.144)
Pos Output gap * Majoritarian	0.042	0.037	0.043	0.156
	(0.057)	(0.058)	(0.055)	(0.132)
Neg Output gap * Union Coverage	0.003***	0.003***	0.003***	0.004**
	(0.001)	(0.001)	(0.001)	(0.002)
Pos Output gap * Union Coverage	0.002*	0.002	0.002**	0.001
	(0.001)	(0.001)	(0.001)	(0.002)
Election	0.136***	0.125***	0.136***	0.149***
	(0.041)	(0.040)	(0.040)	(0.053)
Election * Presidential	-0.225**	-0.195**	-0.224**	-0.312*
	(0.096)	(0.094)	(0.092)	(0.160)
Election * Press	-0.011*	-0.011**	-0.011**	-0.019**
	(0.006)	(0.005)	(0.006)	(0.008)
Election * Majoritarian	-0.138	-0.122	-0.137	-0.241**
	(0.092)	(0.087)	(0.088)	(0.121)
Election * Union Coverage	0.000	0.001	0.000	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Pop below 15	-0.053	-0.057	-0.053	-0.033
	(0.037)	(0.043)	(0.035)	(0.049)
Pop over 65	-0.064	-0.074**	-0.064*	-0.023
	(0.040)	(0.037)	(0.038)	(0.049)
d 2009	0.546***	0.555***	0.547***	0.507***
	(0.101)	(0.100)	(0.097)	(0.146)
Constant	1.959	2.189*	1.969*	0.948
	(1.169)	(1.230)	(1.121)	(1.378)
R²	0.237			
Adj. R²	0.197			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*.

Table 14: Correlation between *long* fiscal drifts and shocks interacted with institutions (using Freedom of Press index as a proxy for transparency)

	I	II	III	IV
Lagged Long Fiscal Drift	0.596***	0.572***	0.596***	0.346***
	(0.037)	(0.037)	(0.036)	(0.121)
Neg Output gap	-0.002	-0.007	-0.002	-0.021
	(0.010)	(0.012)	(0.010)	(0.048)
Pos Output gap	0.039***	0.032**	0.039***	0.060
	(0.013)	(0.015)	(0.013)	(0.046)
Neg Output gap * Press	-0.007**	0.001	-0.007***	-0.026***
	(0.003)	(0.003)	(0.003)	(0.009)
Pos Output gap * Press	-0.005**	-0.001	-0.005***	-0.014***
	(0.002)	(0.002)	(0.002)	(0.005)
Neg Output gap * Presidential	0.011	0.082**	0.011	0.076
	(0.038)	(0.042)	(0.036)	(0.209)
Pos Output gap * Presidential	0.061	0.158**	0.061	0.219
	(0.076)	(0.073)	(0.073)	(0.222)
Neg Output gap * Majoritarian	0.026	0.051	0.027	0.182
	(0.029)	(0.032)	(0.028)	(0.112)
Pos Output gap * Majoritarian	-0.007	0.027	-0.007	0.083
	(0.041)	(0.043)	(0.039)	(0.103)
Neg Output gap * Union Coverage	0.000	0.001*	0.000	0.002
	(0.000)	(0.000)	(0.000)	(0.002)
Pos Output gap * Union Coverage	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.000)	(0.001)
Election	0.007	0.009	0.007	0.006
	(0.022)	(0.023)	(0.021)	(0.042)
Election * Presidential	-0.181***	-0.184***	-0.181***	-0.198
	(0.059)	(0.058)	(0.056)	(0.127)
Election * Press	-0.005**	-0.005***	-0.005***	-0.008
	(0.002)	(0.001)	(0.002)	(0.006)
Election * Majoritarian	0.068	0.058	0.068	0.018
	(0.044)	(0.045)	(0.042)	(0.095)
Election * Union Coverage	0.002***	0.002**	0.002***	0.002
	(0.001)	(0.001)	(0.001)	(0.002)
Pop below 15	-0.035*	-0.068***	-0.035*	-0.040
	(0.020)	(0.017)	(0.019)	(0.038)
Pop over 65	-0.022	-0.045***	-0.022	-0.004
	(0.017)	(0.016)	(0.017)	(0.038)
d 2009	0.119***	0.027	0.119***	0.286**
	(0.040)	(0.053)	(0.039)	(0.119)
Constant	0.979*	1.916***	0.981*	0.821
	(0.551)	(0.458)	(0.531)	(1.052)
R²	0.396			
Adj. R²	0.365			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*.

