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## Defying the 'Juncker Curse': Can Reformist Governments Be Re-elected?

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In May 2008, it will be ten years since the final decision to move to the third and final stage of Economic and Monetary Union (EMU), and the decision on which countries would be the first to introduce the euro. To mark this anniversary, the Commission is undertaking a strategic review of EMU. This paper constitutes part of the research that was either conducted or financed by the Commission as source material for the review.

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# Defying the 'Juncker Curse': Can Reformist Governments Be Re-elected?

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## Abstract

European policy makers, notably in the euro area, seem to take for granted that the electorate will punish them for bold reform in product and labour markets. This may explain why progress in the euro area has been comparatively limited. This paper posits and, using a dataset for 21 OECD countries, shows that this fear of electoral backlashes is unfounded, provided that financial markets work well. The mechanisms involved are relatively straightforward: well functioning financial markets "bring forward" future yields of structural reform to the present, thus permitting to overcome possible short-run costs. As a result, the electorate tend to reward, not punish, reformist governments. This has important implications for the design of structural reform packages, with financial market reforms being an essential ingredient beside product and labour market reforms.

JEL classification: E61, H30, H60 and H70

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Disclaimer: The views expressed in this paper represent exclusively the positions of the authors and do not reflect necessarily those of the European Commission or the Debenedetti Foundation.

"We all know what to do, but we don't know how to get re-elected once we have done it."

Jean-Claude Juncker, Prime Minister of Luxembourg and President of the Eurogroup.  
The Economist (2007), "The Quest for Prosperity", March 15th.

## 1. Introduction

The above quote, attributed to one of Europe's leading policy makers, reveals two things: first, politicians are deeply aware of the need for structural reform in Europe – in particular in the euro area where structural reform has actually slowed down since the inception of the single currency (European Commission, 2008, and Duval and Elmeskov, 2005) – and, second, yet they are reluctant to bite the bullet out of fear to lose the next general elections. Of course, this fear is rooted in experience: structural reforms – ranging from the abolition of state monopolies to making labour markets more flexible – invariably meet strong opposition from vocal interest groups while the benefits of reforms are more diffused and are believed to arise only in the future – hence beyond the term in office of the current ruler. But does this also mean that incumbent governments get punished by the electorate if they push through bold structural reforms? This paper will argue that this fear is largely unfounded; in particular if a number of conditions are met.

A *prima facie* examination of the elections and structural reform records for 21 OECD countries reported in this paper shows that a small majority of incumbent governments (50 – 55%) are re-elected for a next term in office *no matter what*, i.e. be they reformist or non-reformist. This confirms findings from a recent series of case studies that reformist governments, even if they have to overcome initial resistance and misconception, do tend to get re-elected (Munkhammar, 2007). Our paper could simply stop here, taking the view that structural reforms are apparently irrelevant for the re-election probabilities of incumbent governments. But we want to go one step further, asking ourselves under which conditions structural reform can actually *raise* the incumbent's probability of re-election. Our prior, and the hypothesis we will be testing extensively in this paper, is that the stage of development of financial markets matters a lot for the re-election probabilities of reformist governments.

Overall, our expectation is that with well-functioning financial markets structural reforms will meet a more positive reception by the electorate and will be more likely carried out by governments.

Well developed financial markets permit to improve consumption smoothing. Expanded lending and borrowing possibilities allow a smoother pattern of consumption over time. The availability of a wider range of investment opportunities and income sources improves risk sharing and permits to smooth consumption across states of nature. Both these financial market channels have implications not only for private investment but also for the feasibility of structural reforms. Enhanced inter-temporal substitution makes reforms more feasible by bringing forward their benefits to all the agents that can borrow against future expected income streams associated with reforms. Moreover, owing to structural reform, investment opportunities open up that will attract new capital, including from abroad. Meanwhile agents' financial wealth would benefit from the fact that future reform gains are reflected into higher asset valuations. But this also means that, even in the presence of short-run costs, reforms would be perceived as bringing overall gains. Analogously, better risk sharing would increase the likelihood of reforms by making agents more resilient to reform-related temporary income shocks. Additionally, well-functioning financial markets, by reducing the share of liquidity-constrained households, make the economy more "Ricardian". This means that fiscal policy is less effective and hence the government will be less tempted to use it for boosting short term demand. As a consequence, it will be more inclined to take the hard way of structural reforms than the short-cut of opening the public purse.

A cursory look at the data suggests that the above conjectures may contain some truth. Indeed, from the data emerges *prima facie* evidence that, of all reformist governments that have been re-elected, 65% was governing a country with relatively pro-competitive financial market regulations, whereas, the corresponding share among non-reformist governments was only 50%. More sophisticated testing reported in this paper strongly confirms this *prima facie* evidence.

It is important to add that the consumption-smoothing and risk-sharing roles are not unique to financial markets. Social security can in principle also provide this. In fact, recent evidence shows that financial markets and automatic stabilisers can be alternative means to smooth output volatility (Debrun, Pisani-Ferry, and Sapir (2008)) or to promote the acceptance of globalisation (Bertola (2007)). Thus, if well-designed, social security may be expected to strengthen and complement the role of financial markets in softening the resistance against structural reform. While there is little *prima facie* evidence that fiscal automatic stabilisers would play any role in making reformist governments more popular, the more sophisticated testing procedures reported in this paper do support this.

How do these findings relate to the existing literature? A relatively large literature has developed to analyse the political economy determinants of reform-inertia (see, e.g., Drazen (2000) and European Commission (2005) for a survey). Several theories have been advanced to explain why reforms are delayed or blocked altogether. Reforms, although bringing aggregate benefits, may hurt specific categories, which tend to be strongly organised (Olson, 1971). An alternative political economy explanation for why reforms could be blocked relies on uncertain reform payoffs at the individual level. When individuals are uncertain about whether they will benefit from a given reform, there could be ex-ante a majority of individuals in favour of blocking the reform even when ex-post the reform benefits a majority of citizens (Fernandez and Rodrik (1991)). The argumentation is thus similar to the ones explaining why governments delay fiscal consolidation (Alesina and Drazen, 1991) or are tempted to run fiscal deficit (Tabellini and Alesina, 1990). However, to our knowledge, no attempt so far has been made to test empirically the impact of structural reforms on governments' re-election. The few existing cross-country analyses on the determinants of re-election, such as Powell and Whitten (1993) and Brender and Drazen (2008) do not include structural reform among their explanatory variables.

We aim to fill this gap and use an empirical research set-up akin to that of Brender and Drazen (2008). Their study is based on a large panel of developed and developing countries and focuses on the impact of deficits and growth on the re-election probability, controlling for a comprehensive set of political and institutional controls. We follow a similar approach, but include structural reform indicators among the explanatory variables of the re-election probability. We use data for 21 OECD countries over the 1985-2004 period. The results show that reforms per-se have no significant impact on the probability of re-election. However, if financial markets are well developed, the electorate may reward, not punish, reformist governments. This has important implications for the optimal packaging of structural reforms, with financial market liberalisation going hand in hand with product and labour market reform.

The remainder of the paper is organised as follows. The next section presents a simple theoretical model aimed at clarifying the conditions under which growth-enhancing reforms could be electorally least costly. Section 3 is devoted to the empirical analysis. Section 4 concludes.

## **2. Reforms and re-election: a simple model**

The aim of this section is to develop a simple model to study the conditions under which reforms have an adverse impact on electoral outcomes. We build a stylised framework for analysis that allows us to trace the impact of structural reform onto economic activity and, in turn, on voters' choices. This conceptual set-up will turn useful in motivating the selection of the explanatory variables in our empirical analysis. Regarding the role of financial markets, the focus will be on their role as facilitators of resource transfers across time, which would improve the feasibility of reforms by bringing forward the gains.

### **2.1. The economy**

To keep the analysis simple, we consider a two-period framework: period 1, representing a short- to medium-term time frame, and, period 2, which corresponds to events taking place over the- to long run. Agents' generations in the model live for 2 periods and are not overlapping. Incumbent governments are also appointed for 2 periods. Agents, however, care about future generations in that they care about their welfare when deciding whether to confirm or vote out incumbent governments.

The model has similarities with the one developed by Buti, Röger and Turrini (2007), the main difference being that it is extended with a feedback mechanism of output in period 2 onto permanent income and aggregate demand in period 1. This permits to capture the impact of structural reform in period 1, via supply (or potential output) in period 2, onto permanent income and demand in period 1. This channel is expected to be strong if financial markets are well-developed and the holding of financial assets widespread: in that case the increases in asset prices associated with structural reforms will produce positive wealth (or permanent income) effects onto aggregate demand in period 1. By the same token, if financial markets are well-developed, the impact of fiscal policy on aggregate demand in period 1 will be smaller or may even change sign. The reason is that financial markets anticipate future fiscal consolidation, and thereby depress permanent income and aggregate demand in period 1. This mechanism is well-known and extensively studied in the literature to explain "expansionary fiscal contractions" through the expectation channel, but we know of no study where the same transmission channel is applied to structural and fiscal policy alike in one model.<sup>1</sup>

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<sup>1</sup> See e.g. European Commission (2003) for a survey.

