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Fiscal Rule Stretching in the European Union: The Impact of Elections, Financial Stress, and Excessive Deficit Procedures on Government Debt Revisions

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Abstract

This paper examines the strategic manipulation of government debt data referred to as "fiscal rule stretching" among European Union member states, particularly in response to electoral incentives, financial market stress, and the constraints of the Stability and Growth Pact (SGP). Using Eurostat revisions of government debt figures, and measuring the dependent variable as the cumulative change in the debt-to-GDP ratio between the initial release and the subsequent releases within a two-release window (ranging from −1.1 to 13.9 percentage points of GDP in the estimation sample), we find that countries with higher debt levels, particularly those exceeding the 60% of GDP SGP threshold, are more likely to have their debt figures revised upwards. Our analysis further reveals that eurozone members are more inclined to engage in rule stretching, especially when facing Excessive Deficit Procedure (EDP) enforcement. Election timing plays a crucial role in this behavior, with unscheduled elections and proximity to elections both significantly increasing the likelihood of debt revisions. Financial market stress amplifies these effects, as governments under pressure may resort to optimistic accounting to present more favorable debt statistics. While fiscal transparency appears to be positively associated with debt revisions, suggesting that transparent governments may rely on more sophisticated methods of rule stretching, GDP growth does not show a significant impact. Overall, our findings highlight the intersection of domestic political cycles, financial constraints, and EU-level oversight in shaping fiscal reporting practices across member states.

Keywords

• Fiscal Rule Stretching • Government Debt Revisions • European Union • Stability and Growth Pact (SGP) • Excessive Deficit Procedure (EDP) • Financial Market Stress • Fiscal Transparency

1. Introduction

Fiscal transparency refers to making the decisions made by the government and the expenditures incurred by it visible to the public. Citizens from all walks of life wish to keep track of public money. As funds are received from the public, they want the best use of those funds in the public interest; thus, they want to maintain a check on the government.

In addition, it envisages the establishment of a simplified budget and accounting procedure that will allow citizens to intervene, facilitate the improvement of the management of public money, and seriously disguise or allege the embezzlement of funds.

The European Union (EU) serves as an excellent area of study to examine the stretching of fiscal rules. All members will use the European System of Accounts (ESA). This sets out the reporting rules for public finances. Eurostat, EU's statistical office, periodically adjust the numbers of its member state. It's not just

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a Bayesian update; the Eurostat expert teams carry out regular full reviews. During reviews, officials are able to adjust the data either upwards or downwards. Decisions made by member states but rejected by Eurostat provide a paper trail. Second, the size of upward revisions can be measured directly from successive Eurostat releases.

Governments manipulate fiscal data for elections, research has found [1]. Alt, Lassen and Wehner demonstrate that EU member states violate the rules of Eurostat when reporting their fiscal data in the year of elections when fiscal transparency is low. Symbolically, De Castro, Pérez, and Rodríguez-Vives document that most member states understate their deficit, with this being more pronounced during pre-electoral periods. Nonetheless, the documents study deficit figures and not data on debt that can be manipulated in various and relevant ways.

The rationale for fiscal rules is that, if a government is allowed to run high deficits or disorderly debt growth, matters will worsen. Governments with large budget deficits often find it hard to finance those deficits and the associated debt over time. Persistent budget deficits and rising debt can trigger a financial crisis, and these circumstances are undesirable and can lead to an economic crisis; strategic governance approaches in banking operations similarly emphasize pre-emptive risk controls [2].

To put it simply, if a Government is allowed to run huge deficit and debt, there is nothing stopping them from running even bigger deficit and debt.

The Stability and Growth Pact increases the robustness of the model. The stipulated limitations imply that members face a budget deficit ceiling of 3% GDP and maximum debt outstanding of 60% GDP. A country with a deficit approaching 3% will indeed experience strong incentives to bend the accounts rules. Von Hagen and Wolff actually record a rise in "stock-flow adjustments" – the gap between the change in debt and deficit – as countries approach the 3% deficit cap. However, the debt itself can equally be gamed; the root cause is the same incentive to remain below the threshold [3].

