SUPPLEMENTARY MATERIAL
Information Content and Consensus Effect of Fiscal Plans

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Definition of variables

Variable	Description	Construction	Source of data
$ABVAR_{d+k}$	Continuous. Abnormal volatility of returns on event day $d \pm k$ trading days	The squared residuals of a regression of firm-specific returns on country-level returns, divided by the estimation-window variance. The estimation window of 100 trading days before the event day d. $k = -2, -1, 0, 1, 2$. If, $k = 0$, $ABVAR$ is the event day abnormal volatility of returns.	Compustat Global
ABT_{d+k}	Continuous. Abnormal log turnover on event day $d \pm k$ trading days	The daily natural logarithm of the ratio of shares traded over shares outstanding, minus its average value in the estimation window. The estimation window contains 100 trading days before the event day d. $k = -2, -1, 0, 1, 2$. If $k = 0$ ABT is the event day abnormal log turnover.	Compustat Global
$CABVAR_{d+k}$	Continuous. Cumulative abnormal volatility of returns on event day $d \pm k$ trading days	The sum of $ABVAR_{d+k}$ over the k event days	Compustat Global

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$CABT_{d+k}$	Continuous. Cumulative abnormal log turnover on event day $d \pm k$ trading days	The sum of ABT_{d+k} over the event days	Compustat Global
PFA	Integer. Announcement of a future fiscal adjustment	1 if the forecasted primary balance improvement over the years t - $t+2$ is always positive, 0 otherwise.	Stability/ Convergence Programmes
$Growth$	Continuous. Forecasted change in the growth rate	The difference between the forecasted rate of GDP growth at t and $t+2$	Stability/ Convergence Programmes
$Revision$	Continuous. Revision of the forecasted change in the fiscal balance	The difference between the forecasted change in the budget balance at $t+2$ over two consecutive years	Stability/ Convergence Programmes
$Bid-ask$ $spread$	Continuous. Bid-ask spread	Based on the formula in Corwin and Schultz (2012)	Compustat Global
$Change$ $in\ Yields$	Continuous. Change in government bond yields between two consecutive days	Natural logarithm of $Yields$ on day d, divided by $Yields$ on day $d-1$	EIKON
$Debt$	Continuous. General government consolidated gross debt divided by GDP at current market prices	One-year lag of the value	Eurostat

Budget Balance	Continuous. General government net lending/ net borrowing divided by GDP at current market prices	One-year lag of the value	Eurostat
Yields	Continuous. The yield on the 5-year benchmark government bond	Lagged by 11 days before the event day *d*	EIKON
Fiscal Volatility	Continuous. Volatility in the budget balance	One-year lag of the eight-year rolling standard deviation of *Budget Balance*	Eurostat
Output Volatility	Continuous. Volatility in the growth rate of the economy	One-year lag of the eight-year rolling standard deviation of *Growth*	Eurostat
EU Funds	Continuous. Dependence on the European Union (EU)	100 * the lag of the value of payments disbursed by the European Union to the country divided by GDP at current market prices	European Commission
Stock market exposure	Continuous. Value of listed shares owned by citizens	The value of listed shares owned by households and non-profit institutions serving households divided by GDP at current market prices	Eurostat
Euro adopter	Integer. The country adopts the euro as national currency	1 if yes, 0 otherwise	European Central Bank
Government Strength	Continuous. The extent of support lent to the government by political parties represented in the legislature	Variable *MAJ* in the original data source represents the percentage of seats held by parties loyal to the cabinet	Database of Political Institutions, 2020 vintage

Fragmentation of parliament	Continuous. The extent of fragmentation in the political parties represented in the legislature	Variable *FRAC* in the original source of data specifies the probabilities that two deputies chosen at random from parties represented in the legislature belong to different parties	Database of Political Institutions, 2020 vintage
Electoral Pressure	Count. The number of years remaining till the next election	1 * the variable *YRCURNT* in the original source of data; hence, higher values denote greater pressure	Database of Political Institutions, 2020 vintage
Expansion	Integer. The economy undergoes a period of expansion	1 if the lagged value of the output gap is positive, and 0 otherwise	Eurostat
Downturn	Integer. The economy undergoes a period of downturn	1 if the lagged value of the output gap is negative, and 0 otherwise	Eurostat
Revenue increase	Integer. Government revenues are set to increase over the forecast horizon	1 if general government revenues at t+2 are forecasted to be above those at t-1, and the economy experiences a downturn	Stability/ Convergence Programmes
Expenditure increase	Integer. Government expenditures are set to increase over the forecast horizon	1 if general government expenditures at t+2 are forecasted to be above those at t-1, and the economy experiences a downturn	Stability/ Convergence Programmes

This table presents the definition, construction method, and source of the variables used in the analysis.

APPENDIX A

Replication of Frankel and Schreger's study (2013)

This appendix reproduces the main results presented in Frankel and Schreger (2013) (hereafter, FS). The purpose is to validate the hand-collected forecasts from Stability/Convergence Programmes (SCPs) provided and described in Columbano (2021). We used these forecasts to construct our treatment measure (PFA).