The model consists of an aggregate demand equation and a Phillips curve for period 1, an aggregate supply equation for period 2, a Taylor rule to describe monetary policy in period 1, and a fiscal policy rule that relates the budget balance to economic activity. Expressing all variables in terms of deviations from their steady state values, the equations write as follows:

$$(1) \quad Y_1 = \phi_1 D - \phi_2 \pi_1 - \phi_3 (i_1 - \pi_1^e) + \phi_4 Y_2 - C$$

$$(2) \quad D = -\tau Y_1$$

$$(3) \quad i_1 = r_1 + \mu(\pi_1 - \pi^T)$$

$$(4) \quad C = \gamma R + \varepsilon$$

$$(5) \quad Y_i = Y_i^* + \omega(\pi_i - \pi_i^e) \quad i = 1, 2$$

$$(6) \quad Y_2^* = \theta R$$

According to equation (1), aggregate demand in period 1,  $Y_1$ , responds to the fiscal deficit  $D$  and to output in the next period,  $Y_2$ . It is assumed that fiscal policy is on an 'automatic pilot', meaning that automatic stabilisers are left to operate in a symmetric fashion and no discretionary fiscal measures are enacted. This fiscal behaviour is captured by equation (2), where  $\tau$  roughly approximates the share of tax revenue in GDP. In a micro-founded framework with a fraction of agents choosing consumption on the basis of inter-temporal maximisation and a fraction constrained by their current income, the relative size of coefficients  $\phi_1$  and  $\phi_4$  would be related to the share of liquidity-constrained agents, with the former coefficient rising and the latter falling. Additionally, aggregate demand in period 1 responds negatively to inflation  $\pi_1$  (which captures e.g. a loss of demand via the trade balance) and real interest rates in period 1, with the latter gauged by the difference between the nominal interest rate  $i_1$  and the expected inflation  $\pi^e$ . Equation (3) is a standard Taylor rule, relating the interest rate to the neutral interest rate  $r_1$  to the gap between actual and target inflation (denoted by the superscript  $T$ ). The responsiveness of monetary policy to inflation depends on the importance attached to the inflation target by the central bank,  $\mu$ . Finally, aggregated demand depends on short-run costs of reforms – equation (4) – which may be due to a loss in confidence, a loss of rents associated with the pre-reform status quo, or a temporary increase in job destruction.<sup>2</sup> Short-run reform costs have a component proportional

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<sup>2</sup> Simulations based on a small scale econometric model contained in IMF (2004) show that product and labour market reforms take time to produce positive effects on output.



to the size of reforms,  $\gamma R$ , and a random component  $\varepsilon$ . This random term reflects costs of reforms – e.g. related to perceptions or political mood – that are not known with certainty ex-ante.

The Phillips curve for both time periods (Equation 5) is standard and upward sloping, relating the difference between aggregate supply  $Y_i^*$  and aggregate demand to the inflation surprise (i.e. the difference between actual and expected inflation). Parameter  $\omega$  inversely measures the slope of the Phillips curve and is an (inverse) measure of the degree of market flexibility. Finally, equation (6) states that aggregate supply in period 2 is positively affected by structural reforms with their impact captured by parameter  $\theta$ .

The system is closed by assuming that potential output in period 1 is given and normalised such that  $Y_1^* = 0$ , while the central bank is credibly committed to steer the economy to equilibrium in period 2, so that  $\pi_1^e = \pi_2^e = \pi_2 = \pi^T = 0$ . Note that the latter assumption implies that in period 2  $Y_2 = Y_2^*$ . If, without loss of generality, it is furthermore assumed that  $r_1 = 0$ , equilibrium output in both periods are obtained as follows:

$$(6) \quad Y_1 = \frac{(\phi_4 \theta - \gamma)R - \varepsilon}{1 + \phi_1 \tau + (\phi_2 + \phi_3 \mu) / \omega}, \quad Y_2 = \theta R,$$

Note that if  $\gamma R + \varepsilon < \phi_4 \theta R$  the impact of structural reform on aggregate demand in period 1 is positive in spite of the fact that their impact on potential output is assumed to be positive only in period 2. This is the "super-Say's law" case in which the permanent income effect of structural reform outweighs the negative short-term impact on demand, so that improved supply conditions also lead to stronger aggregate demand at impact.<sup>3</sup> Note also that a big government (a large  $\tau$ ) and flexible markets (small  $\omega$ ) reduce the size of the impact of the reform multipliers.

## 2.2 The re-election probability in the wake of structural reform

Under which conditions may reforms and other policies which are ex-ante desirable lead to re-election? Since reforms are essentially risky activities, it could be the case that ex-ante optimal policies may lead governments not to be re-elected. We illustrate on the basis of the

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<sup>3</sup> Thygesen (2004) attributes super-Say's Law to Val Koromzay, a former Director in the Economics Department of the OECD.

simple macro model outlined above how this uncertainty interacts with the overall policy environment in driving election outcomes.

Consider an incumbent government that sets irrevocably its policies for the current period and the future (period 2). The mandate of the incumbent is also 2 periods. At the end of the mandate, the incumbent could be confirmed for another mandate or voted out (could be elections or a new coalition substituting the old). If it is confirmed, then the incumbent will have to solve an analogous problem to that in its first mandate. Assume further that the random implementation cost of reforms  $\varepsilon$  is not known when policies are set. At the beginning of period 1, the incumbent sets the policies in such a way to maximise the expected value of the representative agents' utility function:

$$(7) \quad E_{\varepsilon} [U(Y_1) + \beta U(Y_2)],$$

where  $U(\cdot)$  is monotonically increasing and concave and  $\beta$ ,  $0 < \beta < 1$  is a discount factor.

Hence, the incumbent is a maximising utilitarian agency. The chosen reforms, that we denote by  $R^*$ , are ex-ante socially optimal and, as will be clear in the following, are also the policies that maximise ex-ante the probability of re-election. Re-election, however, is not guaranteed because ex-post results are uncertain and may be judged as excessively disappointing by the electorate. At period 1, after the policies are set,  $\varepsilon$  is known. Since the realisation of  $\varepsilon$  is incumbent-specific, the reform cost  $\varepsilon$  will be the same in the future mandate of the incumbent. In this respect,  $\varepsilon$  is a measure of incumbents' ability as reformers. It follows that, depending on the realisation of implementation costs  $\varepsilon$ , the incumbent could be re-confirmed or replaced after having terminated its mandate.<sup>4</sup>

We assume that the incumbent re-confirmed if and only if

$$(8) \quad U(Y_1(R^*, \varepsilon)) + \beta U(Y_2(R^*)) \geq \bar{U},$$

i.e., if the representative agents' utility corresponding to the actual realisation of the random component of reform costs ( $\varepsilon$ ) falls short of a given minimum. Note that:

- $U(\cdot)$  is monotonically increasing in  $Y_1$ , and therefore invertible;
- Only  $Y_1(R^*, \varepsilon)$  is affected, negatively, by  $\varepsilon$ ;

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<sup>4</sup> It does not matter for the result of the analysis whether this random development is assumed to be caused by the structural reform or, alternatively, assumed to be an exogenous adverse demand shock that changes the electorate's view on the desirability of the reform. See for an example of the latter interpretation Poplawski Ribeiro and Beetsma (2006).

- The fact that the incumbent government cares about the future (period 2) matters for its own confirmation.

By equation (9), the incumbent is re-confirmed if and only if

$$(9) \quad Y_1(R^*, \varepsilon) \geq U^{-1}(\bar{U} - \beta U(Y_2(R^*))) \equiv \hat{U},$$

where the term  $\hat{U}(R^*)$  represents the minimum level of period 1 income necessary for reappointment. Note that, since  $U^{-1}(\cdot)$  is monotonically increasing,  $\hat{U}$  must fall with period 2 income, so that  $\partial \hat{U} / \partial R^* < 0$ . This implies that a higher income in period 2, brought about by more ambitious reforms make the electorate ready to accept a somewhat lower income in period 1 and still re-elect the incumbent government.

Using equation (6), one gets that (10) is satisfied if and only if:

$$(10) \quad \varepsilon < (\phi_4 \theta - \gamma)R - (1 + \phi_1 \tau + (\phi_2 + \phi_3 \mu) / \omega) \hat{U} \equiv \hat{\varepsilon}.$$

Hence, the probability of re-election is the probability that the random component of direct reform costs,  $\varepsilon$  falls short of  $\hat{\varepsilon}$ , i.e.,  $\text{Prob}(\text{re-election}) = F(\hat{\varepsilon})$ , where  $F(\cdot)$  is the distribution function for  $\varepsilon$ .