This paper adds to the literature in several ways. To begin with, we focus not on all deficit revisions but specifically on debt revisions that capture manipulation operating through balance sheet channels. Next, we investigate whether and how financial market stress interacts with electoral effects. This is an interaction that has not been studied in existing work. Third, we distinguish analysis between scheduled and unscheduled elections. These are elections called at random by governments, "snap elections". Since these election dates are not pre-announced, governments have less time to influence economic factors.

We utilize Eurostat debt data revisions from between 2003 and 2013 that are biannual. We construct, for country-year observation, a measure of total revision over the last two Eurostat releases, i.e. the last year, and we relate this to the timing of elections, financial market stress, EU institutional constraints, and their interaction. The panel structure allows a country fixed effect, enabling us to deal with constant possibilities [4]. The reporting environment itself is shaped by institutional oversight: comparative evidence on how fiscal rules operate at the European and national level indicates that enforcement design materially affects reporting behaviour [5].

2. Theoretical Framework and Hypotheses

Various studies have discovered that governments manipulate economic policies to win elections. The important work by Nordhaus shows that incumbents expect elections to stimulate economic activity in advance of elections to maximize chances of re-election, creating a political business cycle. A great number of empirical researchers took up the insight. To be specific, there were numerous articles studying fiscal policy, where the evidence suggests that governments spend more and cut taxes in election years. Nevertheless, manipulating policy is just one channel through which governments may seek electoral

advantage; institutional analyses of how legislative bodies bend procedural norms—stretching rules rather than formally breaking them—offer a useful analogue for the fiscal-rule context studied here [6].

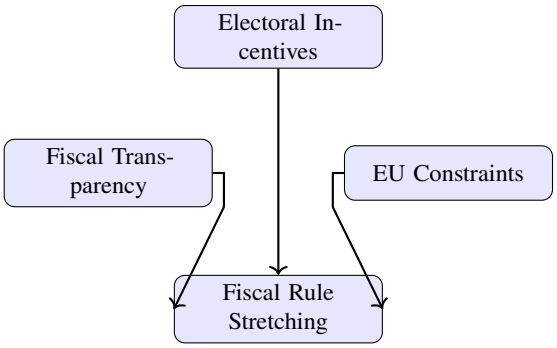

Figure 1: Conceptual Framework of Fiscal Rule Stretching Determinants

Governments' creativity in manipulating finances is exposed by the various issues I have been hinting at till now. In India, fiscal responsibility legislation authorizes state governments to interpret and implement fiscal rules as they see fit. Some state governments falsify figures to claim impressive fiscal performance by overstating revenue and understating borrowings.

Voters constitute the main domestic audience for fiscal statistics, who are expected to evaluate the competence of the incumbent based on economic performance. Voters might ignore technical details about accounting, but they surely respond to the headline debt numbers or the media's worry about sustainability. According to Kayser and Leininger, the updated figures do not appear to catch the attention of either the press or voters. Thus, the government is likely to benefit by initially presenting a rosy picture, even if the later numbers have to be revised downwards.

Table 1: Summary Statistics of Key Variables

Variable	Mean	SD	Min	Max
Cumulative Debt Revision (% GDP)	0.84	2.13	-1.1	13.9
Years to Election (reversed)	2.31	1.42	0	4
Financial Market Stress	0.18	0.14	0.02	0.57
Central Government Debt (% GDP)	58.42	32.16	4.2	172.1
Fiscal Transparency Index	76.34	15.27	32	100
GDP Growth (%)	1.84	3.76	-14.8	11.9

The worldwide audience factors in too. Most institutions of the EU check whether member states respect the established fiscal rules. Reported values help determine eligibility for structural funds and members' exposure to excessive deficit procedures. Meanwhile, bond investors use debt data as a input to assess sovereign credit worthiness and thus borrowing costs. Beatty and Jerven state that a number of countries misreport statistics to stay eligible for concessional lending from the World Bank. In this case, an international audience and specific incentives influence misinformation.