FS examined the determinants of both forecasted and realized budget balance improvements, as well as predicted errors for 24 countries, including 15 EU nations present in our sample. For most of them, the FS sample ends with forecasts issued in 2011 and begins in different years depending on data availability –making the FS sample an unbalanced panel that only partly overlaps with ours. Like our study, however, the FS budget balance forecasts for EU countries are sourced directly from the SCPs and cover the same medium-term horizon. Although the two samples are slightly different, the common data source should successfully reproduce and validate our data.

Table A.1 replicates Table 1 of FS. In the table, both forecasted and realized budget balance improvements at horizons $t, t+1, t+2$ and $t+3$ are regressed on the budget balance and the output gap for the year $t-1$.[1] As expected, we confirm their primary findings. Specifically, the forecasted budget balance improvements (FBI) are negatively and significantly correlated with the lagged value of the budget balance. This negative correlation, which becomes stronger and more significant as the forecast horizon is extended, indicates excessive mean reversion in budget balance forecasts. That is, EU governments expect their deficits and surpluses to decline in absolute value, particularly over long horizons. In turn, the negative and less significant mean reversion exhibited by the realized budget balance improvements () implies that much of the forecasted path for the budget balance does not translate into outcomes obtained. Moreover, we also confirm the FS findings on the role of the output gap as a predictor of budget balance improvements across models, while it only marginally correlates with the forecasted budget balance at horizon . An interesting difference with FS is that, in our EU-only sample, are always significantly related to their lagged values, possibly due to the effectiveness of fiscal rules (Caselli and Wingender, 2018).

1 FS regress FBI and BBI at $t+1$, $t+2$, and $t+3$ on the budget balance at year t, because they construct their measure using t as the benchmark year. Instead, we use $t-1$ as the benchmark year. As the tables show, this choice does not affect the parameter estimates.

Table A.1 Replication of Table 1 of Frankel and Schreger (2013)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	FBIt	BBIt	FBIt+1	BBIt+1	FBIt+2	BBIt+2	FBIt+3	BBIt+3
Lag of budget Balance	-0.36* [0.13]	-0.22+ [0.11]	-0.49*** [0.09]	-0.30** [0.09]	-0.57*** [0.08]	-0.40** [0.12]	-0.65*** [0.10]	-0.52* [0.21]
Lag of Output Gap	0.09 [0.08]	-0.16+ [0.07]	0.00 [0.07]	-0.43** [0.13]	-0.07 [0.07]	-0.73*** [0.12]	-0.16* [0.07]	-0.90*** [0.18]
Constant	-0.99* [0.33]	-0.62+ [0.34]	-1.08** [0.31]	-1.14+ [0.57]	-0.77* [0.29]	-1.35* [0.55]	-0.14 [0.28]	-1.60+ [0.77]
R2	0.409	0.223	0.589	0.190	0.698	0.353	0.805	0.394
Adjusted R2	0.401	0.212	0.583	0.179	0.693	0.344	0.801	0.384
Observations	144	147	144	147	143	147	113	117
Cluster	Country	Country	Country	Country	Country	Country	Country	Country

This table replicates Table 1 of Frankel and Schreger (2013). stands for forecasted budget balance improvement, measured as the change in the forecasted budget balance between year and year .stands for realized budget balance improvement, measured as the change in the realized budget balance between year and year . Standard errors clustered by country are presented in brackets. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.2 replicates Table 2 of FS. In the table, FBI and BBI are regressed on the output gap, separately for surplus and deficit countries. This analysis aimed to determine if fiscal forecasts and realizations differ depending on the past fiscal performance of governments. FS found that deficit nations always forecast that the deficit will decline in absolute terms over the forecast horizon. However, the actual improvement is only about a third of what was predicted. Therefore, governments forecast too rapid an improvement in their fiscal performance, particularly when they run deficits. Our findings closely resemble the evidence in FS. For example, columns 1 and 2 of Table A.2 show that past surpluses neither correlate with FBI nor with BBI at the short-term horizon. Instead, past deficits are associated with FBI at all horizons and only marginally with BBI. Like FS, FBI at $t + 2$ and $t + 3$ are negatively and significantly related to surplus governments but BBI are not. The table also shows that the output gap mostly predicts BBI but not FBI.

Table A.2 Replication of Table 2 of Frankel and Schreger (2013)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	FBI_t	BBI_t	FBI_{t+1}	BBI_{t+1}	FBI_{t+2}	BBI_{t+2}	FBI_{t+3}	BBI_{t+3}
Deficit # Lag of Budget Balance	-0.46** [0.13]	-0.31* [0.13]	-0.56*** [0.10]	-0.34* [0.12]	-0.63*** [0.08]	-0.44* [0.17]	-0.72*** [0.09]	-0.58* [0.21]
Surplus# Lag of Budget Balance	0.11 [0.11]	0.18 [0.12]	-0.14 [0.11]	-0.11 [0.20]	-0.23* [0.08]	-0.23 [0.29]	-0.31** [0.08]	-0.29 [0.28]
Lag of Output Gap	0.02 [0.07]	-0.22* [0.08]	-0.05 [0.07]	-0.46** [0.14]	-0.13+ [0.07]	-0.76*** [0.18]	-0.23** [0.07]	-0.94*** [0.19]
Constant	-1.57** [0.47]	-1.12* [0.49]	-1.51** [0.44]	-1.37 [0.80]	-1.18** [0.37]	-1.56 [0.90]	-0.56 [0.34]	-1.90+ [0.90]
R^2	0.476	0.267	0.614	0.193	0.717	0.355	0.825	0.398
Adjusted R^2	0.465	0.252	0.606	0.176	0.711	0.341	0.820	0.382
Observations	144	147	144	147	143	147	113	117
Cluster	Country	Country	Country	Country	Country	Country	Country	Country