It is easily seen from equation (9) that  $\hat{\varepsilon}$  rises with the net benefits of reforms on period 1 income,  $(\phi_4 \theta - \gamma)R^*$ . This term is higher the stronger is the indirect impact on first period income associated with period 2 potential output,  $\phi_4 \theta R^*$ . Note in particular that reforms raise the probability of re-election especially when financial markets are developed (high  $\phi_4$ ), because benefiting the economy already in the short run, and when the impact of reforms on period 2 potential output is strong (high  $\theta$ ). The re-election probability also rises with the impact of reforms in period 2 via their effect on the threshold utility from first period income necessary for re-election,  $\hat{U}$ . Recall indeed that  $\hat{U}$  monotonically falls with  $Y_2$ , and hence with  $R$ . Note that the weight of  $\hat{U}$  in the determination of re-election outcomes is bigger the bigger is the term  $(1 + \phi_1 \tau + (\phi_2 + \phi_3 \mu) / \omega)$ , which inversely measures the multiplier of short-run reform costs, and which rises with the size of automatic stabilisers (the tax rate  $\tau$ ) and the degree of flexibility of markets (as measured by  $1/\omega$ ).

Overall, the simple model sketched above suggests that the impact of reforms on re-election probability is a-priori ambiguous and that empirical analyses needs to take into account a

series of framework conditions, notably relating to the likely impact of reforms on potential output, the working of financial markets and the size of automatic stabilisers.

### 3. Empirical analysis

#### 3.1. Data and descriptive evidence

Our aim in this section is to assess empirically the impact of reforms on the probability of re-election. Although our paper is motivated by need to find an explanation for the apparent reform-inertia in euro-area and EU countries, in order to dispose of a sufficiently large sample and to have the possibility of comparing a set of sufficiently different economies, we analyse data for 21 OECD countries.<sup>5</sup> For these countries, we manage to construct both re-election and reform variables over the 1985-2004 period.

Regarding re-elections, our baseline variable has been constructed using data on elections and on information on the length of office of governments' chief executive obtained from the World Bank Database on Political Institutions (Beck et al., 2001). Specifically, the re-election variable is a dichotomic variable defined as follows:

- 1 if an election takes place in year  $t$  and country  $i$  and the same government's chief executive that was in office in year  $t$  is also in office in year  $t+1$ .
- 0 if election takes place in year  $t$  and country  $i$  and the government's chief executive that was in office in year  $t$  is not anymore in office in year  $t+1$ .
- Missing if no election takes place.

As far as reforms are concerned, following Duval (2005), a bold reform is called if in a given country, in a given year, a significant change took place in at least one of the structural indicators summarising the policy stance in the following policy areas: unemployment benefit system, labour taxes, employment protection legislation, product market regulations, retirement schemes.<sup>6</sup> In our baseline specification, we assume that voters have imperfect memory of past policies enacted by incumbent governments, so that we only consider policies that took place in the election year and in the previous one. Therefore, the reform variable

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<sup>5</sup> The countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, UK, USA.

<sup>6</sup> The source of the reform indicators is Duval (2005), where the product market regulation indicator was detrended and all the indicators were standardized across the countries considered in order to allow an easy interpretation of results..

takes the value 1 if in the past two years at least one of the five structural indicators decreases by more than the median negative change, with negative changes denoting a reduction in the extent of distortions.

Figure 1 provides prima-facie evidence whether the probability of re-election appears to be related to the occurrence of reforms in previous years (either in the election year or in the previous one). The figure clearly shows that no significant difference is visible between re-election probabilities in the presence or in absence of reforms. This does not mean that all countries are equally likely to see their governments re-elected after having carried out reforms. Our prior, supported by the findings of the model presented in the previous section, is that re-election of reformist governments would be easier in countries where there is larger room for smoothing short-run reform costs via financial markets or automatic stabilisers.

Figure 2 and 3 provide prima-facie evidence supporting our prior. When countries are divided according to the degree of rigidity of the regulations in their financial sector, as measured by the Fraser Index of Financial Freedom (Gwartney et al. (2007), see the Statistical Appendix for a description of the index), it appears that re-election after reforms is more frequent in countries with less heavily regulated financial markets. Figure 2 shows that the frequency of re-election after reforms is much higher for those countries that at the time of re-election had a Fraser Index above (the whole sample) average. Figure 3 gives some support to the view that larger automatic stabilisers, as measured by the share of current primary expenditure on GDP, facilitate re-election. While in countries with a share of government expenditure below average reformist incumbent are less likely to be re-elected, this is not the case for countries with a government size above average.

The above evidence seems to provide some support that there are framework conditions that facilitate re-election in the aftermath of possibly costly reforms. Of course, this is only prima-facie evidence that does not take into account that re-elections are determined by a whole series of factors that need to be controlled for to assess the impact of reforms. This is the objective of the analysis in the next section.

### **3.2. Probit regressions. Baseline results**

#### **Baseline specification**

In order to analyse the impact of the various possible explanatory factors affecting the probability of re-election, we run multivariate probit regressions. The re-election and the

reform variables used in our baseline regressions are those described in the previous sections. The reform variables only considers reforms that took place during the election year or the previous one. Consistently, in our baseline specification we only consider the values taken in the election year and in the previous years of any macroeconomic variable that can affect re-election probabilities. This means assuming that voters have limited memory, and that are therefore unable to reconstruct the whole sequence of macroeconomic outcomes that took place during the term in office of the incumbent government when formulating their electoral preferences.

In line with the model sketched in the previous section, in addition to our reform dummy, measures of cyclical conditions and of the fiscal stance are included among the macroeconomic factors that affect the probability of re-elections. Cyclical conditions are captured by both the level and the change in the output gap. While the former captures whether the level of economic activity is above or below potential, the latter permits to take into account whether the economy was in an upturn or in a slowdown just before elections. The fiscal stance is measured by the change in the cyclically-adjusted primary balance, which is a standard measure of the discretionary fiscal impulse. In line with previous studies we also include a measure of inflation among the macroeconomic factors that can explain re-election. Since voters are more likely to judge the performance of the incumbent on the basis of how macroeconomic conditions have changed, rather than on their absolute level, the inflation variable has been included in first difference. All the above variables, in our baseline regression are specified as averages over the election year and the preceding year.

To control for country-specific political conditions that may affect the probability of re-election, at given macroeconomic performance, we have included in our baseline regression a series of variables capturing the characteristics of the political system and of the political juncture. All the variables are from the Database of Political Institutions (Beck et al. (2001)) and are described in the Statistical Appendix. Political system variables are dummies indicating whether the political system of each country in each year is parliamentary (vs. presidential), whether the voting system is proportional (vs. majoritarian) and characterised by Parliamentary elections taking place under plurality rule (vs. other types of majority). In addition, we include the years of democratic history of each country as an explanatory variable, on the basis of the finding in previous literature that young democracies have a higher re-election rate and are more subject to political budget cycles (Brander and Drazen (2005)). The variables that capture the particular political juncture in each country, and

notably whether the incumbent variable appears to be "strong" vis-à-vis the opposition, are the margin of majority in the Parliament by the ruling party, a dummy taking value 1 if the ruling party has a majority in all Parliamentary houses, a variable measuring the fragmentation of the opposition, a variable capturing the degree of political polarization between the ruling party and the other main parties. Moreover we control for the composition and the history of the ruling coalition through the longest tenure of a veto player and the possible erosion of its power adding the percentage of veto players who drop the government (see statistical appendix).

### **Baseline results**

Column 1 in Table 1 reports the results from our baseline specification. The estimation method are probit regressions with standard errors robust with respect to heteroschedasticity and within panel (countries) correlation. In column 2 of Table 1 the same specification as in column 1 is estimated excluding political controls. Column 3 replaces political controls with random effects. Column 4 displays results when the sample only includes EU countries.

Overall, results indicate that while cyclical conditions have a rather significant and robust effect on the re-election probability, policy-related variables has a weaker and less robust impact. The strongest explanatory power on re-elections is that of the change in the output gap. It appears therefore when the economy is experiencing an upswing incumbents are favoured in terms of a greater probability of being re-elected. The level of the output gap also exerts a positive impact on the probability of re-election, but statistical significance is borderline. These results complement those obtained in Brender and Drazen (2008), where, in larger panel of developed and developing countries, it is shown that growth increases the probability of re-election, but significantly so only among developing countries.<sup>7</sup>

The fiscal policy variable has a positive and generally non-significant effect on the probability of re-election. Since the variable is specified as the year-on-year change in the primary cyclically-adjusted budget balance, a positive regression coefficient for the fiscal policy variable indicates that a tightening of the fiscal stance increases the probability of re-election. This result is at odds with the common belief that incumbents may have an incentive to loosen strategically the budget in order to expand the economy and enhance this way their probability of re-elections. Controlling for the cyclical variables, fiscal expansion appear

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<sup>7</sup> A weak impact of growth on re-elections is also found in Powell and Whitten (1993), who analyse a cross-section of developed countries, while Alesina and Rosenthal (1995), among others, find a significant impact of growth on re-elections in the US.

rather to reduce the odds of re-election. This result, although being against common expectations, is consistent with a series of studies linking fiscal performance to political outcomes in single countries (Peltzman (1992), Brender (2003), Drazen and Eslava (2007)) and across large country panels (Brender and Drazen (2008)), notably for what concerns developed countries.

