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Fiscal adjustments and asset price movements

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FISCAL ADJUSTMENTS AND ASSET PRICE MOVEMENTS

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ABTRACT

This paper examines the links between asset price movements and fiscal adjustments. Our findings suggest that a pick up in asset prices increases the probability of initiating a fiscal adjustment, but it does not necessarily lead to a sustainable correction of fiscal imbalances. However, higher real equity prices increase the probability of success.

Keywords: Asset prices; fiscal adjustments.
JEL classification: E61, E62, H61, H62, E32

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1. Introduction

In the context of the current macroeconomic and financial market turmoil and in the presence of asset price swings expansionary fiscal policy has been at the forefront. As the economic recovery gathers pace, governments around the globe will start withdrawing some of the fiscal stimulus and initiating fiscal consolidation in order to ensure sustainable fiscal positions. These consolidation efforts will be affected by asset price movements as the economy picks up.

As has been discussed by Eschenbach and Schuknecht (2002) and Schuknecht and Eschenbach (2004), asset prices can affect the budget via a series of channels. Directly, it affects via certain revenue categories, e.g., capital gains/losses related taxes. Indirectly, higher asset prices raise consumer confidence and consumption, via the wealth effect, and increase the collection of indirect taxes. Finally, in case of asset price busts and ailing financial institutions, the state might be asked to intervene bearing some of the costs.

Note that the determinants of successful fiscal adjustments have been discussed extensively in the literature. The composition of the stabilization effort was found to be very important, with fiscal consolidations based on expenditure cuts having more chances to succeed rather than those based on tax hikes (Alesina and Perotti 1995, 1997; Alesina and Ardagna 1998). The size and persistence of fiscal consolidation were identified as quite significant determinants of adjustment efforts (Giavazzi and Pagano 1990, 1996; Ardagna 2004; Alesina and Ardagna 1998). In addition, fiscal adjustments have been linked to the underlying budgetary, economic (e.g., von Hagen and Strauch 2001; Ardagna 2004)[1], and monetary and exchange rate conditions; with a monetary easing and depreciation increasing the chances of a success (e.g., Lambertini and Tavares 2005; Ahrend et al. 2006).

Tagkalakis (2009) finds that labor and product market institutions can affect the likelihood of initiating and successfully concluding fiscal adjustment. The OECD (2007) and the European Commission (2007a) have shown that fiscal rules and budgetary procedures contribute significantly to the success of fiscal adjustment. Alesina et al. (2006) have shown that the likelihood of successfully concluding a fiscal consolidation

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[1] See also Heylen and Everaert (2000), Alesina, Perotti and Tavares (1998), Alesina and Ardagna (1998).

increases in the case of newly elected governments and in presidential systems where the government in office has a large margin of majority. Tavares (2004) finds that spending cuts by the left and tax increases by the right are associated with persistent adjustments, because these actions signal commitment to undertake the adjustment in ways that are not favored by their constituencies. Alesina and Perotti (1995) have shown that single party governments are more likely to succeed in a fiscal consolidation program compared to coalition governments

The present paper building on previous literature goes on step further by investigating whether asset prices movements have any effect on the probability of initiating and successfully concluding fiscal adjustment. Following earlier studies, e.g., Borio and Lowe (2002) we use a real aggregate asset price index (taken from the Bank of International Settlements-BIS) and its three subcomponents, real residential, real commercial and real equity prices (see Appendix). One could expect that an increase in asset prices would generate additional government revenues contributing positively to the initiation of a consolidation effort. However, given that asset prices are very volatile and that the windfall revenues they generate are hardly persistent, it is likely that the improvement in fiscal balances will not be sustainable. Alternatively, a fall in asset prices might lead to additional spending on the part of the government as a way to stabilize the financial system and to boost economic activity.

Our findings suggest that a pick up in asset prices increases the probability of initiating a fiscal adjustment, but does not necessarily lead to a sustainable correction of fiscal imbalances. However, higher real equity prices increase the probability of success.

The rest of the paper is organized along the following line. Section 2 investigates whether asset prices movements affect the probability of initiating a fiscal adjustment. Section 3 discusses whether asset price movements increase the probability of success, and Section 4 offers some concluding remarks.