This table replicates Table 2 of Frankel and Schreger (2013). stands for forecasted budget balance improvement, measured as the change in the forecasted budget balance between year and year .stands for realized budget balance improvement, measured as the change in the realized budget balance between year and year . is an indicator variable equal to 1 if the lag of the budget balance is negative, and 0 otherwise. is an indicator variable equal to 1 if the lag of the budget balance is positive, and 0 otherwise. Standard errors clustered by country are presented in brackets. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Our evidence on the determinants of *FBI* and *BBI* is strongly consistent with that presented in FS. Occasional differences in the reported coefficients and their statistical significance are probably due to the two samples being partly diverse

(FS relied on a larger, more heterogeneous sample). Importantly, we found that every coefficient and sign are in agreement with those provided in FS. Therefore, the evidence confirms the quality of the hand-collected data on *FBI* that we used to construct our treatment measure.

APPENDIX B

Treatment assignment mechanism

This appendix validates the treatment assignment model based on the policy rule that dictates that governments announce an improvement in future fiscal outlook over the medium-term if their previous fiscal performance fails to respect the fiscal rule.

1. Identification assumptions

For treatment effects to be correctly identified, two conditions must be met: conditional exchangeability and positivity (Angrist et al., 2018; Hernán and Robins, 2020). The former states that if the characteristics X that determine whether a unit receives treatment and that correlate with outcomes are observable, the difference in outcomes between treated and untreated units is a causal effect after conditioning on the treatment effect on X. This condition is also known as 'selection on observables'. On the other hand, positivity requires that the probability of treatment be positive for all levels x of all variables contained in the vector X. In practice, the positivity condition specifies that observations in the sample cannot have a null or unitary probability of (not) receiving treatment at all levels of all variables contained in X. Instead of conditioning on the treatment effect on X, the researcher can do so on a function π (X), known as the propensity score (Rosenbaum and Rubin, 1983). The latter is usually modeled as logit or probit, after which conditional probabilities of treatment $\hat{p}$ are predicted for each observation. Then, selection on observables is met if the outcomes are independent of the treatment conditional on the propensity score and if all predicted probabilities exceed zero, that is, $0 < \hat{p} < 1$.

Therefore, the distribution of empirical probabilities is an essential diagnostic of propensity score models for two reasons. First, if there are extreme probabilities on either side of the distribution, some observations get extreme weights in the calculation of treatment effects, because these are computed as $w_{c,d} = \frac{Treatment_{c,d}}{\hat{p}_{c,d}} + (\frac{1-Treatment_{c,d}}{1-\hat{p}_{c,d}})$. This issue can be addressed by truncating the extreme weights or applying a stabilization factor (Jordà and Taylor, 2016). More problematic is the second aspect of highly skewed empirical distributions. Since identification requires positivity, it must be that all observations in the sample have a positive probability of being either treated or untreated, conditional on the estimated propensity score (Hernán and Robins, 2020). Ideally, it would be desirable that these probabilities to be distributed evenly in both the treated and untreated subpopulations. In observational studies, a uniform distribution is unlikely to occur. Nevertheless, the empirical distribution can be inspected to establish whether there is sufficient overlap in the distribution of $\hat{p}$ for the treated and untreated observations.

2. Estimation of the selection model

The first task is to define the treatment. Our variable of interest is $FPBI_{c,d}^{t+k}$, the forecasted change in the primary balance between year $t-1$ and $t+k$ as reported by the government of country c on day d. We experiment with alternative $Treatment$ doses. The first one is a forecasted change in the primary balance that is always positive in each year t, $t-1$, and $t+2$ (i.e., a multiannual fiscal adjustment). The second and third doses are defined as $Positive$ and $Large$, respectively. These doses are based on cutoff points determined by the sample distribution of $FPBI$ at each of the four forecast horizons $t+k$, with $k=(0,\ldots,3)$ for a total of 2*4=8 alternative treatment conditions. The eight alternative treatments are all binary variables that take value 1 when $FPBI$ exceeds a cutoff point, and 0 otherwise. The first measure of $Treatment$ is $Positive_{c,d}^{t+k}$, which takes value 1 when is $FPBI_{c,d}^{t+k}$above zero, and 0 otherwise. $FPBI_{c,d}^{t+k}$, thus, denotes as treated all countries c that on day d plan a fiscal adjustment at horizon $t+k$. Otherwise, observations are untreated. As a result, the same observation may be, for instance, in the treatment condition $Treatment=1$ when $Treatment \equiv Positive_{c,d}^{t+1}$, but untreated when $Treatment \equiv Positive_{c,d}^{t+2}$, depending on the relative amount of $FPBI_{c,d}^{t+1}$ compared to $FPBI_{c,d}^{t+2}$. The second treatment dose is $Large_{c,d}^{t+k}$, which takes value 1 when $FPBI_{c,d}^{t+k}$ exceeds 1% of Gross Domestic Product (GDP), and 0 otherwise. Therefore, a $Large$ treatment condition represents country-days when governments plan a large fiscal adjustment.