The reform variable also appears not to be a significant explanatory factor for re-elections. The regression coefficient is negative, but never significant. The absolute value of the marginal probit coefficient is also small (about 2 per cent), denoting that the fact that a reform takes place close to elections reduces the re-election probability by about 2 per cent only. It appears therefore that, also controlling for other factors that affect the probability of re-election, the prima-facie evidence presented in the previous section is confirmed: reforms per se do not have a strong impact on the re-election of incumbents.

Regarding the performance of political controls, it appears that re-elections are less likely in parliamentary systems. This is in line with Persson and Tabellini (2003) who show that in a parliamentary system the equilibrium rents of politicians are usually higher, therefore inducing the voters' disapproval. The probability of re-election is instead significantly higher with proportional voting rules. Plurality voting rule has a positive but not significant impact, as well as years of democratic history. From the variables capturing the political juncture it appears that, as a rule, a stronger government has a higher probability of re-election. A greater margin of majority, the control over all Parliamentary houses, a much divided opposition are all factors that, other things being equal, tend to increase the probability of re-election. Conversely, a stark polarization between the government and the opposition, a long tenure of a veto player or the erosion of the established majority due to veto players dropping the government diminish the chances of being re-elected.

The main findings regarding macroeconomic and policy variables from the baseline specification in column 1 are confirmed by excluding political controls and by replacing them with random effects.<sup>8</sup> When only EU countries are included in the sample it appears that the reform dummy, although remaining non statistically significant, has a stronger negative impact on re-election probabilities. It also emerges that while changes in cyclical conditions

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<sup>8</sup> Probit random effects are chosen instead of fixed effects due to the biasedness of the regression coefficients of unconditional fixed effect probit models. Random effects appear to have a borderline statistical significance and are therefore not kept in our baseline specification.



and inflation have a comparatively smaller impact on re-elections by constraining the sample to EU countries, the level of the output gap has a stronger explanatory power.

### **Which factors matter for the impact of reforms on re-election probabilities?**

Reforms per se do not appear to affect significantly the probability of re-election. However, there could be conditions that in conjunction with the occurrence of reforms, may either have a positive or negative impact on re-elections. Hence, we perform regressions modifying our baseline specification by interacting our reform variable with a series of macroeconomic and policy variables that are likely to have a possible impact on the link between reforms and re-elections (Table 2).

A first interaction we perform is with cyclical conditions. On the one hand, it is often claimed that periods of crises are required to carry out bold reforms, because only in this way the electorate perceives that "there is no alternative" than re-forming the economy. On the other hand, slow growth and weak cyclical conditions, by adding to the short-run cost of reforms, could have a direct negative impact on re-election probability in the aftermath of reforms. Column 1 in Table reports results for this first interaction and shows that when economic activity is above potential reforms are more likely to have a positive impact on re-elections.<sup>9</sup>

Following our theoretical model, we interact the reform variable with an overall structural indicator capturing the degree of market rigidity (i.e, the "initial conditions" in which reforms take place). As shown by the model, flexible markets reduce the negative multiplier of reforms in the first period, thereby increasing the likelihood that reforms have an overall beneficial impact on re-lection (in terms of our model, parameter  $\omega$  is small). However, a different effect, going in the opposite direction, comes from the fact that the benefit of reforms in terms of enhanced growth potential are weaker when markets are already flexible (in terms of our model, paramter  $\theta$  is small). If this latter effect prevails we should expect therefore that more rigid markets are associated with a more positive impact of reforms on re-election probabilities instead. Column 1 in Table 2 shows that this second effect seems clearly to prevail: reforms are less likely to increase the probability of re-election if taking place under condition in which markets are more flexible than average.

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<sup>9</sup> The variables that are interacted with the reform dummy are standardised in such a way to have zero mean and unit standard deviation. Hence, regression coefficients for the interacted reform variable are interpreted as the change in the regression coefficient associated with a one-standard-deviation change of the interacting variable compared with sample mean.

Regarding the coefficient of the non-interacted reform dummy, it appears to be positive and of borderline significance. The interpretation is that reforms that are carried out in correspondence of average cyclical conditions and initial structural conditions have a positive but barely significant impact on re-election probability.

In column 2 of Table 2 an additional interaction is added to those included in column 1, namely the fiscal impulse variable. Interacting the reform dummy with the change in the primary cyclically-adjusted balance permits to assess whether the simultaneous presence of a fiscal expansion helps governments to get re-elected after having carried out reforms. The estimated coefficient appears to be positive although not significant. In any event, the often-claimed substitutability between structural reforms and fiscal consolidation generated by the fact that both consume "political capital" given in finite amounts does not seem to be supported by the data.

Column 3 of Table 2 complements the analysis by interacting the reform dummy with the Fraser index of financial freedom. The theoretical model sketched above shows that highly developed financial markets can contribute to increase the positive impact of reforms on re-elections since financial markets and financial intermediation allow agents to share in the future gains brought about by growth-enhancing reforms. Results appear to support this hypothesis. The positive and significant coefficient for this interaction indicates that in the presence of financial systems characterised by less anti-competitive regulations that average reforms are significantly more likely to increase the probability of re-election.

The subsequent interaction that is tested is with a measure of government size (column 4). This captures the extent to which automatic stabilisers can cushion the negative short-run impact of structural reforms, thus contributing to higher re-election probabilities in the aftermath of reforms. The hypothesis appears to be supported by the data: when countries have a larger government size than average (as measured by the ratio of primary current government expenditure on GDP) reforms have a significantly more positive impact on re-elections.

Column (5) keeps simultaneously the interaction of the reform dummy both with the financial freedom indicator and with government size. It is confirmed the result that efficient financial markets and automatic stabilisers both contribute to make more positive to impact of reforms on re-elections. Moreover, it emerges that by limiting the sample to EU countries, the result holds qualitatively unchanged (column 6).

Overall, the analysis suggests that, although in general the impact of reforms on the probability of re-election is in general weak and ambiguous, there factors that increase or decrease significantly the probability for incumbent governments to be re-elected after reforms. While it is harder to get re-elected after having reformed an already "flexible" economy, an economy performing above potential, efficient financial markets, and big automatic stabilisers appear to increase the probability of re-elections after reforms. Recent evidence has shown that financial markets and automatic stabilisers, as measured by government size, appear as alternative means to smooth output volatility (Debrun, Pisani-Ferry, and Sapir (2008)) and to facilitate openness to foreign trade (Bertola (2007)). Our analysis highlights a different substitution relation: financial markets and automatic stabilisers are alternative means to facilitate costly reforms because both help to reduce the risk that possible short-run reform costs translate into a lower probability of re-election of incumbent governments.

### **3.3. Robustness checks**

In this section we assess whether the empirical results discussed above are robust to a series of measurement issues that concern the re-election variable, the reform dummy, the definition of the remaining explanatory variables regarding the time horizon considered by voters, and the definition of the variable measuring the degree of efficiency of the financial system. In addition, it will also be analysed in a systematic fashion the robustness of the main results with respect to the countries that are included in the sample, with a view to acquire information of which countries appear to be more determinant to the overall evidence.

#### **Defining re-elections**

A first robustness check concerns the construction of the re-election variable. Our baseline regressions refer to a variable that is constructed as a binary variable taking value 1 if in the year following elections, the same government chief executive is still in power. To take into account the fact that the government is not fully defined by the chief executive but also by the main political forces who take part in it, an alternative re-election variable was constructed taking value 1 if, after election years, the government chief executive is still in power or the new chief executive belongs to the same party. This definition of re-election is less selective than our baseline variable, in that it includes also episode in which the government chief executive changes after the election. Table 3 summarises the results using this alternative

definition of re-election. Qualitative results are broadly confirmed, with the exception of the non-interacted reform dummy, which in this case has a more significant positive impact on re-election, of the cyclical variables (re-elections defined this way are more likely when the economy is below potential) and of the interacted government size variable, whose statistical significance is reduced.