Table 15: Correlation between *short* fiscal tightenings and shocks interacted with institutions (using the Freedom of Press index as a proxy for transparency)

	I	II	III	IV
Lagged Fiscal Tight	0.195***	0.188***	0.195***	-0.174
	(0.051)	(0.051)	(0.049)	(0.189)
Neg Output gap	-0.003	-0.002	-0.004	-0.095
	(0.018)	(0.021)	(0.017)	(0.070)
Pos Output gap	-0.050***	-0.051***	-0.051***	-0.130**
	(0.018)	(0.017)	(0.017)	(0.065)
Neg Output gap * Press	-0.005	-0.007	-0.005	-0.012
	(0.005)	(0.004)	(0.005)	(0.014)
Pos Output gap * Press	-0.003	-0.004	-0.003	-0.009
	(0.003)	(0.002)	(0.003)	(0.007)
Neg Output gap * Presidential	-0.054	-0.064	-0.053	-0.018
	(0.054)	(0.053)	(0.051)	(0.301)
Pos Output gap * Presidential	-0.078	-0.099	-0.077	-0.168
	(0.072)	(0.068)	(0.068)	(0.318)
Neg Output gap * Majoritarian	-0.088**	-0.068	-0.087**	-0.327**
	(0.037)	(0.043)	(0.035)	(0.158)
Pos Output gap * Majoritarian	-0.082*	-0.053	-0.082**	-0.397**
	(0.043)	(0.048)	(0.041)	(0.157)
Neg Output gap * Union Coverage	-0.002**	-0.001	-0.002***	-0.003
	(0.001)	(0.001)	(0.001)	(0.002)
Pos Output gap * Union Coverage	-0.002*	-0.001	-0.002*	-0.003
	(0.001)	(0.001)	(0.001)	(0.002)
Election	-0.057	-0.064*	-0.058	-0.045
	(0.039)	(0.037)	(0.037)	(0.061)
Election * Presidential	0.119	0.125	0.120	0.152
	(0.097)	(0.089)	(0.093)	(0.181)
Election * Press	0.005	0.004	0.005	-0.004
	(0.004)	(0.003)	(0.003)	(0.009)
Election * Majoritarian	-0.049	-0.047	-0.048	0.003
	(0.095)	(0.089)	(0.091)	(0.139)
Election * Union Coverage	-0.003*	-0.003*	-0.003*	-0.002
	(0.002)	(0.002)	(0.002)	(0.003)
Pop below 15	0.024	0.036	0.023	0.003
	(0.032)	(0.039)	(0.031)	(0.054)
Pop over 65	0.028	0.011	0.028	0.013
	(0.021)	(0.028)	(0.020)	(0.057)
d 2009	-0.275***	-0.285***	-0.274***	-0.229
	(0.076)	(0.076)	(0.072)	(0.169)
Constant	-0.533	-0.490	-0.524	0.320
	(0.830)	(1.037)	(0.797)	(1.520)
R²	0.142			
Adj. R²	0.096			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*.

Table 16: Correlation between *long* fiscal tightenings and shocks interacted with institutions (using the Freedom of Press index as a proxy for transparency)