Increased internal and external pressures owing to financial crises. Declining tax revenues and rising spending requests lead to an increased budget deficit as well as public debt. Demanding action to avert banking crisis or easing their economic pain are the voters' demands. International investors are now paying closer attention to issues of fiscal sustainability. In the words of national accountants, the bank

bailout and providing guarantees and liquidity to prevent financial contagion are examples of the sort of ‘quasi-fiscal’ transactions that should give rise to bending and breaking – interpretation-wise. It is believable that a government can tell its acquisition of equity in a struggling bank; the broader causes, effects, and limits of government debt have been documented extensively [7].

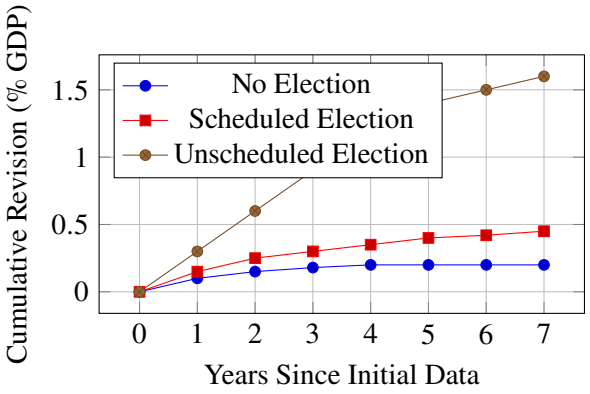

Figure 2: Debt Revision Trajectories by Election Type. The figure plots the cumulative debt revision (% of GDP) against years since the initial data release, separately for country-year observations with no election, a scheduled election, and an unscheduled election. The plotted values are sample averages of the cumulative revision defined in Eq. (1), constructed from Eurostat debt releases over 2003–2013. Data source: Eurostat government debt statistics; election classification from the Brender–Drazen data updated to 2013.

The timing of the elections adds another dimension. When the socio-economic situation is judged as favourable, the government Selects Timing of Election. Consequently, there is no manipulation of the statistics required by this. He maintains that the coalition breaks down if elections are not timed; the elections must be held immediately if there is a leadership overhang or an uncalled-for political event takes place. This means that the coalition proved does not have time for the management of the economy. As a result, in this case the government has less time to manage the economy before the election.

The theoretical discussion yields the following hypotheses, each of which is evaluated through the corresponding empirical model.

H1 (Election proximity). Cumulative upward debt revisions increase as elections draw nearer, i.e., the coefficient on election proximity in Eq. (2) is positive. This hypothesis is evaluated in Model 2 of Table 3.

H2 (Unscheduled elections). Unscheduled elections are associated with larger cumulative revisions than scheduled elections, i.e., the coefficient on the unscheduled-election indicator exceeds that on the scheduled-election indicator. This hypothesis is evaluated in Model 3 of Table 3.

H3 (Financial stress). Higher financial market stress amplifies the effect of election proximity on debt revisions, i.e., the election-timing–stress interaction is positive. This hypothesis is evaluated in the interaction specification reported in Table 3 and in the robustness check in Table 4. Empirical work on AI/ML models in distributed systems shows that stress-induced regime shifts are detectable when monitoring is designed around changing signal distributions, which motivates the interaction term [8].

H4 (Debt thresholds). Countries with substantial debt levels, particularly those exceeding the SGP threshold of 60% of GDP, show larger upward revisions, i.e., the coefficient on the debt level is positive and, in the eurozone interaction, increasing above the threshold. This hypothesis is evaluated in Model 1 and in the eurozone–debt interaction reported in Table 3 [9].

3. Related Work

This paper connects four strands of research: fiscal transparency and the political economy of fiscal reporting, political budget cycles, the enforcement of European Union fiscal rules, and the statistical and computational infrastructure through which fiscal records are produced and verified.

A first strand examines fiscal transparency and the strategic reporting of fiscal data. Alt, Lassen, and Wehner show that EU member states report fiscal data in ways that depend on electoral incentives and the degree of fiscal transparency. De Castro, Pérez, and Rodríguez-Vives document that member states tend to understate deficits, with the tendency more pronounced in pre-electoral periods. These studies focus primarily on deficit figures; debt revisions capture manipulation operating through balance-sheet channels, including reclassifications and stock-flow adjustments, and are therefore a distinct and policy-relevant outcome. Work on public-sector accounting emphasizes that revisions to debt can arise from reclassifications and methodological changes as well as from strategic reporting, a distinction that informs the interpretation of our estimates. Recent work on information security and privacy-preserving architectures in collaborative settings offers methodological parallels for detecting anomalous or strategically distorted records in distributed financial and administrative systems [10].