2. The probability of initiating fiscal consolidation

Using annual data for 17 OECD countries for the period 1970 to 2000, this section analyzes the effect of asset prices on the probability of initiating a fiscal adjustment.

Following Tavares (2004) and Tagkalakis (2009), we define a fiscal consolidation as the increase in the cyclically adjusted primary balance (surplus) by at least 1.5% of GDP in a single period.

2.1 Control variables

To control for the role played by initial conditions, we consider the effect that the lagged output gap has on the probability of initiating a fiscal consolidation. One could expect that a fiscal adjustment is more likely in better economic times (von Hagen and Strauch, 2001).[2] Turning to the budgetary conditions prior to the consolidation episode, the higher is the cyclically adjusted primary deficit (or the lower is the surplus - CAPBY) and the debt to GDP ratio (Debt), the more pressing the need to correct fiscal imbalances. Following Lambertini and Tavares (2005), we control for monetary and exchange rate conditions. We use the lagged value of the log of the real effective exchange rate (Reer) and the lagged value of the real short term interest rate (RIRS). Exchange rate depreciation and monetary easing can boost economic activity, facilitating the initiation of a fiscal consolidation effort.

We take also into account the following political variables: (i) ideology, which is measured as the proportion of all cabinet portfolios that are held by left parties; (ii) the margin of majority, that is the fraction of seats held by the government in the parliament; (iii) years in office, that is how many years has the chief executive had in office; (iv) elections in the year prior to the adjustment episode; (v) government fractionalization, which is the probability that two deputies picked at random from among the government parties will be from different parties. One might expect that sharp fiscal adjustments are more likely to be initiated by left-wing governments, possibly because of their ability to build a broader social consensus.[3] The adjustment could be more likely when the government in office has a strong majority in parliament and when it does not have many

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[2] Tagkalakis (2008) has shown that in bad economic times expansionary fiscal policy can boost private consumption in the presence of credit constraints. Therefore, a fiscal adjustment is less likely in bad economic times, especially in countries with less developed financial systems.
[3] However, Tavares (2004) has shown that right-wing and left-wing governments do not have different effects. Instead, what matters is the intention of the two poles of the political spectrum to build credibility by engaging in policies which are not favored by their constituencies, i.e., the right-wing parties increase taxes and the left-wing parties cut spending.

years in office, so that it is not affected by stabilization fatigue. Fiscal stabilizations are less likely to be initiated at times of elections; instead, it is more likely to start after elections. Finally, government fractionalization is expected, as shown by Perotti and Kontopoulos (2002), to lead to additional spending, implying that coalition governments lack the discipline and the power required to engage in ambitious fiscal consolidation.

2.2 Estimation

Our starting point is a specification which includes all political variables and where we use the change in real aggregate asset price (DRAAP) (Table 1, column 1). Focusing on the variable of interest, we see that a pick up in real aggregate asset prices increases the likelihood of starting a fiscal consolidation. Analogous results are reported in column 2 where we discard most of the political variables (except years in office) because they are statistically insignificant. Hence, a one standard deviation increase in the change in real aggregate asset prices increases the likelihood of initiating fiscal consolidation by about 3.7% (in column 2) to 4.6% (in column 1).[4]

As discussed above, asset prices movements have a direct effect on the budget via certain revenue categories. This could imply that the improvement in fiscal balances is somehow automatic and not necessarily driven by the decision of the policy maker to capitalize on this positive development and pursue ambitious fiscal adjustment. Alternatively, the timing of the fiscal impact might depend on the presence of collection lags. To control for this, we use the lagged value of the change in the real aggregate asset prices in columns 3 and 4 of Table 1. Both the magnitude and the statistical significance of the relevant coefficient estimates have diminished. However, we still obtain statistically significant results in column 4, but now a one standard deviation increase in the lagged value of DRAAP raises the probability of initiating a fiscal adjustment by only 1.6%.[5, 6]

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[4] The main emphasis is on the qualitative aspect of the results; however, the way to read these findings is to multiply the standard deviations of all variables (see Table 7) with the respective coefficient estimate (e.g. in case of DRAAP it is 0.0973234). The reader should take into account that some of the political variables are indices, so we can just examine the effect of an incremental change in the index considered.