	I	II	III	IV
Lagged Long Fiscal Tight	0.457***	0.473***	0.457***	0.192*
	(0.040)	(0.044)	(0.038)	(0.115)
Neg Output gap	-0.001	-0.007	-0.001	-0.005
	(0.015)	(0.020)	(0.014)	(0.054)
Pos Output gap	-0.042***	-0.062***	-0.043***	-0.047
	(0.012)	(0.019)	(0.012)	(0.050)
Neg Output gap * Press	0.001	0.003	0.001	-0.004
	(0.004)	(0.004)	(0.004)	(0.010)
Pos Output gap * Press	-0.001	0.000	-0.001	-0.005
	(0.002)	(0.002)	(0.002)	(0.006)
Neg Output gap * Presidential	-0.045	-0.078	-0.045	-0.028
	(0.053)	(0.062)	(0.051)	(0.230)
Pos Output gap * Presidential	-0.085	-0.157**	-0.085	-0.136
	(0.064)	(0.079)	(0.061)	(0.246)
Neg Output gap * Majoritarian	0.015	0.036	0.015	-0.118
	(0.039)	(0.053)	(0.037)	(0.123)
Pos Output gap * Majoritarian	-0.062***	-0.020	-0.062***	-0.246*
	(0.019)	(0.030)	(0.018)	(0.127)
Neg Output gap * Union Coverage	-0.001	-0.001	-0.001	-0.003*
	(0.001)	(0.001)	(0.001)	(0.002)
Pos Output gap * Union Coverage	-0.001**	-0.001	-0.001**	-0.003*
	(0.001)	(0.001)	(0.001)	(0.002)
Election	-0.006	-0.011	-0.006	0.034
	(0.026)	(0.023)	(0.025)	(0.046)
Election * Presidential	0.126**	0.153***	0.126**	0.055
	(0.058)	(0.051)	(0.056)	(0.138)
Election * Press	0.005*	0.005*	0.005*	-0.003
	(0.002)	(0.003)	(0.002)	(0.007)
Election * Majoritarian	-0.028	-0.004	-0.028	-0.007
	(0.062)	(0.050)	(0.059)	(0.105)
Election * Union Coverage	-0.003*	-0.002*	-0.003**	-0.003
	(0.001)	(0.001)	(0.001)	(0.002)
Pop below 15	0.032	0.034	0.032	0.025
	(0.022)	(0.032)	(0.021)	(0.041)
Pop over 65	0.015	0.015	0.015	0.016
	(0.017)	(0.017)	(0.016)	(0.043)
d 2009	-0.141**	-0.179**	-0.141***	-0.184
	(0.057)	(0.073)	(0.055)	(0.126)
Constant	-0.625	-0.642	-0.624	-0.443
	(0.605)	(0.767)	(0.584)	(1.166)
R²	0.307			
Adj. R²	0.270			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*.

Table 17: Correlation between *long* fiscal drifts and shocks interacted with institutions (using the World Bank corruption index for transparency)

	I	II	III	IV
Lagged Long Fiscal Drift	0.598***	0.566***	0.598***	0.320**
	(0.038)	(0.038)	(0.037)	(0.124)
Neg Output gap	-0.001	-0.005	-0.001	0.004
	(0.010)	(0.012)	(0.010)	(0.051)
Pos Output gap	0.038***	0.032**	0.038***	0.083*
	(0.013)	(0.014)	(0.012)	(0.049)
Neg Output gap * WBTransparency	-0.019	0.015	-0.019	-0.094*
	(0.016)	(0.018)	(0.015)	(0.048)
Pos Output gap * WBTransparency	-0.051**	-0.025	-0.051***	-0.107**
	(0.020)	(0.025)	(0.020)	(0.047)
Neg Output gap * Presidential	0.012	0.081*	0.012	0.147
	(0.038)	(0.042)	(0.036)	(0.221)
Pos Output gap * Presidential	0.063	0.156**	0.063	0.307
	(0.072)	(0.072)	(0.069)	(0.240)
Neg Output gap * Majoritarian	0.037	0.039	0.037	0.236**
	(0.028)	(0.028)	(0.027)	(0.116)
Pos Output gap * Majoritarian	0.014	0.028	0.014	0.141
	(0.037)	(0.039)	(0.035)	(0.109)
Neg Output gap * Union Coverage	0.000	0.001	0.001	0.002
	(0.000)	(0.000)	(0.000)	(0.002)
Pos Output gap * Union Coverage	0.001*	0.001	0.001*	0.001
	(0.000)	(0.001)	(0.000)	(0.002)
Election	0.009	0.011	0.009	0.016
	(0.021)	(0.023)	(0.020)	(0.042)
Election * Presidential	-0.205***	-0.198***	-0.205***	-0.250*
	(0.052)	(0.052)	(0.049)	(0.134)
Election * WBTransparency	-0.067***	-0.062***	-0.067***	-0.076
	(0.022)	(0.020)	(0.021)	(0.061)
Election * Majoritarian	0.093**	0.081*	0.093***	0.049
	(0.034)	(0.041)	(0.033)	(0.099)
Election * Union Coverage	0.002***	0.002**	0.002***	0.002
	(0.001)	(0.001)	(0.001)	(0.002)
Pop below 15	-0.039*	-0.069***	-0.039**	-0.036
	(0.020)	(0.018)	(0.019)	(0.038)
Pop over 65	-0.023	-0.045***	-0.023	0.005
	(0.017)	(0.016)	(0.017)	(0.040)
d 2009	0.117***	0.025	0.118***	0.270**
	(0.042)	(0.050)	(0.040)	(0.121)
Constant	1.058*	1.935***	1.061**	0.584
	(0.560)	(0.484)	(0.540)	(1.078)
R²	0.400			
Adj. R²	0.368			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*.