A second strand studies political budget cycles. Nordhaus shows that incumbents anticipate elections and stimulate economic activity in advance of them. Subsequent empirical work finds that governments spend more and cut taxes in election years, and that these patterns are conditioned by the transparency of the fiscal environment. Kayser and Leininger argue that revised figures receive limited attention from the press and voters, which can make an initially favorable picture politically valuable even if later revised. This literature motivates our focus on election timing and on the distinction between scheduled and unscheduled elections. Complementary work on secure and verifiable record-keeping for financial transactions provides an architectural lens on how reporting integrity may be enforced across multiple stakeholders [11].

A third strand examines the enforcement of EU fiscal rules. The Stability and Growth Pact sets a deficit ceiling of 3% of GDP and a debt ceiling of 60% of GDP, and the Excessive Deficit Procedure provides the enforcement mechanism. Von Hagen and Wolff document a rise in stock-flow adjustments as countries approach the deficit ceiling. Baerg and Hallerberg study how EDP status and eurozone membership shape fiscal reporting incentives. More recent evidence indicates that subnational debt governance reforms can materially shift leverage adjustment dynamics, which is relevant to how national governments anticipate the enforcement consequences of their reported debt positions. This paper extends this literature by examining debt revisions, by interacting electoral incentives with financial market stress and EDP enforcement, and by distinguishing scheduled from unscheduled elections.

A fourth, adjacent strand concerns the statistical and computational infrastructure through which fiscal and financial records are produced, verified, and shared. Cloud architectures for multi-tenant agents, blockchain-enabled verification platforms with zero-knowledge proofs, and privacy-preserving interaction mechanisms all bear on how reliably reported figures can be audited and reconciled across institutions [12]. Trust segmentation in large-scale networks and empirical assessment of cluster security posture similarly inform the practical question of how oversight bodies can monitor reporting environments at scale [13]. Collectively, these strands motivate our focus on the institutional and technological conditions under which debt revisions arise and persist.

4. Research Design and Data

We analyze 2003-2013 revisions of Eurostat Debt data for all 28 EU countries (EU-28) through four series of data. Eurostat releases revisions twice a year. Usually, this occurs during the months of April and October. Also it involves the government financial statistics brought out in last four years. For each initial publication of the data, notably government debt, there are as many as (at least) seven subsequent revisions of the data. The revisions begin in October of the year of the initial release.

The dependent variable is the *cumulative debt revision*, defined as the cumulative change in the reported general government gross debt-to-GDP ratio between the initial Eurostat release and the subsequent releases within a fixed revision window. Formally, for country i and initial release year t, let $D_{i,t}^{(0)}$ denote the debt-to-GDP ratio as first published by Eurostat and let $D_{i,t}^{(k)}$ denote the value reported in the k-th subsequent release, for $k = 1, \ldots, K$. The cumulative debt revision is

$$R_{i,t} \;=\; D_{i,t}^{(K)} - D_{i,t}^{(0)}, \tag{1}$$

expressed in percentage points of GDP, where the revision window K spans the two Eurostat releases (approximately one year) following the initial publication, consistent with the biannual release schedule. Positive values of $R_{i,t}$ indicate net upward revisions and negative values indicate net downward revisions; the variable is constructed as a signed net measure and is not truncated at zero. Each revision is measured against the GDP figure applicable at the corresponding release date. The initial debt figures are compared with subsequent Eurostat releases on a like-for-like basis, using the same ESA definition and the same country-year coverage, so that $R_{i,t}$ captures reclassifications, methodological corrections, and revisions to source data net of definitional changes. In the estimation sample, $R_{i,t}$ ranges from -1.1 to 13.9 percentage points of GDP (Table 1).