The political cost of reforms may manifest also without the occurrence of elections, since the loss of consensus can also result into an early termination of the mandate of the government chief executive. To capture this possibility, the dependent variable in our probit regressions has been defined as a binary variable taking value 1 in all years in which the same government chief executive remain in power, irrespective of the occurrence of elections. The results, shown in Table 4, although less frequently statistically significant, convey a picture that is broadly consistent with that of our baseline regressions.

### **Defining reforms**

The definition of reforms used in our baseline regressions adopts a criterion that permits to identify a relatively large number of episodes in which reforms took place. The dummy indeed takes value 1 whenever sufficiently bold reforms took place in at least one of 5 different policy fields (see Statistical Appendix). Bold reforms in our baseline reform dummy are identified as changes in the policy indicator above the median positive change. By adopting a more stringent criterion, based on positive changes above 2 standard deviations, results are qualitatively similar to those in our baseline regressions (Table 5).

### **Different assumptions on the relevant time horizon for voters**

Our baseline empirical specification is based on the assumption that voters have less than perfect memory, so that, rather than taking into consideration the whole period during which the incumbent government was in power, they focus on the two years preceding elections. This assumption is to some extent a short cut, and we are interested in checking robustness of results with respect to alternative ways of treating the time horizon considered by voters. We limit our robustness check to two polar cases. In a first case, voters are assumed to be highly myopic, and to take into account only the performance of the economy in the election year. In the second case, voters are assumed to be perfectly rational, in that they take into

consideration the whole period during which the incumbent government chief executive was in power.<sup>10</sup>

Table 6 shows results for the case of myopic voters. Results are broadly the same as those of our baseline regression in Table 2. Results are broadly unchanged also for the case in which voters are assumed to be rational, except for what concerns the change in the output gap, which, appears to play a less relevant role when a longer time horizon is considered.

### **Robustness with respect to countries included in the sample**

The positive interaction of financial development and automatic stabilisers with reforms in increasing the probability of re-election is among the results of interest of our analysis. With a view to assess which countries had a stronger role in driving this result, the same regression as in column 5 of Table 2 was run excluding, one at a time, each country.

Figure 4 reports the results of this exercise in a synthetic way. The graph reports, for each country excluded from the sample, the z test of the coefficients for the interaction of the financial development and the automatic stabiliser variable. If, by excluding a country, the z test falls (rises), this means that this particular country gives a stronger (weaker) contribution to the overall result than the remaining ones.

It appears that while Sweden, the Netherlands and Finland give stronger contribution to the coefficient of the financial freedom variable, Germany, Denmark and France have a relatively strong impact on the coefficient of automatic stabilisers. This suggests that in the former group of countries financial markets have a relatively stronger role in facilitating re-elections in the aftermath of reforms, while in the latter group of countries this facilitating role is played in relatively strong way by automatic stabilisers.

## **4. Concluding remarks**

It is widely believed that what we called the "Juncker's curse" haunts reformist governments throughout the industrialised world. We show in this paper that the electoral fate of governments can actually be enhanced by implementing an ambitious reform agenda, especially if a number of conditions apply.

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<sup>10</sup> More precisely, explanatory macroeconomic variables are averaged over all the years between the election year and the first year in office, extremes included. Weighting the boundary values with the number of months of actual government (after and before election were held) didn't substantially change the results.

Our prior that well-functioning and developed financial markets positively affect the re-election probability of reformist governments is strongly supported by the empirical evidence. The rationale is that efficient financial markets help bring forward the benefits of structural reforms by allowing capital to flow to new opportunities created by the reforms. While testing this hypothesis, moreover, some other interesting results have been obtained. *First*, reforms appear to be more likely to receive a positive reception by the electorate if the economy is in a cyclical upturn. This confirms the call to exploit 'good times' to accelerate the pace of reforms. *Second*, structural reform will positively affect the re-election probability of incumbent governments if the reform need is high, i.e. when the initial structural conditions are poor – and conversely when a lot of reform has already been implemented. This is well in line with what might be expected: it is easy to harvest the low hanging fruit while it is more costly from then onwards. And *third*, a large government size and the associated presence of strong automatic stabilisers may also raise the election probabilities of reformist governments.

Our findings imply that mechanisms softening the possible short-term hardship caused by reforms -- be it via private or public stabilisers -- raise the constituency in favour of reforms and hence help boost the re-election probability of reformist governments. These results are broadly in line with the recent reforms history in advanced economies: countries with more developed financial markets (e.g. Anglo Saxon) or strong income redistribution (e.g. Nordic countries) scoring better than others in terms of reform activism. This has important implications for any advice regarding the optimal packaging of reforms: upfront financial market reforms facilitate reforms in product and labour markets.

All in all, our paper suggests that in addition to the well-known implications of well functioning financial markets on the growth potential and the resilience of economies to shocks, there is also an indirect political economy benefit, neglected so far, which acts by strengthening the constituency in favour reforms, thereby boosting the electoral incentives for governments to make progress with structural reforms in product and labour markets. As such, reforms improving the functioning of financial markets play an important role in defying, and defeating, the "Juncker curse".

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## Statistical appendix

### Re-election variables

All re-election variables have been constructed using data on elections and on information on the chief executive, its party and the main party in the parliament obtained from the World Bank Database on Political Institutions (Beck et al., 2001). They are dichotomic variables focusing on the tenure of a specific political force and its ability to be reconfirmed after an election. The baseline re-election variable is defined as follows:

- 1 if an election (either Parliamentary or presidential) takes place in year  $t$  and country  $i$  and the same government's chief executive that was in power in year  $t$  is also in power in year  $t+1$ .
- 0 if election takes place in year  $t$  and country  $i$  and the government's chief executive that was in power in year  $t$  is not anymore in power in year  $t+1$ .
- Missing if no election takes place

An alternative re-election variable, including also the cases in which the identity of the government chief executive changes, is defined as follows:

- 1 if an election (either Parliamentary or presidential) takes place in year  $t$  and country  $i$  and the same government's chief executive that was in power in year  $t$  is also in power in year  $t+1$  or if the new chief executive officer is different but belonging to the same party as that of the government's chief executive that was in power in year  $t$ .
- 0 if election takes place in year  $t$  and country  $i$  and the government's chief executive in power in year  $t+1$  belongs to a party that is different than that of the government's chief executive that was in power in year  $t$ .
- Missing if no election takes place

Finally, we analyse the determinants of governments' chief executives' tenure irrespective of the occurrence of election. In this case, the variable is defined as follows:

- 1 if in year  $t$  and country  $i$  the same government's chief executive that was in power in year  $t$  is also in power in year  $t+1$ .
- 0 if in year  $t$  and country  $i$  the government's chief executive that was in power in year  $t$  is not anymore in power in year  $t+1$ .

## **Reform variables**

Our baseline reform variable is that used in Duval (2005). It focuses on 5 policy areas: unemployment benefit system, labour taxes, employment protection legislation, product market regulations, retirement schemes. For each one of these an *index of market rigidity* has been constructed, with higher values indicating a higher degree of anti-competitive regulation, and standardized to allow an easy interpretation of the results. In addition, an *overall index of rigidity* was composed as sum of the five indicators for each policy area.

A reform is interpreted as a significant change in either one of these policy areas. We therefore calculate the median negative change of each index in the sample, representing a policy change that, among those that contribute to reduce market rigidity, is between the 50% more and 50% less ambitious policies. The reform variable is a dummy taking value 1 whenever for at least one of the 5 policy indicators, there is a change below the median negative change.

An alternative reform dummy was constructed following a more demanding criterion. In this case, indicators of market rigidity need to undergo a negative change which is, in absolute value, above 2 standard deviations of the distribution of the same indicator.

## **Financial Variables**

To capture the degree of anti-competitive regulations in financial markets we use the indicators of financial freedom made available by the Fraser Institute.<sup>11</sup> The indicator measures, on an inverse scale, the degree of anti-competitive regulations in four areas: bank ownership, foreign bank competition, private sector credit, interest rate controls.

## **Macroeconomic Variables**

Cyclical conditions are represented by the output gap while the fiscal stance net of the economic slack is captured by the cyclically adjusted primary balance, both estimated by the OECD Economic Outlook of June 2007. From the same source is the inflation, calculated as the percentage change of CPI.

## **Political Variables**

All the variables used in the regression as political controls are taken from the World Bank Database of Political Institution (Beck et al., 2001).

### ***System Dummy***

Parliamentary (1), Presidential (0)

Systems with presidents who are elected directly or by an electoral college, in cases where there is no prime minister, receive a 0. In systems with both a prime minister and a president, the following factors are used to categorize the system:

- a) president can veto legislation and the parliament needs a supermajority to override the veto.
- b) president can appoint and dismiss prime minister and / or other ministers.
- c) president can dissolve parliament and call for new elections.

Countries in which the legislature elects the chief executive are parliamentary, except in the case in which it cannot easily recall him (if they need a 2/3 vote to impeach, or must dissolve themselves while forcing him out).