Table 18: Correlation between *long* fiscal tightenings and shocks interacted with institutions (using the World Bank corruption index for transparency)

	I	II	III	IV
Lagged Long Fiscal Tight	0.460***	0.474***	0.460***	0.186
	(0.040)	(0.043)	(0.038)	(0.118)
Neg Output gap	-0.001	-0.007	-0.001	-0.011
	(0.015)	(0.019)	(0.014)	(0.056)
Pos Output gap	-0.043***	-0.062***	-0.043***	-0.055
	(0.012)	(0.019)	(0.012)	(0.054)
Neg Output gap * WBTransparency	0.028	0.043*	0.028	-0.001
	(0.022)	(0.023)	(0.021)	(0.054)
Pos Output gap * WBTransparency	-0.001	0.015	-0.001	-0.047
	(0.019)	(0.020)	(0.018)	(0.052)
Neg Output gap * Presidential	-0.038	-0.067	-0.038	-0.061
	(0.057)	(0.065)	(0.054)	(0.236)
Pos Output gap * Presidential	-0.075	-0.141*	-0.075	-0.160
	(0.065)	(0.084)	(0.062)	(0.258)
Neg Output gap * Majoritarian	0.002	0.017	0.003	-0.132
	(0.037)	(0.047)	(0.036)	(0.122)
Pos Output gap * Majoritarian	-0.057***	-0.018	-0.057***	-0.227*
	(0.018)	(0.028)	(0.017)	(0.128)
Neg Output gap * Union Coverage	-0.001	-0.001	-0.001	-0.003
	(0.001)	(0.001)	(0.001)	(0.002)
Pos Output gap * Union Coverage	-0.001**	-0.001*	-0.001***	-0.003
	(0.001)	(0.001)	(0.001)	(0.002)
Election	-0.006	-0.012	-0.006	0.036
	(0.026)	(0.023)	(0.025)	(0.046)
Election * Presidential	0.129*	0.161***	0.129**	0.034
	(0.065)	(0.054)	(0.062)	(0.145)
Election * WBTransparency	0.043	0.053	0.043	-0.030
	(0.037)	(0.037)	(0.036)	(0.067)
Election * Majoritarian	-0.056	-0.033	-0.056	-0.003
	(0.069)	(0.058)	(0.066)	(0.108)
Election * Union Coverage	-0.003*	-0.002*	-0.003**	-0.003
	(0.001)	(0.001)	(0.001)	(0.002)
Pop below 15	0.031	0.037	0.031	0.024
	(0.022)	(0.033)	(0.021)	(0.041)
Pop over 65	0.015	0.018	0.015	0.014
	(0.017)	(0.017)	(0.016)	(0.044)
d 2009	-0.151**	-0.193**	-0.151***	-0.190
	(0.057)	(0.075)	(0.055)	(0.127)
Constant	-0.620	-0.747	-0.619	-0.387
	(0.607)	(0.775)	(0.588)	(1.170)
R^2	0.307			
Adj. R^2	0.270			
Obs.	382	353	353	325

Note : * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*.