Table 2: Unscheduled Election Years in Sample

Country	Years
Austria	2008
Belgium	2010
Denmark	2007
Germany	2005
Greece	2007, 2009, 2012
Ireland	2011
Italy	2008
Latvia	2011
Netherlands	2003, 2012
Poland	2007
Portugal	2005, 2011
Slovakia	2012
Slovenia	2011
Spain	2011
United Kingdom	2005

The timing of the election and the type of election are important independent variable. We count the years until the next election. Regardless if an election was scheduled or unscheduled, we assign a coding of zero. In regressions, we invert the scale so greater values mean elections are nearer to one another. The codes for type of election distinguish scheduled election, unscheduled election and non-election

year. The initial values of Brender and Drazen, updated to 2013, are used. The study incorporates a continuous measure of financial market stress developed by B. Duprey, E. Klaus and P. Peltonen. It captures simultaneous movements in stock markets, bond markets and fluctuations in currency markets. Values on this index vary between zero and one, with higher values meaning more stress. We average the months so that it is comparable with other variables measured over the year. According to the samples, the values of this measure range from 0.02 to 0.57.

The Excessive Deficit Procedure status and eurozone membership are EU institutional variables. The EDP data come from Baerg and Hallerberg and have been updated through 2015. Being under an EDP implies stronger checks and prods and sanctions if the member state does not respect the SGP ceilings. Eurozone membership is relevant because member states are subject to stronger enforcement of the SGP; empirical assessment of unified monitoring postures in clustered environments offers a structural parallel for how such enforcement is observed and recorded [14].

Alternative explanations are taken care of variables. Wang, Irwin, and Murara provide the IMF with the index that's called fiscal transparency. The type and extent of the reporting of fiscal data under the IMF 2001 systems was examined. The data source lies between 2003-2013. The index ranges between 0 and 100. A sample of EU members yields 76.3, a mean. GDP growth regulates the economic climate. This might influence the motivation to report and the willingness to revise. The measure by Hallerberg strains and von Hagen budget institutions.

The baseline estimating equation is

$$R_{i,t} \;=\; \alpha + \rho R_{i,t-1} + \beta_1 \mathrm{Debt}_{i,t} + \beta_2 \mathrm{Election}_{i,t} + \beta_3 \mathrm{Stress}_{i,t} + \beta_4 \mathrm{Transparency}_{i,t} + \beta_5 \mathrm{Growth}_{i,t} + \mu_i + \varepsilon_{i,t}, \tag{2}$$

where $R_{i,t}$ is the cumulative debt revision defined in Eq. (1), $\mathrm{Debt}_{i,t}$ is central government debt as a share of GDP, $\mathrm{Election}_{i,t}$ denotes election timing (years to election, reversed, so that larger values indicate proximity), $\mathrm{Stress}_{i,t}$ is the financial market stress index, $\mathrm{Transparency}_{i,t}$ is the IMF fiscal transparency index, $\mathrm{Growth}_{i,t}$ is real GDP growth, μ_i are country fixed effects, and $\varepsilon_{i,t}$ is the error term clustered at the country level. Election type is captured by two indicators, $\mathrm{Scheduled}_{i,t}$ and $\mathrm{Unscheduled}_{i,t}$, with non-election years as the omitted category.

Interaction terms are constructed as products of mean-centred (or raw, as indicated) constituent variables. The election-timing–financial-stress interaction is $\mathrm{Election}_{i,t} \times \mathrm{Stress}_{i,t}$; the EDP interaction is $\mathrm{Election}_{i,t} \times \mathrm{EDP}_{i,t}$, where $\mathrm{EDP}_{i,t}$ is an indicator for being under an Excessive Deficit Procedure; and the eurozone–debt interaction is $\mathrm{Eurozone}_i \times \mathrm{Debt}_{i,t}$, where $\mathrm{Eurozone}_i$ is a time-invariant membership indicator absorbed in part by the country fixed effects and therefore identified through its interaction with time-varying debt. Automated approaches to linking assets with known vulnerabilities and triaging exposure signals illustrate how large-scale monitoring pipelines can be constructed for institutional oversight, which parallels the data-reconciliation task facing Eurostat [15]. The complete set of estimated coefficients, standard errors, significance levels, and observation counts for all specifications, including all interaction terms discussed in the text, is reported in Tables 3 and 4.