Next, we assess the probability of based on the observable conditions. Our model estimates $\Pr(Treatment=1\mathrm{X})=\Phi(-\mathrm{X}\beta)$ where Φ is the cumulative distribution function (CDF) of the standard normal distribution and X is the vector of covariates in the following model:

$$\begin{gathered}1\{Treatment_{c,d}\}=\beta_1 Debt_{c,t-1}+\beta_2 Budget\ Balance_{c,t-1}+\\ \beta_3 Yields_{c,d-11}+\beta_4 Recession_{c,t-1}+\beta_5 Fiscal\ Volatility_{c,t-1}+\\ \beta_6 Output\ Volatility_{c,t-1}+\beta_7 EU\ Funds_{c,t-1}+\\ \beta_8 Stock\ Market\ Exposure_{c,t-1}+\beta_9 Euro\ adopter_{c,t-1}+\\ \beta_{10} Government\ Strength_{c,t}+\\ \beta_{11} Fragmentation\ of\ Parliament_{c,t}+\\ \beta_{12} Electoral\ Pressure_{c,t}+\beta_{13} Treatment_{c,t-1}+\epsilon_{c,d}\end{gathered} \tag{1^a}$$

The probit model includes the predictors that make governments more likely to adhere to the Stability and Growth Pact (SGP) policy rule. Consistent with EU fiscal rules, we expect governments to announce future fiscal adjustments when their past fiscal results are weak (Frankel and Schreger, 2013). We also predict economic and fiscal volatility to increase the likelihood of reporting a budgetary adjustment. These two sources of volatility can lead to opportunistic forecasts (Rogers and Stocken, 2005). Because fiscal forecasts depend on economic conditions through their effect on tax revenues and automatic stabilizers (Frankel, 2011; Merola and Pérez, 2013), we control for recession periods using a binary variable. The latter is equal to one when the GDP growth rate is lower that the potential output growth, that is, in years with a negative output gap (Jordà and Taylor, 2016; Merola and Pérez, 2013). We also control for the annual amount of disbursement received by the EU to capture financial incentives to determine governments' compliance with fiscal rules (Costello et al., 2017). Next, we do the same for eurozone membership, because euro adopters perceive the fiscal rules as relatively more binding (Frankel and Schreger, 2013). Finally, we include the lagged treatment measure to control for the persistent nature of fiscal adjustments (Jordà and Taylor, 2016).

We also consider measures of citizens' demand for fiscal adjustments. We control for the annual percentage of listed shares owned by households as a percentage of GDP to proxy for citizens' relative preferences for deficit spending. We expect citizens to prefer governments to announce fiscal adjustments when their wealth is invested in equity markets, since equity investors are generally averse to inflationary deficits (Mosley and Singer, 2008). Moreover, we control for the number of years left until the next election, because fiscal adjustments are less likely to be announced when elections are close (Aaskoven, 2016; Brender and Drazen, 2008; Merola and Pérez, 2013; Pina and Venes, 2011). In addition, we include measures of political appetite for fiscal adjustments. We control for government strength –measured as the percentage of legislative seats held by members affiliated to the incumbent coalition– and the fragmentation of the legislative chamber. The latter is operationalized as the probability that two randomly selected seats belong to different parties. In the political economy literature on fiscal transparency (e.g., Wehner and de Renzio, 2013), these measures capture the constraints placed on governments by political dynamics, which may affect the probability of announcing future fiscal adjustments. Lastly, we control for the yield on five-year benchmark government bonds one day before the beginning of the event window. This variable captures those remaining confounders that (i) affect the probability of announcing a fiscal adjustment; (ii) are valued by bond market investors, and (iii) take place between the measurement day of the fiscal, economic and political variables and the event day. This control alleviates identification concerns, given that it precedes treatment while being measured close to it. Political variables are measured on January 1 of year t. Because the economic and fiscal variables are measured on December 31 of year instead, we lag them by one year to align the measurement period of all predictors. The predicted coefficients are presented in Table B.1.

Table B.1. Predicted signs of the coefficients in the probit model. The outcome is $\Pr(\text{Treatment} = 1|X)$

Variable	Predicted sign
$Debt$	+
$Budget\ Balance$	-
$Yields$	+
$Recession$	-
$Fiscal\ Volatility$	+
$Output\ Volatility$	+
$EU\ Funds$	+
$Stock\ Market\ Exposure$	+
$Euro\ adopter$	+
$Government\ Strength$	¿
$Fragmentation\ of\ Parliament$	¿
$Electoral\ Pressure$	-
$Lag\ of\ Treatment$	+

This table reports the predicted signs of the probit model. The variables are defined in Table 1 of the manuscript

Table B.2 presents the probit model results through which we estimate the probability that governments announce a fiscal plan containing a fiscal adjustment, defined in column 1 as PFA (i.e., a systematic improvement in the primary balance between years t and $t + 2$). In columns 2 to 4, the fiscal adjustment is defined as a $Positive$ annual change in the expected budget balance. In columns 5 to 9, it represents a $Large$ positive change.