Table 19: Correlation between _long_ fiscal drifts and shocks (considering output gaps of +/- 1% and over)

	I	II	III	IV
Lagged Long Fiscal Drift	0.589***	0.552***	0.517***	0.291**
	(0.032)	(0.042)	(0.041)	(0.113)
Neg Output gap	-0.003	0.003	0.002	0.027
	(0.008)	(0.011)	(0.010)	(0.038)
Pos Output gap	0.038***	0.031**	0.037***	0.077***
	(0.012)	(0.014)	(0.013)	(0.028)
Election	0.003	0.011	0.005	0.019
	(0.034)	(0.036)	(0.033)	(0.031)
Pop below 15	-0.032	-0.069***	-0.030	-0.017
	(0.019)	(0.021)	(0.025)	(0.025)
Pop over 65	-0.023	-0.058***	-0.042*	-0.044*
	(0.021)	(0.016)	(0.025)	(0.026)
d 2009	0.120***	-0.002	0.094**	0.195*
	(0.040)	(0.052)	(0.044)	(0.104)
Constant	0.936	2.134***	1.180	0.950
	(0.622)	(0.576)	(0.775)	(0.747)
R^2	0.351			
Adj. R^2	0.339			
Obs.	387	375	375	362

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country _i_ is instrumented by the average output gap all OECD countries but country _i_ .

Table 20: Correlation between _long_ fiscal tightenings and shocks (considering output gaps of +/- 1% and over)

	I	II	III	IV
Lagged Long Fiscal Tight	0.461***	0.491***	0.479***	0.189**
	(0.038)	(0.032)	(0.033)	(0.093)
Neg Output gap	-0.003	-0.004	-0.008	-0.048
	(0.013)	(0.017)	(0.014)	(0.046)
Pos Output gap	-0.039***	-0.046***	-0.042***	-0.065*
	(0.013)	(0.017)	(0.014)	(0.035)
Election	-0.009	-0.009	-0.006	-0.020
	(0.032)	(0.029)	(0.031)	(0.038)
Pop below 15	0.021	0.043	0.030	0.018
	(0.020)	(0.033)	(0.022)	(0.032)
Pop over 65	0.005	0.013	0.016	0.017
	(0.016)	(0.022)	(0.022)	(0.032)
d 2009	-0.154**	-0.155**	-0.146**	-0.131
	(0.059)	(0.077)	(0.066)	(0.129)
Constant	-0.294	-0.829	-0.615	-0.311
	(0.551)	(0.843)	(0.646)	(0.911)
R^2	0.273			
Adj. R^2	0.260			
Obs.	387	375	375	362

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country _i_ is instrumented by the average output gap all OECD countries but country _i_ .

Table 21: Correlation between *long* fiscal drifts and shocks (considering output gaps of +/- 1% and over) interacted with institutions (Using the Transparency International index for transparency)

	I	II	III	IV
Lagged Long Fiscal Drift	0.597***	0.564***	0.597***	0.270*
	(0.038)	(0.037)	(0.037)	(0.161)
Neg Output gap	-0.001	-0.004	-0.001	0.046
	(0.009)	(0.012)	(0.009)	(0.067)
Pos Output gap	0.038***	0.034**	0.038***	0.116*
	(0.013)	(0.014)	(0.012)	(0.065)
Neg Output gap * Transparency	-0.002	0.009	-0.002	-0.035
	(0.006)	(0.006)	(0.005)	(0.023)
Pos Output gap * Transparency	-0.018**	-0.010	-0.018**	-0.044**
	(0.008)	(0.009)	(0.007)	(0.022)
Neg Output gap * Presidential	0.023	0.089**	0.023	0.428
	(0.037)	(0.039)	(0.036)	(0.308)
Pos Output gap * Presidential	0.065	0.148**	0.065	0.548*
	(0.072)	(0.073)	(0.069)	(0.313)
Neg Output gap * Majoritarian	0.029	0.029	0.029	0.195
	(0.024)	(0.023)	(0.023)	(0.131)
Pos Output gap * Majoritarian	0.019	0.029	0.019	0.159
	(0.033)	(0.036)	(0.032)	(0.131)
Neg Output gap * Union Coverage	0.000	0.000	0.000	0.002
	(0.000)	(0.000)	(0.000)	(0.002)
Pos Output gap * Union Coverage	0.001*	0.001	0.001*	0.001
	(0.000)	(0.001)	(0.000)	(0.002)
Election	0.007	0.008	0.007	0.011
	(0.020)	(0.022)	(0.019)	(0.053)
Election * Presidential	-0.206***	-0.194***	-0.206***	-0.287*
	(0.053)	(0.055)	(0.051)	(0.174)
Election * Transparency	-0.024***	-0.021**	-0.024***	-0.024
	(0.009)	(0.009)	(0.008)	(0.030)
Election * Majoritarian	0.088**	0.075*	0.088***	0.042
	(0.035)	(0.042)	(0.034)	(0.129)
Election * Union Coverage	0.002**	0.002**	0.002***	0.001
	(0.001)	(0.001)	(0.001)	(0.003)
Pop below 15	-0.040*	-0.068***	-0.040**	-0.055
	(0.020)	(0.018)	(0.019)	(0.049)
Pop over 65	-0.021	-0.044***	-0.021	0.027
	(0.018)	(0.016)	(0.017)	(0.051)
d 2009	0.112**	0.023	0.112***	0.191
	(0.042)	(0.049)	(0.041)	(0.157)
Constant	1.059*	1.909***	1.061*	0.566
	(0.565)	(0.477)	(0.543)	(1.328)
R²	0.401			
Adj. R²	0.369			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*