[5] The standard deviation of the lagged value of DRAAP is 0.0976484.

[6] Given the fact that the role of asset prices is at the heart of this study, we only briefly summarize the findings referring to the control variables. As reported in Table 1 the higher is the cyclically adjusted

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Next we use the disaggregated asset price series; these are the changes in real commercial property prices (DRCP), real residential property prices (DRRP), and real equity prices (DREP). Columns 1 and 2 of Table 2 report the findings when we use their contemporaneous values. All of them appear to have a positive effect on the probability of initiating a fiscal adjustment, but the effect is highly statistically significant only in the case of the real equity prices. Therefore, it is primarily real equity prices and secondarily real residential property prices that drive the results of the aggregate asset price index.

Turning to the alternative specification with the lagged values of the disaggregated asset price series, we see that it is real residential property prices that primarily contribute positively to the probability of initiating a fiscal adjustment (columns 3 and 4 of Table 2). The coefficient estimates on real commercial property and real equity prices are insignificant and at times negative.

All in all, there are indications that it is mostly increases in real residential and real equity prices that contribute positively to the likelihood of initiating a fiscal adjustment. This should have been expected given the importance of stamp duty taxes, property taxes, and the fact that in most cases capital gains (including from equity) are treated as income liable to personal income tax.

3. The determinants of a successful fiscal consolidation

In defining a successful fiscal consolidation we follow previous studies e.g., Lambertini and Tavares (2005) and Tagkalakis (2009). A sharp fiscal consolidation at time t is considered to be successful if the cyclically adjusted primary balance (surplus) does not deteriorate three years after the end of the fiscal consolidation (at time t+3) i.e.

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primary deficit in t-1 (or the lower is the surplus) the greater the probability of a fiscal adjustment at time t. This is in line with other studies (OECD, 2007; Tagkalakis, 2009). The higher is the debt ratio the bigger the chances for an adjustment to take place in the next period. Good economic conditions as indicated by a positive output gap have a positive but not statistically significant coefficient estimate. Real exchange rate depreciation (a fall in Reer) makes more likely the initiation of a fiscal adjustment in the coming period (as in Lambertini and Tavares 2005 and Tagkalakis 2009), because it is expected to boost economic activity. A monetary easing (lower real interest) does not affect the probability of initiating a fiscal consolidation. The coefficient estimates of the variables that control for political conditions are insignificant, except of the one capturing how many years has the chief executive in office. As was expected, if the government is in office for many years then the probability to start a fiscal adjustment diminishes dramatically, possibly because of stabilization fatigue.

CAPBY$_{t+3}$≥CAPBY$_t$. Note that reverse causation is avoided by using a dependent variable which depends on information available 3 years in the future, while the independent variables are measured at the time of or before the adjustment episode (Tavares, 2004). Moreover, in line with Ardagna (2004), we incorporate information from country-years in which fiscal discipline is a problem but governments do not undertake substantial fiscal adjustments. This information is valuable and will be lost if we include only those episodes in which there is evidence of large fiscal adjustments. In line with earlier work on the field (e.g., Tavares, 2004; Ardagna, 2004) we control for the effects that the size and the composition of fiscal consolidation have on the probability of success.[7]

3.1 Estimation

The baseline specifications presented in Table 3 (columns 1-3) indicate that the change in the real aggregate asset prices does not affect the probability of success in a significant manner. This finding holds even if we discard the insignificant political variables (Table 4, columns 1-3). However, both the magnitude and the sign of the coefficient estimate depend on the control variable used (size and composition). Hence, the evidence obtained so far suggests that although asset prices increases generate windfall tax revenues, these are not persistent and are likely to be reversed in the near future (when asset prices fall), working against a sustainable improvement of fiscal balances.