Evidence on the drivers of planned fiscal adjustments is robust and consistent across models. It supports the use of our model as a treatment assignment mechanism. The most important predictor is the lagged budget balance, which enters with a negative sign and is significant in all models. The negative sign indicates that as governments' fiscal performance improves, the probability of a fiscal adjustment –however defined– declines significantly at all forecast horizons. This finding validates the hypothesized treatment assignment mechanism: countries with healthy public finances have a lower need to report compliance with EU deficit rules and are thus less likely to be 'treated' in our sample. A second consistent predictor of treatment is the lagged treatment condition. A previous announcement of a fiscal adjustment increases the probability of a future one regardless of how the treatment is defined. Our finding on the persistent nature of *expected* fiscal adjustments is novel and consistent with prior evidence on this characteristic of *actual* fiscal adjustments (Jordà and Taylor, 2016).

Table B.2. Selection of country-dates in the treatment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	PFA	Positive^{t}	Positive^{t+1}	Positive^{t+2}	Positive^{t+3}	Large^{t}	Large^{t+1}	Large^{t+2}	Large^{t+3}
Debt	0.00	0.00	0.00	0.00	-0.01	-0.00	0.00	0.01	-0.02
	[0.01]	[0.00]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]
Budget Balance	-0.25***	-0.20***	-0.25***	-0.36***	-0.53***	-0.30***	-0.35***	-0.37***	-0.82***
	[0.05]	[0.04]	[0.05]	[0.07]	[0.09]	[0.05]	[0.09]	[0.08]	[0.17]
Yields – lagged by 11 days	0.03	0.04	0.05	-0.00	0.01	0.06	0.15	0.04	-0.12
	[0.04]	[0.04]	[0.04]	[0.06]	[0.09]	[0.07]	[0.09]	[0.08]	[0.12]
Recession	0.36^{+}	0.37*	0.32	0.11	-0.04	-0.08	0.30	0.19	-0.45
	[0.19]	[0.18]	[0.23]	[0.23]	[0.27]	[0.31]	[0.41]	[0.41]	[0.30]
Fiscal Volatility	-0.01	0.01	-0.06	-0.13	-0.30*	0.19*	-0.14	-0.20^{+}	-0.44***
	[0.08]	[0.07]	[0.10]	[0.10]	[0.12]	[0.09]	[0.09]	[0.11]	[0.13]
Output Volatility	0.02	0.01	0.10	0.20*	0.36**	-0.08	0.19*	0.23^{+}	0.34*
	[0.07]	[0.06]	[0.07]	[0.10]	[0.12]	[0.11]	[0.09]	[0.13]	[0.16]
EU Funds	0.10	0.10	-0.05	-0.18	-0.48***	0.11	-0.21	-0.26	-0.78***
	[0.12]	[0.12]	[0.14]	[0.15]	[0.14]	[0.15]	[0.19]	[0.17]	[0.21]

Stock market exposure	0.04^{+}	0.04^{+}	0.02	0.03	0.03	0.02	0.06^{+}	0.03	-0.02
	[0.02]	[0.02]	[0.02]	[0.02]	[0.03]	[0.03]	[0.03]	[0.03]	[0.04]
Euro adopter	-0.10	-0.00	-0.07	-0.36	-0.06	-0.10	0.24	-0.40	-0.47
	[0.27]	[0.23]	[0.26]	[0.34]	[0.38]	[0.38]	[0.32]	[0.45]	[0.59]
Government Strength	0.01	0.01	-0.00	-0.00	-0.02^{+}	0.02	0.01	0.01	0.00
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.03]	[0.02]	[0.01]	[0.02]
Fragmentation of Parliament	0.02	0.01	0.02^{+}	0.02	0.02	0.03^{*}	0.02	0.02	0.01
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.02]	[0.02]	[0.02]
Electoral Pressure	-0.04	0.01	0.01	-0.04	-0.15^{*}	0.01	0.19^{*}	0.12	-0.25^{**}
	[0.07]	[0.07]	[0.05]	[0.05]	[0.07]	[0.16]	[0.10]	[0.09]	[0.09]
Lagged PFA	0.46^{*}								
	[0.19]								
Lagged Positive^{t}		0.45^{**}							
		[0.17]							
Lagged Positive^{t+1}			0.87^{***}						
			[0.20]						
Lagged Positive^{t+2}				0.61^{**}					
				[0.19]					
Lagged Positive^{t+3}					0.86^{*}				
					[0.38]				
Lagged Large^{t}						0.87^{*}			
						[0.37]			
Lagged Large^{t+1}							1.77^{***}		
							[0.30]		
Lagged Large^{t+2}								1.71^{***}	
								[0.29]	
Lagged Large^{t+3}									1.80^{***}
									[0.39]

Constant	-3.57**	-2.86*	-2.76*	-2.09+	-0.78	-5.97***	-4.49**	-3.91***	-0.88
	[1.18]	[1.18]	[1.09]	[1.11]	[1.28]	[1.76]	[1.69]	[1.14]	[1.53]
Pseudo-R2	0.25	0.19	0.30	0.35	0.50	0.45	0.55	0.58	0.70
N	279	284	283	279	202	137	164	174	143
AUC	0.8164	0.7846	0.8559	0.8754	0.9315	0.9066	0.9381	0.9416	0.9764
Cluster	Country	Country	Country	Country	Country	Country	Country	Country	Country