Table 22: Correlation between *long* fiscal tightenings and shocks (considering output gaps of +/- 1% and over) interacted with institutions (Using the Transparency International index for transparency)

	I	II	III	IV
Lagged Long Fiscal Tight	0.461***	0.477***	0.461***	-0.031
	(0.040)	(0.043)	(0.039)	(0.170)
Neg Output gap	0.003	-0.001	0.003	-0.077
	(0.013)	(0.018)	(0.013)	(0.072)
Pos Output gap	-0.036***	-0.054***	-0.036***	-0.105
	(0.011)	(0.017)	(0.011)	(0.068)
Neg Output gap * Transparency	0.008	0.012	0.008	0.007
	(0.008)	(0.008)	(0.008)	(0.024)
Pos Output gap * Transparency	0.001	0.006	0.001	-0.004
	(0.006)	(0.006)	(0.006)	(0.022)
Neg Output gap * Presidential	-0.058	-0.085	-0.058	-0.275
	(0.051)	(0.059)	(0.049)	(0.304)
Pos Output gap * Presidential	-0.075	-0.131*	-0.075	-0.351
	(0.060)	(0.075)	(0.057)	(0.310)
Neg Output gap * Majoritarian	0.005	0.019	0.005	-0.125
	(0.030)	(0.043)	(0.029)	(0.129)
Pos Output gap * Majoritarian	-0.052**	-0.017	-0.052***	-0.278*
	(0.019)	(0.026)	(0.018)	(0.149)
Neg Output gap * Union Coverage	-0.001	-0.001	-0.001	-0.003*
	(0.001)	(0.001)	(0.001)	(0.002)
Pos Output gap * Union Coverage	-0.001***	-0.001*	-0.001***	-0.004*
	(0.000)	(0.001)	(0.000)	(0.002)
Election	-0.004	-0.009	-0.004	0.037
	(0.026)	(0.023)	(0.025)	(0.054)
Election * Presidential	0.134*	0.169***	0.134**	0.070
	(0.069)	(0.058)	(0.066)	(0.178)
Election * Transparency	0.018	0.022	0.018	-0.013
	(0.015)	(0.014)	(0.014)	(0.031)
Election * Majoritarian	-0.060	-0.038	-0.060	0.028
	(0.070)	(0.060)	(0.067)	(0.133)
Election * Union Coverage	-0.003*	-0.002*	-0.003**	-0.002
	(0.001)	(0.001)	(0.001)	(0.003)
Pop below 15	0.034	0.038	0.034	0.046
	(0.023)	(0.034)	(0.022)	(0.049)
Pop over 65	0.014	0.015	0.014	0.016
	(0.018)	(0.018)	(0.017)	(0.054)
d 2009	-0.150**	-0.191**	-0.150***	-0.094
	(0.057)	(0.075)	(0.054)	(0.161)
Constant	-0.670	-0.747	-0.669	-0.686
	(0.629)	(0.811)	(0.609)	(1.378)
R²	0.303			
Adj. R²	0.267			
Obs.	382	353	353	325

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
I: OLS with country fixed effects.
II: Arellano-Bond method;
III: Arellano-Bond method where the output gap is instrumented by its lagged values;
IV: Arellano-Bond method where the output gap of country *i* is instrumented by the average output gap all OECD countries but country *i*

Table 23: Correlation between *long* fiscal drifts and shocks interacted with institutions (using the Transparency International index for transparency) excluding countries are removed one by one.