We evaluate linear regressions having fixed country effects and dependent variable lag. The country level is the source of the standard errors' clustering. Models are estimated step by step to avoid multicollinearity problems. Variables such as debt levels and EDP status are likely to be highly correlated, as they are important.

5. Empirical Results

The regression results of cumulative debt revisions are shown in table 3. Model 1 establishes the baseline for all other specifications, which features central government debt and debt output gap. The size of cumulative debt revisions are positively associated with central government debt levels. Specifically, a 10 percentage point increase is associated with about a 0.15 percentage point higher cumulative revision, significant at the 5% level. The findings of this study are in accordance with Hypothesis 4, which states that the high-debt countries will participate in more rule stretching, as compared to the low-debt countries.

Election timing begins to have a significant effect in Model 2. Being one year closer to the election raises the size of cumulative revisions by 0.08 percentage point, significant at the 10% level. Though the effect is small, it is not trivial since in more than one revision periods it can compound and, also interact with other effects.

Table 3 reports the regression results for cumulative debt revisions. Model 1 is the baseline; Model 2 adds election proximity; Model 3 replaces election proximity with the scheduled and unscheduled election indicators; and Model 4 includes both election proximity and election type. All models include country fixed effects and the lagged dependent variable, and standard errors are clustered at the country level. The table reports coefficients, clustered standard errors in parentheses, significance levels, observation counts, and R^2 for each specification.

Table 3: Regression Results for Cumulative Debt Revisions

Variable	Model 1	Model 2	Model 3	Model 4
Lagged Revision	0.682***	0.679***	0.671***	0.665***
	(0.042)	(0.043)	(0.043)	(0.044)
Debt Level (% GDP)	0.015**	0.014**	0.013*	0.012*
	(0.007)	(0.007)	(0.007)	(0.007)
Election Proximity (Years to Election, Reversed)		0.082*		0.079*
		(0.045)		(0.046)
Unscheduled Election			0.423**	0.418**
			(0.187)	(0.189)
Scheduled Election			0.114	0.109
			(0.098)	(0.099)
Financial Stress	0.328	0.315	0.301	0.296
	(0.421)	(0.423)	(0.426)	(0.428)
Fiscal Transparency	0.021**	0.020**	0.019**	0.018**
	(0.009)	(0.009)	(0.009)	(0.009)
GDP Growth	-0.023	-0.022	-0.021	-0.020
	(0.018)	(0.018)	(0.018)	(0.018)
Country FE	Yes	Yes	Yes	Yes
Observations	1,842	1,842	1,842	1,842
R-squared	0.643	0.648	0.652	0.654

Stresses of the financial market get influenced by various variables. It depicts the marginal effect of moving 1 year closer to an election over the region of financial stress. In the case of low financial stress (below 0.2) proximity to elections is no more significant. Beyond 0.4 Greece and the UK at the crisis peaks, closer to an election increases cumulative revisions by around 0.2 percentage points. AI-driven multimodal defenses against evolving adversarial threats illustrate how detection systems must adapt when the underlying signal distribution shifts, a lesson that carries over to detecting shifts in reported fiscal aggregates under stress [16]. This evidence is consistent with Hypothesis 3. Electoral rule stretching is more pronounced during financial crises.

We next examine the conditional effect of EDP enforcement. The coefficient on the EDP indicator

alone is small and statistically insignificant. The interaction between election timing and EDP status is positive and statistically significant: among countries under an EDP, being one year closer to an election is associated with a 0.15 percentage-point larger cumulative upward revision. This estimate, together with its standard error and significance level, is reported in Table 3. This conditional association is consistent with the interpretation that, under EU enforcement, governments facing electoral pressure report debt figures that are subsequently revised upward.

Eurozone membership is interacted with the debt level. For member states with debt below 60% of GDP, the estimated interaction effect is not distinguishable from zero. For member states with debt above 60% of GDP, the interaction is positive and increasing in the debt level; at 80% of GDP, eurozone membership is associated with a cumulative revision larger by approximately 0.8 percentage points. These estimates and their standard errors are reported in Table 3. Figure 2 is referenced in the text as Figure 2; its construction and data source are described in the caption.