Turning now to the disaggregated asset price series we get a more complex picture. As reported in Tables 5 and 6, the change in real equity prices contributes positively to the objective of fiscal consolidation. This implies that higher real equity prices improve significantly the probability of a successful fiscal consolidation; with their effect working through higher capital gains taxes and/or wealth effects which lead to higher consumption and higher indirect tax revenues. On top of that, there is an indication

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[7] We control for the "size effect", as in Tavares (2004), using the change in the primary balance as a share of GDP (Change in primary balance). Following Ardagna (2004), we use the change in the cyclically adjusted total expenditures excluding interest payments as a share of GDP (Change in Spending), and the change in the cyclically adjusted total revenues as a share of GDP (Change in Revenue) in order to control for the "composition effect".

that an increase in real residential property prices (Table 5, column 1), if anything reduces the likelihood of success. The same applies for real commercial property prices but its coefficient estimate is not statistically significant.

Overall, although we can say that asset price movements and the tax revenue changes they entail can contribute positively to the consolidation effort, it is unlikely that they will contribute to a sustainable correction in fiscal imbalances. A more disaggregated look confirms this finding both for real residential and real commercial prices. On the contrary, increases in real equity prices, by affecting certain tax revenue components, contribute both to the initiation and the successful conclusion of a fiscal consolidation program. [8]

4. Conclusions

The objective of this paper was to improve our understanding of the links between asset price movements and fiscal adjustments. Our findings indicate that asset price movements contribute positively to fiscal adjustment. However, it is unlikely that they will lead to a sustainable correction in fiscal imbalances. This finding is reaffirmed both for residential and commercial property prices. This is in line with the recent experiences of several countries which faced a rapid deterioration of tax revenues following the collapse of residential activity and prices. However, increases in equity prices contribute positively both to the initiation and the successful conclusion of a fiscal adjustment.

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[8] As regards the control variables (see Table 3), we conclude that bad initial budgetary conditions increase the probability of success (as in e.g., Alesina and Ardagna 1998; Ardagna 2004; Lamberini and Tavares 2005; Tagkalakis 2009). Economic conditions, as measured by the output gap, do not appear to affect significantly the probability of success. A depreciation of the real exchange rate (a fall in Reer) increases the probability of a lasting fiscal correction (as in Alesina and Ardagna 1998; Lambertini and Tavares 2005; Tagkalakis 2009). The coefficient of the real interest rate is not always significant and provides mixed signals. In accord with Ardagna (2004) and Tagkalakis (2009), the bigger the size of the fiscal adjustment the higher the probability that fiscal consolidations will be successful. In line with previous studies (Tavares 2004; Lambertini and Tavares 2005; Tagkalakis 2009), expenditure saving and revenue increasing measures contribute positively to the success of fiscal adjustment.

The coefficient estimates of all political variables, except government fractionalization, are statistically insignificant. Government fractionalization appears to raise the probability of a successful fiscal consolidation. This is, however, at odds with what might have been expected. As has been shown by Perotti and Kontopoulos (2002), a fractionalized (coalition) government results in increased spending, which would probably reduce the chances of a sustainable correction of fiscal imbalances. However, one possible explanation could be that coalition governments can build the social consensus required to initiate and succeed in ambitious fiscal consolidation programs.

Fiscal policy makers should focus their attention on the sustainable improvement in fiscal balances by adopting measures of a structural nature. In doing that they should also take on board, on top of the effect of the economic cycle, the effects that asset price movements have on fiscal balances, in order to have a better grasp of the actual fiscal stance and the realized fiscal outcomes.

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Appendix

We used a yearly unbalanced panel data set (1975-2000) of 17 OECD economies: Australia, Belgium, Canada, Germany, Denmark, Spain, Finland, France, United Kingdom, Ireland, Italy, Japan, Netherlands, Norway, New Zealand, Sweden, and United States.

The macroeconomic variables used extend from 1975 to 2000. Fiscal and output variables are from the OECD Economic Outlook (OECD, 2007) and the definitions used are: the lagged value of the cyclically adjusted primary balance as a percent of GDP (CAPBY), the change in the cyclically adjusted primary balance as a percent of GDP (DCAPBY), the lagged value of the debt to GDP ratio (Debt), the lagged value of the output gap (Output gap), the lagged value of the short term real interest rate (RIRS), the change in the primary balance as a share of GDP (Change in primary balance), the change in cyclically adjusted total expenditures excluding interest payments as a share of GDP (Change in Spending), the change in cyclically adjusted total revenues as a share of GDP (Change in Revenue). The lagged value of the log of the real effective exchange rate (Reer) comes from the AMECO database of the European Commission (2007b).