Country removed from panel	Neg Output gap	Pos Output gap	Pos Output gap * Transparency	Pos Output gap * Union Coverage	Election * Presidential	Election * Transparency	Election * Union Coverage
AUS	-0.002	0.038***	-0.021***	0.001*	-0.208***	-0.025***	0.002***
AUT	-0.001	0.039***	-0.021***	0.001**	-0.201***	-0.025***	0.002***
BEL	-0.001	0.037***	-0.019***	0.001	-0.209***	-0.027***	0.002***
CAN	-0.001	0.038***	-0.022***	0.001**	-0.180***	-0.028***	0.002***
CHE	0.001	0.039***	-0.020***	0.001*	-0.203***	-0.027***	0.002***
CHL	-0.002	0.038***	-0.021***	0.001*	-0.208***	-0.025***	0.002***
CZE	-0.000	0.038***	-0.024***	0.001*	-0.198***	-0.023***	0.002***
DEU	-0.001	0.039***	-0.020***	0.001*	-0.209***	-0.025***	0.002***
DNK	-0.001	0.040***	-0.021***	0.001*	-0.209***	-0.025***	0.002***
ESP	-0.000	0.038***	-0.020***	0.001*	-0.210***	-0.023***	0.002***
EST	-0.002	0.038***	-0.021***	0.001*	-0.208***	-0.025***	0.002***
FIN	-0.001	0.041***	-0.020***	0.001*	-0.206***	-0.024***	0.002***
FRA	-0.001	0.037***	-0.021***	0.001*	-0.208***	-0.024***	0.002*
GBR	-0.005	0.034***	-0.022***	0.001**	-0.234***	-0.024***	0.002***
GRC	-0.002	0.036***	-0.019**	0.001**	-0.191***	-0.020***	0.002***
HUN	-0.002	0.036***	-0.021***	0.001*	-0.207***	-0.025***	0.002***
IRL	-0.000	0.041***	-0.020***	0.001	-0.219***	-0.025***	0.002***
ISL	-0.006	0.037***	-0.022***	0.001*	-0.207***	-0.025***	0.002***
ISR	-0.002	0.038***	-0.021***	0.001*	-0.208***	-0.025***	0.002***
ITA	-0.001	0.038***	-0.023***	0.001**	-0.214***	-0.028***	0.002***
JPN	0.000	0.043***	-0.019**	0.001	-0.185***	-0.024***	0.002***
KOR	0.007	0.048***	-0.022***	0.001*	-0.217***	-0.026***	0.002***
LUX	-0.003	0.040***	-0.020***	0.001*	-0.208***	-0.025***	0.002***
MEX	-0.003	0.035***	-0.020***	0.001*	-0.205***	-0.025***	0.002***
NLD	0.000	0.038***	-0.021***	0.001*	-0.215***	-0.028***	0.002***
NOR	-0.004	0.042***	-0.020***	0.001*	-0.207***	-0.025***	0.002***
NZL	-0.002	0.039***	-0.021***	0.001*	-0.208***	-0.025***	0.002***
POL	0.000	0.037***	-0.020***	0.001*	-0.232***	-0.023**	0.002***
PRT	-0.002	0.036***	-0.020***	0.001*	-0.227***	-0.028***	0.002***
SVK	-0.005	0.032***	-0.014*	0.001**	-0.229***	-0.030***	0.002***
SVN	-0.002	0.038***	-0.021***	0.001*	-0.208***	-0.025***	0.002***
SWE	-0.001	0.041***	-0.020***	0.001**	-0.207***	-0.025***	0.002***
TUR	-0.002	0.037***	-0.021***	0.001*	-0.208***	-0.025***	0.002***
USA	-0.003	0.033***	-0.024***	0.001**	-0.188***	-0.024**	0.002***

Note : * p<0.10, ** p<0.05, *** p<0.01. Robust standard errors in parenthesis. Period 1995-2009.
Arellano-Bond method where the output gap is instrumented by its lagged values.