### ***Proportional Representation dummy***

“1” if candidates are elected on the basis of the percent of votes received by their party. “0” otherwise.

### ***Dummy for executive party controlling all houses***

"1" if the party of the chief executive has an absolute majority in the houses that have lawmaking powers; "0" otherwise.

### ***Winner-take-all dummy***

“1” if “plurality” system, i.e., legislators are elected using a winner-take-all / first past the post rule. "0" otherwise.

### ***Opposition Fractionalisation***

The probability that two deputies picked at random from among the opposition parties will be of different parties. If there are any opposition parties where seats are unknown, the variable is missing.

### ***Margin of Majority***

Fraction of seats held by the government. It is calculated by dividing the number of government seats by total (government plus opposition plus non-aligned) seats.

### ***Longest tenure of a veto player***

Measures the tenure of the veto player with the longest tenure. In presidential systems, veto players are defined as the president and the largest party in the legislature. In parliamentary

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<sup>11</sup> For further information, see Appendix 1, Area 5 in <http://www.freetheworld.com/release.html>

systems, the veto players are defined as the prime minister and the three largest government parties.

***How long has the country been democratic?***

This variable records how long parties and prime ministers have been competitively elected.

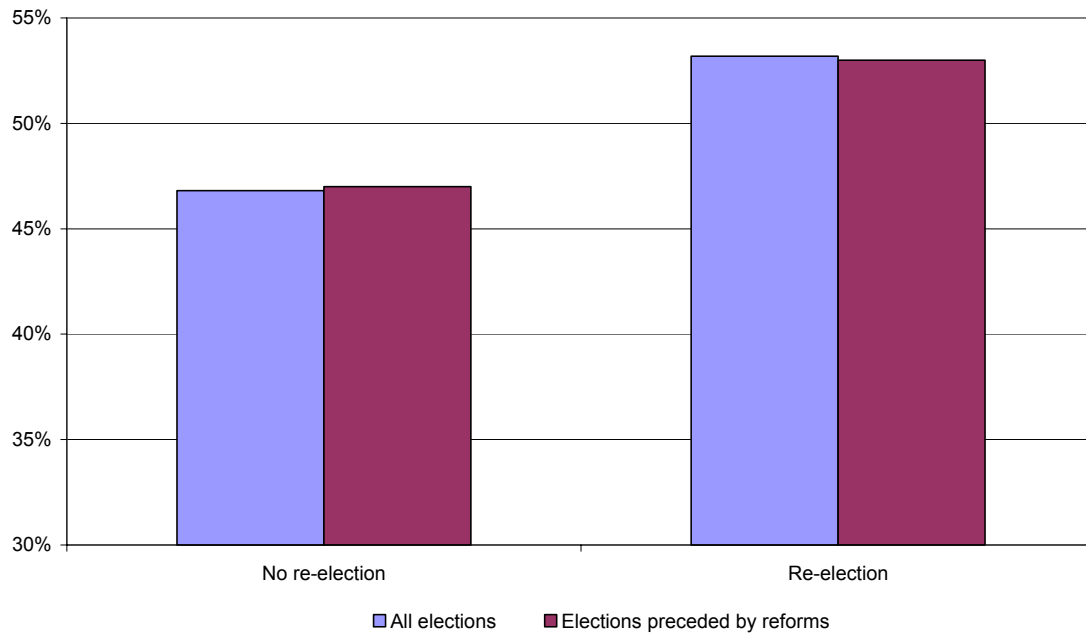
***Maximum polarization between the executive party and the four principle parties of the legislature***

It is zero if the chief executive's party has an absolute majority in the legislature. Otherwise it is the maximum difference between the chief executive's party's value in a left-right political scale and the values of the three largest government parties and the largest opposition party.

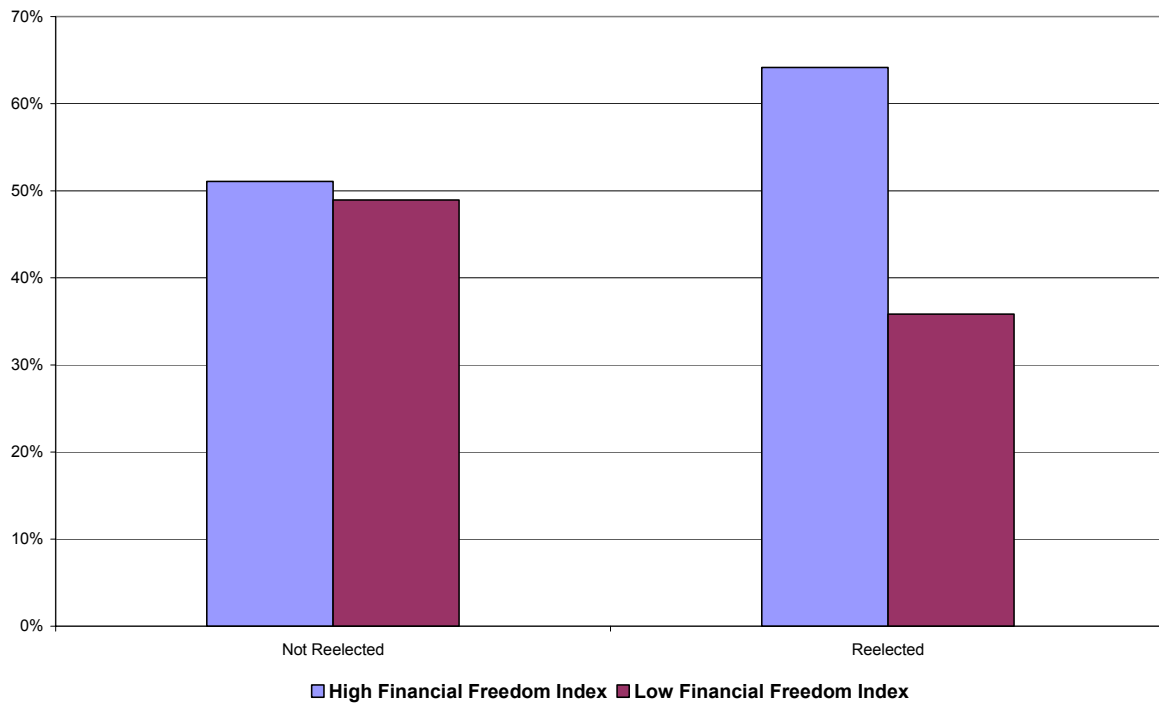
***Percentage of veto players leaving the government***

This counts the percent of veto players who drop from the government in any given year. The larger the number of veto players leaving the government in a given year and country, the lower the degree of control exercised by the government on the legislative or the executive power.

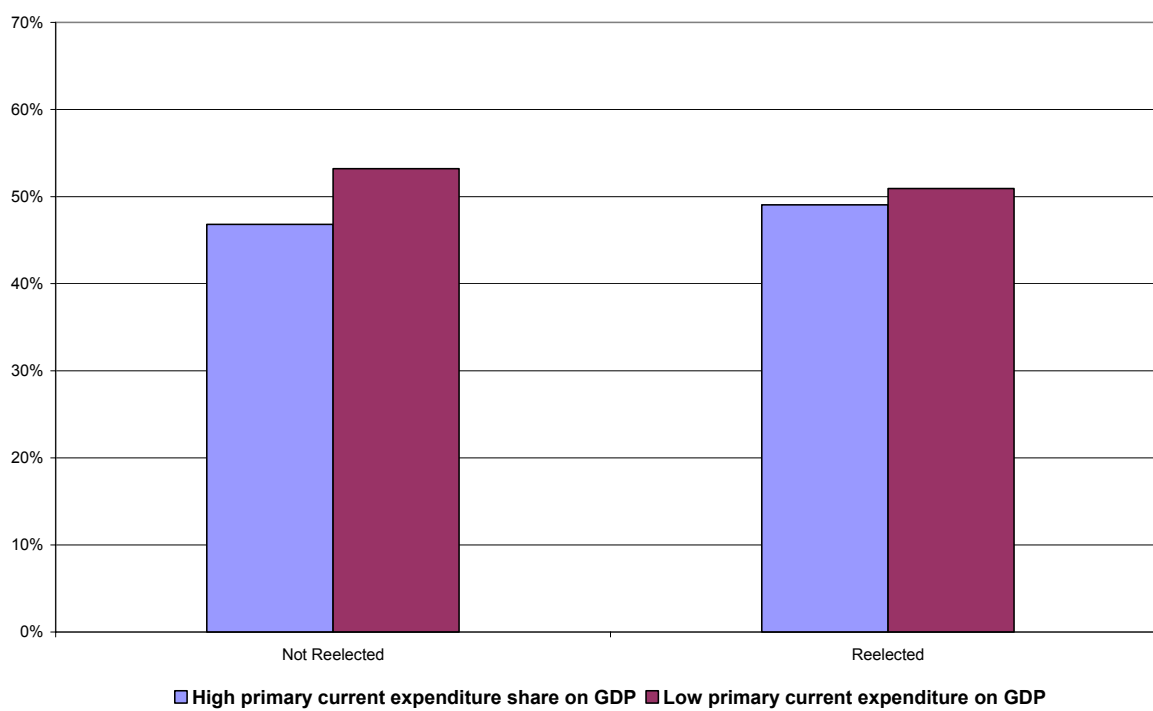
**Figure 1. Probability of re-election and the occurrence of reforms**