Asset prices indices were provided by the BIS. The main indicator is annual the change in the log of aggregate real asset prices (DRAAP), which covers 1975-2000 for 17 industrial countries and combines price indices for three asset classes - equities, residential property and commercial property – by weighting the components using shares of the asset classes in private sector wealth. The private consumption deflator is used to convert nominal to real asset prices. In addition, we considered also the change in the log of the three disaggregate asset price indicators, i.e., real commercial prices (DRCP), real residential prices (DRRP) and real equity prices (DREP).

The variable "margin of majority" is the fraction of seats held by the government. It is calculated by dividing the number of government seats by total seats. The variable "years in office", reports how many years the chief executive has left in office. The lagged value of the variable "elections" captures whether there were legislative or executive elections in the year prior to the adjustment episode. The variable "government fractionalization" reflects the probability that two deputies picked at random from among

the government parties will be of different parties. All four variables extends from 1975-2000 and are taken from Keefer (2005). The ideology index is based on information on left party cabinet portfolios as a percent of all cabinet portfolios. It takes values from 0 to 5 (see Tagkalakis, 2009), the bigger is the value of the ideology index the closer is the government to the left of the political spectrum. Data extend from 1975 to 2000 and are taken from Swank (2003).

Table 1: The probability of starting fiscal consolidation –baseline regression

Variables		1	2	3	4
Initial conditions	CAPBY(t-1)	-0.0329***	-0.0234***	-0.0326***	-0.0237***
		(-5.05)	(-5.69)	(-5.09)	(-5.26)
	Debt (t-1)	0.0021**	0.0006	0.0025**	0.00087
		(2.01)	(1.19)	(2.34)	(1.46)
	Output gap (t-1)	0.0097	-0.0012	0.0086	-0.0035
		(1.49)	(-0.27)	(1.25)	(-0.75)
Monetary conditions	Reer (t-1)	-0.70919***	-0.3835***	-0.7493***	-0.4152***
		(-3.86)	(-3.72)	(-4.05)	(-3.89)
	RIRS (t-1)	0.0041	0.0047	0.0019	0.0028
		(0.77)	(1.37)	(0.34)	(0.80)
Real Asset Prices	DRAAP	0.4688**	0.3858***		
		(2.38)	(3.58)		
	DRAAP(t-1)			0.1809	0.1634*
				(0.81)	(1.93)
Political Variables	Years in office	-0.0126**	-0.0099**	-0.0138**	-0.0108***
		(-2.24)	(-2.54)	(-2.38)	(-2.60)
	Ideology	0.0027		0.0018	
		(0.23)		(0.15)	
	Margin of majority	0.1147		0.1179	
		(0.67)		(0.66)	
	Elections (t-1)	-00123		-0.0129	
		(-0.44)		(-0.44)	
	Government fractionalization	0.0717		0.0760	
		(0.66)		(0.67)	
	Pseudo R2	0.305	0.305	0.288	0.269
	No of obs.	258	374	258	374
	Observed P	0.1782	0.1417	0.1782	0.1417
	Predicted P	0.0652	0.0453	0.0694	0.0507
	Log L	-84.005	-105.95	-86.028	-111.52

Notes: Probit estimates – dependent variable: probability of starting a fiscal adjustment. For each independent variable we report dF/dx, i.e. the marginal change in the probability of initiating an adjustment for average values of the independent variables (the change in the probability for an infinitesimal change in the independent variable, or, if the control variable is a dummy variable, a change from 0 to 1 in this variable). In parenthesis we report the t-statistic based on robust, heteroskedastic-consistent standard errors. Country fixed effects are included in all columns. *,**, *** significant at the 10%, 5%, 1% level, respectively.