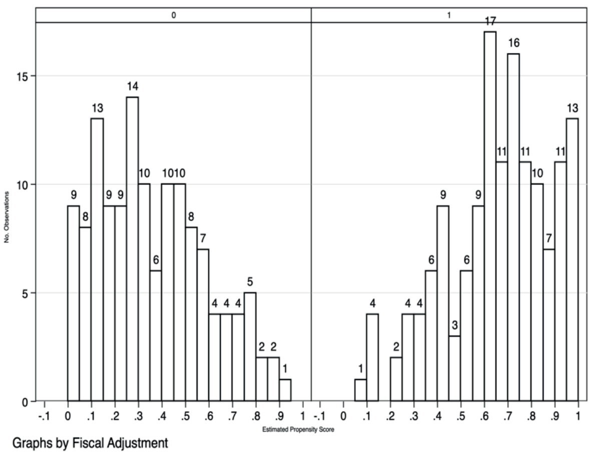
This table reports the estimates of a probit model where the event is a country-date in which the government announces a fiscal adjustment. In model 1, a fiscal adjustment occurs when the average forecasted primary balance over horizon *t*-*t*+2 exceeds the lagged budget balance at *t*-1. In columns 2 to 5, a fiscal adjustment occurs when the forecasted primary balance at each horizon signaled in the superscript exceeds the lagged primary balance at year *t*-1. In columns 6 to 9, a fiscal adjustment occurs when the forecasted primary balance at each horizon included in the superscript exceeds the lagged primary balance at year *t*-1 by at least 1% of GDP. The forecast horizon is indicated in superscript. AUC is 'Area Under the Curve'. Standard errors clustered at the country level are in brackets. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The variables are defined in Table 1 of the manuscript.

We report no other consistent predictors of fiscal adjustments. It is worth noting that recessions increase the likelihood of forecasting a fiscal adjustment, both when defining treatment as a systematic adjustment covering years $t, t+1$, and $t+2$ and as a short-term fiscal adjustment, between $t-1$ and t. Thus, the planned fiscal policy –particularly in the short-term– appears pro-cyclical rather than counter-cyclical (Auerbach and Gorodnichenko, 2012, 2013; Jordà and Taylor, 2016; Riera-Crichton et al., 2015). We also observe that fiscal volatility reduces the likelihood of large fiscal adjustments, while economic volatility raises it. Furthermore, we document some evidence that the greater the EU funds, the lower the probability of announcing fiscal adjustments, while households' exposure to equity markets increases it. Finally, we find that political dynamics are mostly unimportant in predicting the likelihood of announcing multiannual fiscal adjustments, and there is only cares evidence mostly relating to the electoral cycle. Overall, our findings indicate that fiscal conditions are largely responsible for governments' decisions to announce that the fiscal outlook will improve. In addition, the planned fiscal policy has a robust persistent component and is largely procyclical. The model fit, measured with the Area Under the Curve (AUC), is high, ranging between 0.78 and 0.98 depending on the model.

3. Diagnostics of the selection model

The following set of tests examines the extent to which the positivity assumption discussed in Section 1 holds. We report the numerical distribution of conditional probabilities computed through the probit model presented in the previous section. Figure B.1 plots the distribution of these probabilities for the main treatment definition: PFA. It shows empirical propensity scores, first for the untreated observations ($PFA_{c,d} = 0$) and then for the treated ones ($PFA_{c,d} = 1$), using bins with length equal to 0.025. Considerable overlap is observed in the distribution of the propensity scores. Specifically, the pre-treatment probability of treated units is similar to that of untreated ones, and there are few extreme probabilities. Therefore, the identification assumption is respected: conditional on observables, the pre-treatment probabilities of a government-date being assigned to the treated or untreated condition are comparable, and the treatment is as good as the randomly assigned one (Angrist et al., 2018).

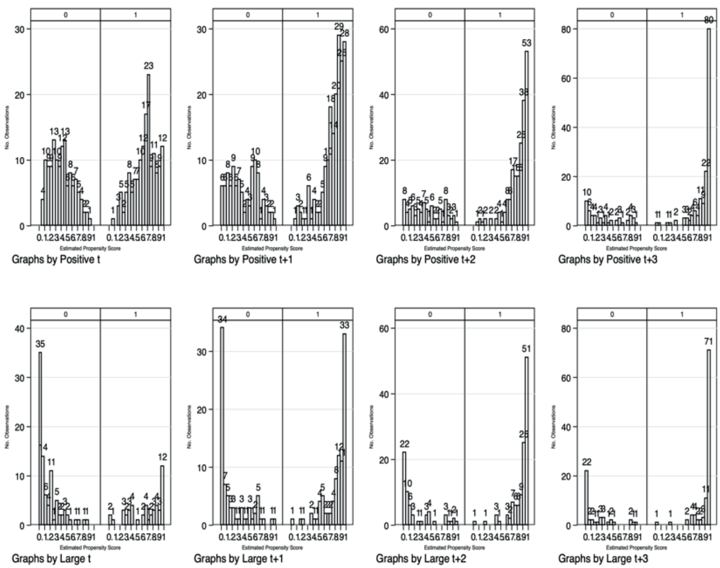
Figure B.1. Empirical distribution of conditional propensity scores: *Treatment* is *PFA*



This figure plots the empirical probabilities that $Treatment \equiv PFA$. Each panel shows the predicted probabilities separately for treated (1) and untreated (0) observations. PFA is equal to 1 in country-days when the government forecasts that the primary balance will exceed its lagged value in each year between t and $t + 2$. The empirical probabilities are estimated through the probit model reported in Table B.2. The variables are defined in Table 1 of the manuscript.