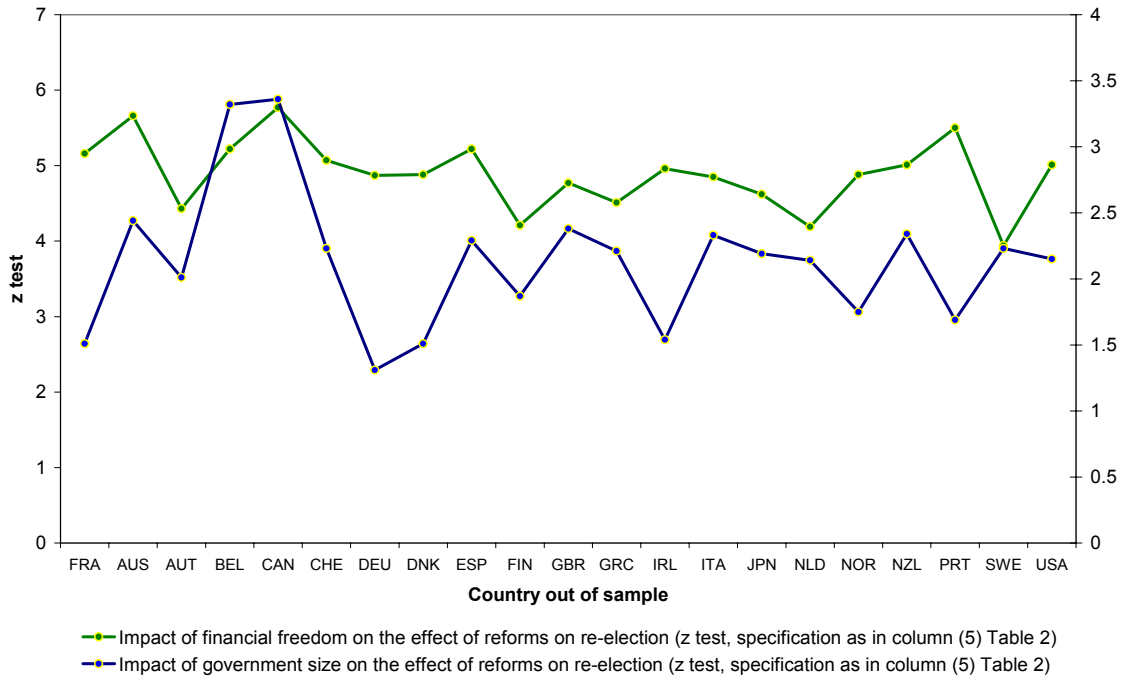
**Figure 2. Probability of re-election and the occurrence of reforms.  
Breakdown by financial freedom**



**Figure 3. Probability of re-election and the occurrence of reforms.  
Breakdown by government size**



**Figure 4. Robustness of results with respect to country sample**





**Table 1: Re-election probability and economic reforms. Evidence from baseline probit regressions.**

	(1)	(2)	(3)	(4)
Dependent variable <sup>1</sup> : 1 the identity of the government chief executive does not change after elections.	Baseline specification	Baseline specification, no political controls	Baseline specification, no political controls and random effects	Baseline specification, only EU countries
Reform dummy <sup>2</sup>	-0.015 [0.09]	-0.101 [0.58]	-0.224 [0.55]	-0.210 [0.87]
Change in cyclical conditions <sup>4</sup>	0.075 [2.24]**	0.085 [3.12]***	0.241 [2.17]**	0.030 [0.80]
Change in inflation <sup>4</sup>	-0.022 [1.65]*	-0.014 [1.16]	-0.037 [-1.45]	0.003 [0.18]
Change in primary CAB <sup>4</sup>	0.086 [1.41]	0.091 [1.89]*	0.232 [1.56]	0.050 [0.63]
Cyclical conditions <sup>4</sup>	0.035 [1.64]	0.033 [1.51]	0.073 [1.27]	0.047 [2.47]**
Parliamentary system dummy	-0.540 [3.45]***			Dropped due to collinearity
Proportional representation dummy	0.479 [1.96]*			0.393 [1.14]
Winner-take-all system dummy	0.084 [0.66]			0.078 [0.34]
Dummy for executive party controlling all houses	0.207 [0.81]			0.147 [0.49]
Margin of majority	1.37 [2.00]**			1.125 [1.52]
Fractionalisation of opposition	0.938 [2.46]**			1.210 [2.95]***
Maximum polarisation between ruling party and opposition	-0.139 [1.95]*			-0.064 [0.84]
Longest tenure of veto player <sup>7</sup>	-0.007 [0.60]			-0.004 [0.36]
Percentage of veto players leaving the government <sup>7</sup>	-0.755 [1.82]*			-0.455 [1.27]
Years of democratic history	0.001 [0.36]			-0.003 [0.85]
Observations	103	110	110	71
Pseudo R square	0.19	0.07		0.18
Test that the fraction of fit variance explained by random effect so zero (P value)			0.08	

Notes: coefficients are marginal probability effects, robust z statistics in parenthesis (absolute value). \*, \*\*, and \*\*\* denote, respectively, significant at 10%, 5%, 1%.

1/ Constructed using "Database of Political Institutions", Beck et al. (2001). 2/ 1 if in the past two years at least one of five structural indicators (unemployment benefit, labour taxes, EPL, product market regulations, retirement schemes) improves by more than the median positive change. 3/ Two-years average of the overall index of market rigidities constructed in Duval (2005). The index rises as distortions fall. 4/ Two-years average of output gap, cyclically adjusted primary balance, inflation and their y-o-y change. Source: OECD Economic Outlook, June 2007. 5/ Two-years average of the index of financial freedom. Source: Fraser Institute for Economic Freedom. Higher scores denote higher freedom. 6/ Two-years average of total current primary expenditure, % of GDP. Source: European Commission AMECO database. 7/ In presidential systems, veto players are defined as the president and the largest party in the legislature. In parliamentary systems, veto players are defined as the prime minister and the three largest government parties. Source: Beck et al. (2001).

**Table 2: Re-election probability and economic reforms. Evidence from probit regressions.**  
**Which factors interact with economic reforms?**

Dependent variable <sup>1</sup> : 1 if the identity of the government chief executive does not change after elections.	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline adding interaction with initial conditions	(1) adding interaction with fiscal stance	(1) adding interaction with financial regulation	(1) adding interaction with government size	(1) adding interaction with both financial regulation and government size	(5), only EU countries
Reform dummy <sup>2</sup>	0.104 [0.56]	0.13 [0.70]	0.171 [0.95]	0.079 [0.43]	0.146 [0.78]	-0.607 [3.73]***
Overall index of market rigidity *reform dummy	-0.243 [2.16]**	-0.241 [2.21]**	-0.211 [1.65]*	-0.412 [3.26]***	-0.305 [2.40]**	-0.204 [2.04]**
Cyclical conditions <sup>4</sup> *reform dummy	0.579 [2.81]***	0.591 [2.94]***	0.706 [2.99]***	0.697 [3.10]***	0.77 [3.17]***	2.931 [5.22]***
Change in primary CAB <sup>4</sup> *reform dummy		0.154 [0.86]				
Financial freedom <sup>5</sup> index *reform dummy			0.415 [5.49]***		0.361 [5.07]***	0.374 [3.84]***
(Total Current Primary Expenditure / GDP) <sup>6</sup> *reform dummy				0.314 [3.08]***	0.177 [2.23]**	0.176 [2.16]**
Change in cyclical conditions <sup>4</sup>	0.07 [1.82]*	0.069 [1.76]*	0.107 [2.18]**	0.093 [2.37]**	0.116 [2.37]**	0.117 [1.89]*
Change in inflation <sup>4</sup>	-0.024 [1.78]*	-0.025 [1.82]*	-0.023 [1.58]	-0.029 [2.18]**	-0.027 [1.72]*	-0.007 [0.28]
Change in primary CAB <sup>4</sup>	0.099 [1.87]*	-0.018 [0.12]	0.046 [0.63]	0.106 [1.77]*	0.058 [0.78]	0.1 [1.03]
Cyclical conditions <sup>4</sup>	-0.18 [2.16]**	-0.179 [2.32]**	-0.245 [2.68]***	-0.201 [2.28]**	-0.253 [2.69]***	-1.004 [5.09]***
Political controls <sup>7</sup>	v	v	v	v	v	v
Observations	101	101	101	101	101	71

Notes: coefficients are marginal probability effects, robust z statistics in parenthesis (absolute value). \*, \*\*, and \*\*\* denote, respectively, significant at 10%, 5%, 1%. All interacted variables are standardised.