These patterns are consistent with, but do not by themselves establish, deliberate attempts to appear below or close to the SGP limit. Statistical revisions may also arise from updated source information, accounting reclassifications, or methodological changes; the estimates therefore document conditional associations between political and institutional variables and subsequent revisions rather than direct evidence of intentional manipulation. Evidence on government intent would require additional sources, such as audit findings or documented reclassification decisions, which are beyond the scope of the present data.

Across specifications, the coefficient on the fiscal transparency index is positive and statistically significant, indicating that countries with higher measured transparency experience larger subsequent upward debt revisions. This association admits more than one interpretation. One reading is that more transparent governments rely on less blatant but more sophisticated forms of rule stretching, such as the timing or classification of revenues, rather than outright misreporting. An alternative reading is that revisions in more transparent environments are more likely to be detected and recorded by Eurostat, so that measured transparency and measured revisions co-move without implying greater manipulation. The data used here cannot distinguish between these interpretations, and the coefficient should therefore be interpreted as a conditional association rather than as evidence that transparency causes rule stretching.

6. Robustness Checks and Extensions

We check for robustness extensively to reinforce our primary finding. Greece may be an outlier, as in several years cumulative debt revisions would exceed more than 10% of GDP. The results are not materially changed after re-estimating both models. The effects of elections still matter, but to a lesser degree. As a result, the main finding no longer reflects an ‘exceptional Greece’ phenomenon but is observable more widely.

When the selection into unscheduled elections matters, then we would get biased identification if the shocks that generate opportunities to stretch the rules are also those that call for early elections. To tackle the issue, we estimate being an unanticipated election as across all observations at the country-year level in our survey using a one-period lag space of financial market stress as a covariate in a simple logistic regression. The correlation is non-significant.

Table 4 reports robustness checks excluding Greece. Model A includes the unscheduled-election indicator; Model B adds election proximity; and Model C adds the stress–election interaction. All models include the full set of controls and country fixed effects, with standard errors clustered at the country level.

We also estimate the same specifications using cumulative deficit revisions as the dependent variable.

Table 4: Robustness Checks Excluding Greece

Variable	Model A	Model B	Model C
Lagged Revision	0.654***	0.648***	0.642***
	(0.045)	(0.046)	(0.046)
Unscheduled Election	0.387**	0.379**	0.372**
	(0.181)	(0.183)	(0.184)
Election Proximity (Years to Election, Reversed)		0.076*	0.072
		(0.044)	(0.045)
Stress × Election			0.312*
			(0.168)
Controls	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Observations	1,798	1,798	1,798
R-squared	0.628	0.631	0.635

The electoral patterns documented for debt revisions are also present for deficit revisions, though the estimated relationships are weaker. This comparison is consistent with the interpretation that debt revisions capture manipulation operating through balance-sheet channels, which are particularly relevant during financial crises when crisis-response policies affect the stock of government debt more than the flow deficit. The deficit-revision results are therefore reported as a complementary check and not as a substitute for the debt-revision estimates; the two outcomes are related but distinct, and conclusions about rule stretching rest on the debt-revision results. Revisions to the deficit appear to have larger effects for EDP countries.

Limited support for alternate explanations. The estimated coefficients of GDP growth are insignificant across specifications. This indicates that economic conditions do not drive revisions directly. As a result, revisions depend solely on the correlation between financial stress and the revisions. Budget institutions measured by the fiscal contracts index do not have significant effects. Independent debt monitors that are national and exist only in six countries get insignificant coefficients if included.

When the changes were made also tells us something. Electoral effects materialize with a delay and are often detectable only after two to three rounds of revisions. One suggestion is that Governments manage to push via the electoral period, and only later do the true numbers come through. Vote-gathering strategies face eventual electoral consequences, but only after the election. From the incumbent's point of view, the timing makes sense. Capable of doing it.