Figure B.2. plots the same distribution but for the alternative treatment definitions: $Positive$ and $Large$. In relation to the top-left chart of Panel A, the estimated probabilities for $Positive^t$ are relatively uniformly distributed when $Treatment = 0$. While there are comparably few observations with high treatment probabilities, the distribution is almost uniform within the $\hat{p}$ levels.

Figure B.2. Empirical distribution of conditional propensity scores: *Treatment* is *Positive* or *Large*



This figure plots the empirical probabilities that $Treatment \equiv Positive$ (Panel A) and $Treatment \equiv Large$ (Panel B) at the forecast horizon indicated below each graph. Each panel shows the predicted probabilities separately for treated (1) and untreated (0) observations. Observations are treated or untreated depending on $Positive$ (Panel A) or $Large$ (Panel B) are equal to 1 or 0 in the sample. $Positive$ is equal to 1 in country-days when the government forecasts that the primary balance will exceed its lagged value. $Large$ is equal to 1 in country-days when the government forecasts that the primary balance will exceed its lagged value by an amount greater than 1% of GDP. The empirical probabilities are estimated through the probit model reported in Table B.2. The variables are defined in Table 1 of the manuscript.

Similarly, there are enough observations with $Treatment = 1$ for approximately all predicted probabilities, although we report an excessive mass of observations with extremely high treatment probabilities (above 90%). In turn, regarding the remaining charts at the top of the figure, the distribution of predicted probabilities is visibly different between treatment conditions. A high number of untreated observations present very low estimated treatment probabilities, so that the actually treated observations have a pre-treatment probability that is too large compared to that of the untreated observations. Indeed, the figure shows that as the horizon that defines the treatment changes from $k = 0$ to $k = 1, 2, 3$ the estimated propensity scores become exceedingly skewed towards extreme values. In turn, the extent of overlap between the distribution of the predicted probabilities of the treated and untreated observations falls markedly. The problem is even more extreme when the treatment is defined as $Large$. Under this alternative treatment definition, treatment probabilities are skewed towards extreme values, and there is minimal overlap in the distributions. This finding indicates that the positivity assumption required to identify treatment effects is violated under alternative treatment definitions.

4. Summary

The analyses presented in this appendix highlight two points. First, fiscal adjustments are persistent and more likely during periods of fiscal stress and following economic downturns. While our model cannot reject the possibility that unobservable confounders predict the treatment (an untestable assumption), we determine the probability that governments will announce a future fiscal adjustment based on a credible policy rule that is guided by both theoretical and institutional priors (Angrist et al., 2018). Second, the positivity assumption required to identify treatment effects is respected when the treatment is defined as a planned, multiannual fiscal adjustment. We have experimented with alternative and plausible treatment definitions based on both a longer forecast horizon and different doses of fiscal adjustments (Alesina et al., 2015). We have documented that the (un)treated observations are too (un)likely to be treated under alternative treatment definitions. Therefore, these definitions violate the positivity assumption required to estimate credible treatment effects. For these reasons, our focus will be to estimate the treatment effect of PFA on stock market variables. PFA captures the country-days in which the government announces that the primary balance will improve every year, between year $t - 1$ and $t + 2$.

APPENDIX C

Filtering process for firm-level data

This appendix describes the filtering process used to construct firm-level measures of abnormal volatility of returns $ABVAR$ and trading turnover ABT. These are the abnormal volatility of stock returns and the abnormal level of trading volume calculated from daily firm-level data (Chae, 2005; Landsman and Maydew, 2002).

Firm-level data are obtained from Compustat Global-Security Daily files through WRDS. Prior research using market data on non-US firms documents that the quality of raw data provided by the vendor can be significantly improved by applying appropriate filtering and screening procedures (Gao et al, 2018). Following earlier studies, several filters are applied at the issue, issuer, stock market, and country-level in order to obtain a final sample of stocks with similar characteristics, sufficient data quality, and representative of the national stock market (Amihud et al., 2015; Gao et al., 2018).

Based on Gao et al. (2018), only common shares are retained, and among them, those not corresponding to the primary issue of the firm are eliminated. Moreover, considering Amihud et al. (2015), only shares traded on EU stock exchanges and denominated in EU currencies, including pre-euro national currencies, are analysed. To obtain comparable estimates of the effect of country-specific fiscal announcements, we only keep firms incorporated, located, and traded in the same jurisdiction. To achieve usable returns and volume series, we deal with the well-known problem of sparse coverage in Compustat Global: some securities disappear from the sample only to reappear later (Gao et al., 2018). For example, as a result of sparse coverage, simple net stock returns calculated as the percentage change in closing prices between two consecutive observations would be valid daily returns only if the consecutive observations are sampled over two consecutive trading days.