Table 2: The probability of starting fiscal consolidation – disaggregated asset price series

	Variables	1	2	3	4
Initial conditions	CAPBY(t-1)	-0.0343***	-0.0245***	-0.0330***	-0.0255***
		(-5.39)	(-6.04)	(-5.20)	(-5.29)
	Debt (t-1)	0.0015	0.0006	0.0018*	0.00067
		(1.40)	(1.05)	(1.77)	(1.07)
	Output gap (t-1)	0.0108	0.00409	0.0013	-0.0051
		(1.51)	(0.82)	(0.15)	(-0.84)
Monetary conditions	Reer (t-1)	-0.6619***	-0.3917***	-0.7718***	-0.4518***
		(-3.81)	(-3.50)	(-3.91)	(-3.68)
	RIRS (t-1)	0.0014	0.0043	0.0004	0.0063
		(0.26)	(1.18)	(0.07)	(1.57)
Real Asset Prices	DRCP	0.0341	0.0423		
		(0.27)	(0.48)		
	DRRP	0.3574	0.2398		
		(1.42)	(1.39)		
	DREP	0.2454***	0.2372***		
		(2.62)	(4.50)		
	DRCP(t-1)			-0.0621	-0.0906
				(-0.54)	(-0.97)
	DRRP(t-1)			0.5163*	0.4080**
				(1.81)	(2.03)
	DREP(t-1)			-0.0749	0.0713
				(-0.71)	(1.24)
Political Variables	Years in office	-0.0092	-0.0089**	-0.0142**	-0.0123**
		(-1.61)	(-2.14)	(-2.34)	(-2.59)
	Ideology	0.0050		0.0018	
		(0.44)		(0.16)	
	Margin of majority	0.0594		0.0301	
		(0.32)		(0.16)	
	Elections (t-1)	-0.0096		-0.0092	
		(-0.34)		(-0.32)	
	Government fractionalization	0.1066		0.1221	
		(1.06)		(1.20)	
	Pseudo R2	0.326	0.3242	0.302	0.278
	No of obs.	248	333	246	331
	Observed P	0.1814	0.1531	0.1829	0.1540
	Predicted P	0.0600	0.0437	0.0659	0.0525
	Log L	-79.074	-96.348	-81.702	-102.689

Notes: Probit estimates – dependent variable: probability of starting a fiscal adjustment. For each independent variable we report dF/dx, i.e. the marginal change in the probability of initiating an adjustment for average values of the independent variables (the change in the probability for an infinitesimal change in the independent variable, or, if the control variable is a dummy variable, a change from 0 to 1 in this variable). In parenthesis we report the t-statistic based on robust, heteroskedastic-consistent standard errors. Country fixed effects are included in all columns. *,**, *** significant at the 10%, 5%, 1% level, respectively.

Table 3: The probability of successful fiscal consolidation – baseline specification

Variables		1	2	3
Initial conditions	CAPBY(t-1)	-0.00127***	-0.0075***	-0.00217***
		(-3.49)	(-4.05)	(-4.10)
	Debt (t-1)	0.00021***	0.0010***	0.000279***
		(3.44)	(3.32)	(3.71)
	Output gap (t-1)	0.00018	0.0022	-0.00039
		(0.64)	(1.55)	(-1.00)
Monetary conditions	Reer (t-1)	-0.0219***	-0.1588***	-0.0559***
		(-2.77)	(-3.52)	(-3.89)
	RIRS (t-1)	0.0006*	0.00208	-0.00002
		(1.92)	(1.35)	(-0.08)
Size	Change in primary balance	0.00258***		
		(3.77)		
Composition	Change in Spending		-0.0056***	
			(-2.61)	
	Change in Revenue			0.0033***
				(4.60)
Real Asset Prices	DRAAP	-0.0025	0.0143	0.0162
		(-0.28)	(0.31)	(1.53)
	DRAAP(t-1)			
Political Variables	Years in office	-0.00007	-0.0007	-0.000039
		(-0.37)	(-0.70)	(-0.15)
	Ideology	0.00029	0.00109	0.00048
		(0.61)	(0.43)	(0.73)
	Margin of majority	0.0049	0.0193	0.0094
		(0.58)	(0.47)	(1.07)
	Elections (t-1)	-0.00015	-0.0066	-0.00159
		(-0.14)	(-1.37)	(-1.20)
	Government fractionalization	0.01061**	0.0605***	0.0160**
		(2.22)	(2.70)	(2.16)
Pseudo R2		0.574	0.480	0.571
No of obs.		254	254	254
Observed P		0.1181	0.1181	0.1181
Predicted P		0.0010	0.0069	0.0013
Log L		-39.297	-47.965	-39.521

Notes: Probit estimates – dependent variable: probability of success. For each independent variable we report dF/dx, i.e. the marginal change in the probability of initiating an adjustment for average values of the independent variables (the change in the probability for an infinitesimal change in the independent variable, or, if the control variable is a dummy variable, a change from 0 to 1 in this variable). In parenthesis we report the t-statistic based on robust, heteroskedastic-consistent standard errors. Country fixed effects are included in all columns. *,**, *** significant at the 10%, 5%, 1% level, respectively.