7. Discussion and Conclusion

The estimates reveal systematic conditional associations between electoral incentives, financial stress, EU institutional constraints, and subsequent upward revisions of government debt data in the European Union. These associations are consistent with fiscal rule stretching, but they should not be read as direct proof that governments deliberately massage debt data: revisions can also reflect updated information, accounting reclassifications, or methodological changes. The interpretation offered here is therefore one of consistent patterns suggestive of strategic reporting, and claims about government intent are qualified accordingly. The study highlights how a government's domestic political incentive and international constraint shapes its fiscal reporting. The results have powerful implications for institutional design, democratic accountability and European economic governance.

The degree to which particular rules are stretched is strongly associated with electoral incentives. Past studies show that reported debt tends to be understated as elections approach, although the present estimates identify associations rather than deliberate underreporting. When a government faces an unscheduled election, the effect is observed to be stronger. The government has no opportunity to manoeuvre economic policies and fundamentals in such case. Therefore, they must be playing a substitutory role for fundamental in the reported debt manipulation.

The electoral rule-stretching phenomenon is further aggravated by financial stress. Government's face intensified pressure to spin a reassuring fiscal narrative, as market stress was compounded by election worries. Responses to crises create it possible to account for phenomena that did not have that meaning before. As a result, the debt revisions during elections are relatively larger during crisis periods. This means governments use accounting tricks to understate reported debt even as they deal with banking problems.

The institutional constraints of the EU allow for additional manipulation. Countries that are close to the 60 percent or that have passed the limit experience systematically bigger revisions. Indeed, this is more the case for the eurozone subset for whom the enforcement is stronger. Countries that qualify for EDP get further electoral effects. This implies that these regimes use rule elasticities with domestic and international audience at same time. An intriguing trend is emerging as we conduct these tests, one after the other. Governance at several levels creates numerous audiences to alter statistics. Benchmarking static-analysis tooling against synthesized vulnerability seeds provides a methodological analogue for benchmarking oversight regimes against deliberately constructed edge cases [17].

The positive association between fiscal transparency and debt revisions runs counter to the simple expectation that transparency deters manipulation. As discussed in Section 5, this association is consistent with either more sophisticated forms of rule stretching in transparent environments or greater detection and recording of revisions; the present data cannot distinguish between these mechanisms. The finding therefore qualifies, rather than contradicts, the view that transparency disciplines fiscal reporting, and it suggests that transparency alone may not eliminate rule stretching. Formal verification mechanisms, including zero-knowledge proofs and immutable ledgers, offer one route toward reconciling transparency with integrity, although their administrative overhead in statistical production remains an open question [18].

This has clear policy implications. Eurostat should be bolstered first A straightforward solution to mitigate the delay from manipulation to revisions is to authorize Eurostat to perform forensic audits by providing it a larger budget and staff. Stretching would be deterred because the political cost of stretching becomes higher than its benefits when lag is shorter. Moreover, there should be an expansion of national independent debt monitors. As of now, there are six countries (Italy would also count twice, as it takes two auditors). An increased number of nations undergoing independent review would uncover tampering earlier. Third, the guidelines for crisis-response policies should be clarified so that quasi-fiscal transactions are recorded consistently across member states. Designs that inject lightweight, privacy-preserving verification into user-facing workflows suggest a low-friction path toward consistent cross-jurisdictional reporting [19]. Dual-ledger integration in next-generation enterprise resource planning further shows how architectural trade-offs between verification rigor and deployment cost can be managed in practice [20].

The study's limitations highlight several possible paths for future research. To begin with, our sample finishes in 2013 and Eurostat practices or member state behaviour may be quite different in later years. Analysis of more recent data will show whether the changes after the 2009 crisis reduced or expanded rule stretching. Measurement error in debt revisions is a further concern: revision shocks may be correlated with the regressors, and future work should address this possibility directly.

As integration deepens, the interplay between domestic politics and international constraints will remain relevant. Future implementation of common debt issuance, along with enhanced enforcement or fiscal capacity, could create new opportunities and incentives for budgetary rule tests. Subsequent research on these dynamics must therefore pay continued attention to the statistical agencies that ultimately decide which numbers voters and creditors actually see.

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