Conversely, they would not be daily returns if the firm disappears from the sample only to reappear several days later, that is, if there are firm-specific gaps in the Compustat closing price series. Thus, variables created as a transformation of data spanning multiple days may be sampled at different frequencies. Based on our inspection of the data, there are certain cases where a gap exists, and in a non-trivial number of them, this gap is large. To address this issue, a variable is generated for each firm that contains the difference between the calendar day number recorded by Compustat (0=Sunday; 1=Monday, 2=Tuesday, etc.) and that of the previous observation. For properly spaced observations, this difference is equal to 1 for all days of the week except Monday, as its prior observation is Friday (recorded as day=5 by Compustat). When the newly created variable is not adequately spaced, either of two scenarios occur. In the first , the firm has a gap in the series. In the second, the day preceding the focal one was a non-trading day. Both scenarios are fundamentally different, and it is essential to retain stock returns that follow a non-trading day, because, while these are not daily, they are comparable across firms that trade in the same stock exchange. Non-daily returns caused by a firm-specific gap in the Compustat series should not be taken into account. An indicator variable is created to distinguish between these two scenarios. The sum of this variable for each stock market-day pair and each day gives the number of observations that display a proper gap. This number is then compared to the number of firms trading on that stock exchange on that specific day. When no firm trading on that stock exchange has a normal gap on a specific day, that day is a non-trading day. Instead, observations that do not have a normal gap and do not occur on a non-trading day are set as missing.

Moreover, data on returns and volumes are considered missing for country-days with less than ten valid observations. Next, a filter is applied to the data before computing abnormal returns and trading volume. Firm-event pairs are set as missing if they lack volume or returning data for less than 80% of 21 days in the event window and 90 days in the estimation window. Finally, the returns and volumes data are winsorized at the 1st and 99th percentile cutoff.

APPENDIX D

Additional tables

Table D.1. Summary statistics

	N	Mean	St.Dev	Median	Min	Max
Outcome variables						
CABVAR [d]	22945	0	.72	-.19	-.25	40.13
CABVAR [d/d+1]	22945	0	1.15	-.3	-.51	53.04
CABVAR [d/d+2]	22945	0	1.66	-.39	-.76	106.47
CABVAR [d/d+3]	22945	0	2.03	-.47	-1.01	107.48
CABVAR [d/d+4]	22945	0	2.26	-.54	-1.26	110.86
CABT [d]	22945	.09	1.24	.07	-9.3	7.97
CABT [d/d+1]	22945	.14	2.09	.09	-13.19	16.15
CABT [d/d+2]	22945	.19	2.92	.14	-19.25	23.94
CABT [d/d+3]	22945	.27	3.67	.19	-25.86	31
CABT [d/d+4]	22945	.3	4.41	.22	-29.58	38.58
Cumulative Bid-Ask Spread [d]	22945	.01	.03	.01	0	1.52
Cumulative Bid-Ask Spread [d/d+1	22945	.03	.06	.01	0	3.04
Cumulative Bid-Ask Spread [d/d+2	22945	.04	.09	.02	0	4.56
Cumulative Bid-Ask Spread [d/d+3	22945	.05	.12	.03	0	6.08
Cumulative Bid-Ask Spread [d/d+4	22945	.06	.15	.04	0	7.6
Cumulative Change in Yields [d]	22945	0	.04	0	-.28	.19
Cumulative Change in Yields [d/d	22945	0	.04	0	-.53	.26
Cumulative Change in Yields [d/d	22945	.01	.06	0	-.22	.34
Cumulative Change in Yields [d/d	22945	.01	.13	-.01	-.81	.87
Cumulative Change in Yields [d/d	22945	.01	.14	-.01	-.68	1.02
Treatment						

PFA	22289	.53	.5	1	0	1
Control variables						
Growth Forecast	22945	1.03	2.09	.7	-3.3	16.2
Fiscal Forecast Revision	22945	.12	2.17	-.1	-16.9	11.3
Debt	22945	75.54	25.39	78.6	12.3	131.8
Budget Balance	22945	-3.55	3.19	-3.6	-15.1	5
Yields - lagged by 11 days	22945	2.64	1.72	3	-.36	12
Recession	22945	.65	.48	1	0	1
Fiscal Volatility	22945	1.85	.79	1.7	.56	11.3
Output Volatility	22945	2	.93	1.75	.49	10.54
EU Funds	22945	.42	.68	.16	.01	5.36
Stock market exposure	22945	9.5	5.19	8.3	.9	25.7
Euro adopter	22945	.65	.48	1	0	1
Government Strength	22945	55.97	8.28	54.6	36.49	79.87
Political Competition	22945	68.7	9.28	67.81	49.67	89.71
Electoral Pressure	22945	-2.13	1.25	-2	-4	0
Modifiers						
Expansion	22945	.35	.48	0	0	1
Downturn	22945	.65	.48	1	0	1
Revenue increase	22945	.29	.46	0	0	1
Expenditure increase	22624	.58	.49	1	0	1

This table reports summary statistics for the variables used in the analysis. The variables are defined in Table 1 of the manuscript.

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