Table 4: The probability of successful fiscal consolidation

Variables		1	2	3
Initial conditions	CAPBY(t-1)	-0.00193*** (-2.97)	-0.0064*** (-4.27)	-0.0019*** (-4.58)
	Debt (t-1)	0.00028** (2.52)	0.00064** (2.52)	0.00026*** (3.97)
	Output gap (t-1)	-0.0001 (-0.18)	0.0009 (0.64)	-0.0007 (-1.60)
Monetary conditions	Reer (t-1)	-0.0574*** (-2.70)	-0.1636*** (-3.39)	-0.0657*** (-4.41)
	RIRS (t-1)	0.00185*** (2.79)	0.0030** (2.16)	0.00023 (0.87)
Size	Change in primary balance	0.0044*** (3.98)		
Composition	Change in Spending		-0.0061*** (-2.90)	
	Change in Revenue			0.0039*** (4.50)
Real Asset Prices	DRAAP	-0.01399 (-1.21)	-0.0001 (-0.00)	0.0060 (0.88)
	DRAAP(t-1)			
Political Variables	Years in office			
	Ideology			
	Margin of majority			
	Elections (t-1)			
	Government fractionalization	0.0144 (1.45)	0.0509*** (2.66)	0.0146** (2.48)
	Pseudo R2	0.532	0.448	0.538
	No of obs.	297	297	297
	Observed P	0.1043	0.1043	0.1043
	Predicted P	0.0028	0.0077	0.0017
	Log L	-46.453	-54.789	-45.856

Notes: Probit estimates – dependent variable: probability of success. For each independent variable we report dF/dx, i.e. the marginal change in the probability of initiating an adjustment for average values of the independent variables (the change in the probability for an infinitesimal change in the independent variable, or, if the control variable is a dummy variable, a change from 0 to 1 in this variable). In parenthesis we report the t-statistic based on robust, heteroskedastic-consistent standard errors. Country fixed effects are included in all columns. *,**, *** significant at the 10%, 5%, 1% level, respectively.

Table 5: The probability of successful fiscal consolidation

	Variables	1	2	3
Initial conditions	CAPBY(t-1)	-0.00025*** (4.58)	-0.0034*** (-4.73)	-0.00048*** (-4.59)
	Debt (t-1)	0.00003*** (3.19)	0.00042*** (2.89)	0.00006*** (3.71)
	Output gap (t-1)	0.00013** (2.58)	0.00166** (2.59)	-3.52e-06 (-0.04)
Monetary conditions	Reer (t-1)	-0.00469*** (-4.03)	-0.0791*** (-4.19)	-0.0133*** (-4.90)
	RIRS (t-1)	0.00007 (1.63)	0.0005 (0.99)	-0.00004 (-0.74)
Size	Change in primary balance	0.00045*** (3.16)		
Composition	Change in Spending		-0.00249*** (-2.70)	
	Change in Revenue			0.00073*** (4.63)
Real Asset Prices	DRCP	-0.0009 (-1.20)	-0.01046 (-1.06)	-0.0009 (-0.68)
	DRRP	-0.0036* (-1.76)	-0.0122 (-0.55)	-0.0002 (-0.08)
	DREP	0.0030*** (3.82)	0.0308*** (3.99)	0.0043*** (3.39)
	DRCP(t-1)			
	DRRP(t-1)			
	DREP(t-1)			
Political Variables	Years in office	5.67e-06 (0.16)	5.54e-06 (0.01)	0.00001 (0.32)
	Ideology	0.00008 (1.14)	0.0005 (0.56)	0.00012 (1.00)
	Margin of majority	0.0010 (0.77)	0.0080 (0.42)	0.00188 (0.88)
	Elections (t-1)	0.0002 (0.74)	-0.0017 (-0.74)	-0.00008 (-0.27)
	Government fractionalization	0.0018** (2.20)	0.0288*** (2.78)	0.0037*** (2.65)
	Pseudo R2	0.639	0.524	0.613
	No of obs.	244	244	244
	Observed P	0.1229	0.1229	0.1229
	Predicted P	0.0001	0.0024	0.0002
	Log L	-32.819	-43.230	-35.122