Table 24: Correlation between *long* fiscal drifts and shocks interacted with institutions (using the Transparency International index for transparency) excluding countries are removed one by one.

Country removed from panel	Neg Output gap	Pos Output gap	Pos Output gap * Transparency	Pos Output gap * Union Coverage	Election * Presidential	Election * Transparency	Election * Union Coverage
AUS	-0.000	-0.043***	0.002	-0.001***	0.134**	0.019	-0.003**
AUT	-0.004	-0.045***	0.003	-0.002***	0.148**	0.020	-0.002*
BEL	0.002	-0.043***	0.000	-0.001***	0.137**	0.016	-0.002*
CAN	0.001	-0.042***	0.002	-0.001***	0.143**	0.017	-0.002*
CHE	-0.007	-0.042***	0.003	-0.002***	0.115*	0.024*	-0.003**
CHL	-0.000	-0.043***	0.002	-0.001***	0.134**	0.019	-0.003**
CZE	0.004	-0.040***	0.000	-0.002***	0.172***	0.027**	-0.002*
DEU	-0.001	-0.042***	0.002	-0.001***	0.132**	0.019	-0.003**
DNK	-0.001	-0.044***	0.001	-0.001***	0.133**	0.019	-0.003**
ESP	0.003	-0.042***	-0.001	-0.001**	0.128**	0.018	-0.003**
EST	-0.000	-0.043***	0.002	-0.001***	0.134**	0.019	-0.003**
FIN	0.002	-0.045***	0.001	-0.002***	0.139**	0.020	-0.002*
FRA	-0.003	-0.040***	0.001	-0.001**	0.140**	0.029**	-0.004**
GBR	-0.002	-0.042***	0.001	-0.001***	0.135**	0.018	-0.003**
GRC	-0.001	-0.044***	0.002	-0.001***	0.141**	0.021	-0.003**
HUN	0.006	-0.043***	0.002	-0.001***	0.105*	0.015	-0.003**
IRL	-0.002	-0.045***	0.002	-0.001***	0.144**	0.018	-0.002*
ISL	-0.002	-0.045***	0.001	-0.002***	0.125**	0.016	-0.003**
ISR	-0.000	-0.043***	0.002	-0.001***	0.134**	0.019	-0.003**
ITA	0.001	-0.042***	0.002	-0.002**	0.118*	0.010	-0.002**
JPN	-0.008	-0.043***	0.001	-0.001**	0.149**	0.020	-0.002*
KOR	-0.001	-0.046***	0.002	-0.001***	0.138**	0.020	-0.003**
LUX	0.000	-0.046***	0.001	-0.001***	0.134**	0.019	-0.003**
MEX	0.001	-0.044***	0.003	-0.001***	0.153***	0.013	-0.003**
NLD	-0.003	-0.038***	0.004	-0.001***	0.136**	0.020	-0.003**
NOR	0.001	-0.051***	-0.001	-0.001***	0.132**	0.018	-0.003**
NZL	0.001	-0.040***	0.003	-0.002***	0.135*	0.020	-0.003**
POL	0.003	-0.040***	0.002	-0.001***	0.071	0.023*	-0.003**
PRT	0.002	-0.042***	0.001	-0.001***	0.127**	0.018	-0.003**
SVK	-0.004	-0.042***	0.000	-0.002***	0.139*	0.020	-0.003**
SVN	-0.000	-0.043***	0.002	-0.001***	0.134**	0.019	-0.003**
SWE	-0.003	-0.046***	0.001	-0.002***	0.126**	0.017	-0.003**
TUR	-0.000	-0.043***	0.002	-0.001***	0.134**	0.019	-0.003**
USA	0.001	-0.035***	0.007	-0.002***	0.144	0.022	-0.003**

Note : * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Robust standard errors in parenthesis. Period 1995-2009.
Arellano-Bond method where the output gap is instrumented by its lagged values.