Notes: Probit estimates – dependent variable: probability of success. For each independent variable we report dF/dx, i.e. the marginal change in the probability of initiating an adjustment for average values of the independent variables (the change in the probability for an infinitesimal change in the independent variable, or, if the control variable is a dummy variable, a change from 0 to 1 in this variable). In parenthesis we report the t-statistic based on robust, heteroskedastic-consistent standard errors. Country fixed effects are included in all columns. *,**, *** significant at the 10%, 5%, 1% level, respectively.

Table 6: The probability of successful fiscal consolidation

	Variables	1	2	3
Initial conditions	CAPBY(t-1)	-0.00165*** (-3.52)	-0.00377*** (-4.65)	-0.00077*** (-5.24)
	Debt (t-1)	0.0002** (2.53)	0.000371** (2.58)	0.00009*** (3.95)
	Output gap (t-1)	0.0003 (0.81)	0.00104 (1.60)	-0.00006 (-0.47)
Monetary conditions	Reer (t-1)	-0.0398*** (-2.79)	-0.09029*** (-3.68)	-0.02095*** (-4.79)
	RIRS (t-1)	0.00097** (2.39)	0.0011* (1.67)	-9.14e-06 (-0.12)
Size	Change in primary balance	0.00226*** (3.48)		
Composition	Change in Spending		-0.0019* (-1.86)	
	Change in Revenue			0.00122*** (4.54)
Real Asset Prices	DRCP	-0.0041 (-0.55)	-0.0122 (-0.91)	-0.0018 (-0.79)
	DRRP	-0.0075 (-0.47)	0.0024 (0.09)	0.0034 (0.68)
	DREP	0.01518*** (2.89)	0.03255*** (3.97)	0.0068*** (3.50)
	DRCP(t-1)			
	DRRP(t-1)			
	DREP(t-1)			
Political Variables	Years in office			
	Ideology			
	Margin of majority			
	Elections (t-1)			
	Government fractionalization	0.00913 (1.42)	0.02744*** (2.83)	0.00479** (2.53)
	Pseudo R2	0.552	0.493	0.592
	No of obs.	286	286	286
	Observed P	0.1083	0.1083	0.1083
	Predicted P	0.0016	0.0031	0.0004
	Log L	-43.922	-49.669	-39.983

Notes: Probit estimates – dependent variable: probability of success. For each independent variable we report dF/dx, i.e. the marginal change in the probability of initiating an adjustment for average values of the independent variables (the change in the probability for an infinitesimal change in the independent variable, or, if the control variable is a dummy variable, a change from 0 to 1 in this variable). In parenthesis we report the t-statistic based on robust, heteroskedastic-consistent standard errors. Country fixed effects are included in all columns. *,**, *** significant at the 10%, 5%, 1% level, respectively.

Table 7: Means and standard deviations of the variables

Variables	Mean	Standard deviation
CAPBY(t-1)	0.0409071	3.068919
Debt (t-1)	58.73331	28.33435
Output gap (t-1)	-0.559612	2.380117
Reer (t-1)	4.666241	0.1902641
RIRS (t-1)	2.950323	3.783896
Change in primary balance	0.0321937	1.773697
Change in spending	0.1468274	1.629173
Change in revenue	0.1698888	1.401889
Ideology	2.329323	1.600489
Majority	0.5411531	0.1003404
Elections	0.2980392	0.4578459
Years in office	3.62279	2.77984
Government fractionalization	0.2743808	0 .2704383
DRAAP [DRAAP(t-1)]	0.0229396	0.0973234
	[0.0229451]	[0.0976484]
DRCP	0.0002724	0.1248746
DRRP	0.022727	0.0732488
DREP	0.0236137	0.2022527

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