1/ Constructed using "Database of Political Institutions", Beck et al. (2001). 2/ 1 if in the past two years at least one of five structural indicators (unemployment benefit, labour taxes, EPL, product market regulations, retirement schemes) improves by more than the median positive change. 3/ Two-years average of the overall index of market rigidities constructed in Duval (2005). The index rises as distortions fall. 4/ Two-years average of output gap, cyclically adjusted primary balance, inflation and their y-o-y change. Source: OECD Economic Outlook, June 2007. 5/ Two-years average of the index of financial freedom. Source: Fraser Institute for Economic Freedom. Higher scores denote higher freedom. 6/ Two-years average of total current primary expenditure, % of GDP. Source: European Commission AMECO database. 7/ In presidential systems, veto players are defined as the president and the largest party in the legislature. In parliamentary systems, veto players are defined as the prime minister and the three largest government parties. Source: Beck et al. (2001).

**Table 3: Re-election probability and economic reforms. Evidence from probit regressions.  
Re-election of chief executive or confirmation of his party**

Dependent variable: 1 if the government chief executive does not change after elections or the new chief executive belongs to the same party	(1)	(2)	(3)	(4)	(5)	(6)
Reform dummy <sup>2</sup>	0.409 [2.08]**	0.397 [1.98]**	0.438 [2.26]**	0.402 [2.09]**	0.435 [2.24]**	-0.264 [1.79]*
Overall index of market rigidity *reform dummy	-0.211 [2.22]**	-0.213 [2.30]**	-0.172 [1.92]*	-0.266 [2.50]**	-0.185 [2.00]**	-0.13 [1.47]
Cyclical conditions <sup>4</sup> *reform dummy	0.414 [2.31]**	0.405 [2.17]**	0.456 [2.32]**	0.453 [2.42]**	0.463 [2.34]**	2.218 [3.21]***
Change in primary CAB <sup>4</sup> *reform dummy		-0.054 [0.36]				
Financial freedom <sup>5</sup> index *reform dummy			0.189 [3.15]***		0.182 [3.00]***	0.269 [2.96]***
(Total current primary expenditure / GDP) <sup>6</sup> *reform dummy				0.107 [1.65]*	0.021 [0.39]	-0.042 [0.83]
Change in cyclical conditions <sup>4</sup>	0.039 [0.97]	0.038 [0.97]	0.061 [1.39]	0.047 [1.15]	0.062 [1.40]	0.092 [1.48]
Change in inflation <sup>4</sup>	-0.008 [0.97]	-0.008 [0.91]	-0.008 [0.85]	-0.009 [1.09]	-0.008 [0.86]	-0.033 [1.89]*
Change in primary CAB <sup>4</sup>	-0.073 [1.81]*	-0.033 [0.27]	-0.1 [2.08]**	-0.074 [1.73]*	-0.099 [2.06]**	-0.149 [2.32]**
Cyclical conditions <sup>4</sup>	-0.137 [2.03]**	-0.136 [1.98]**	-0.162 [2.16]**	-0.145 [2.09]**	-0.163 [2.16]**	-0.827 [3.20]***
Political controls <sup>7</sup>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>
Observations	101	101	101	101	101	71

Notes: coefficients are marginal probability effects, robust z statistics in parenthesis (absolute value). \*, \*\*, and \*\*\* denote, respectively, significant at 10%, 5%, 1%. All interacted variables are standardised.

1/ Constructed using "Database of Political Institutions", Beck et al. (2001). 2/ 1 if in the past two years at least one of five structural indicators (unemployment benefit, labour taxes, EPL, product market regulations, retirement schemes) improves by more than the median positive change. 3/ Two-years average of the overall index of market rigidities constructed in Duval (2005). The index rises as distortions fall. 4/ Two-years average of output gap, cyclically adjusted primary balance, inflation and their y-o-y change. Source: OECD Economic Outlook, June 2007. 5/ Two-years average of the index of financial freedom. Source: Fraser Institute for Economic Freedom. Higher scores denote higher freedom. 6/ Two-years average of total current primary expenditure, % of GDP. Source: European Commission AMECO database. 7/ See Footnote to Table 1.

**Table 4: Re-election probability and economic reforms. Evidence from probit regressions.****The government chief executive stays in power, irrespective of elections**

Dependent variable: 1 if the government chief executive doesn't change, regardless of elections	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline adding interaction with initial conditions	(1) adding interaction with fiscal stance	(1) adding interaction with financial regulation	(1) adding interaction with government size	(1) adding interaction with both financial regulation and government size	(5), only EU countries
Reform dummy <sup>2</sup>	0.05 [0.86]	0.057 [1.00]	0.063 [0.94]	0.059 [1.05]	0.065 [0.99]	0.097 [1.01]
Overall index of market rigidity *reform dummy	-0.044 [0.88]	-0.044 [0.89]	-0.008 [0.19]	-0.082 [1.57]	-0.032 [0.70]	-0.069 [2.26]**
Cyclical conditions <sup>4</sup> *reform dummy	0.09 [1.54]	0.094 [1.62]	0.08 [1.50]	0.109 [1.93]*	0.092 [1.73]*	0.107 [0.88]
Change in primary CAB <sup>4</sup> *reform dummy		0.062 [1.14]				
Financial freedom <sup>5</sup> index *reform dummy			0.11 [3.14]***		0.094 [2.69]***	0.11 [3.19]***
(Total current primary expenditure / GDP) <sup>6</sup> *reform dummy				0.092 [2.52]**	0.047 [1.45]	0.03 [0.94]
Change in cyclical conditions <sup>4</sup>	0.017 [1.27]	0.017 [1.25]	0.022 [1.59]	0.025 [1.77]*	0.025 [1.72]*	0.028 [1.45]
Change in inflation <sup>4</sup>	-0.004 [0.92]	-0.005 [1.08]	-0.004 [0.88]	-0.005 [1.04]	-0.005 [0.93]	-0.007 [1.25]
Change in primary CAB <sup>4</sup>	0.013 [0.59]	-0.036 [0.66]	0.01 [0.40]	0.013 [0.56]	0.01 [0.41]	-0.016 [0.65]
Cyclical conditions <sup>4</sup>	-0.022 [1.06]	-0.023 [1.09]	-0.019 [0.92]	-0.021 [1.01]	-0.019 [0.91]	-0.018 [0.36]
Political controls <sup>7</sup>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>
Observations	331	331	331	331	331	235

Notes: coefficients are marginal probability effects, robust z statistics in parenthesis (absolute value). \*, \*\*, and \*\*\* denote, respectively, significant at 10%, 5%, 1%. All interacted variables are standardised.

1/ Constructed using "Database of Political Institutions", Beck et al. (2001). 2/ 1 if in the past two years at least one of five structural indicators (unemployment benefit, labour taxes, EPL, product market regulations, retirement schemes) improves by more than the median positive change. 3/ Two-years average of the overall index of market rigidities constructed in Duval (2005). The index rises as distortions fall. 4/ Two-years average of output gap, cyclically adjusted primary balance, inflation and their y-o-y change. Source: OECD Economic Outlook, June 2007. 5/ Two-years average of the index of financial freedom. Source: Fraser Institute for Economic Freedom. Higher scores denote higher freedom. 6/ Two-years average of total current primary expenditure, % of GDP. Source: European Commission AMECO database. 7/ See Footnote to Table 1.

**Table 5: Re-election probability and economic reforms. Evidence from probit regressions.****A more selective reform variable**

Dependent variable <sup>1</sup> : 1 if the identity of the government chief executive does not change after elections.	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline adding interaction with initial conditions	(1) adding interaction with fiscal stance	(1) adding interaction with financial regulation	(1) adding interaction with government size	(1) adding interaction with both financial regulation and government size	(5), only EU countries
Reform dummy <sup>2</sup>	0.071 [0.54]	0.061 [0.43]	0.021 [0.14]	0.132 [0.94]	0.076 [0.52]	0.082 [0.46]
Overall index of market rigidity *reform dummy	-0.151 [0.87]	-0.164 [0.95]	-0.063 [0.34]	-0.031 [0.16]	0.217 [1.00]	0.224 [0.90]
Cyclical conditions <sup>4</sup> *reform dummy	-0.105 [1.13]	-0.128 [1.55]	-0.083 [0.93]	-0.196 [1.76]*	-0.212 [1.93]*	-0.592 [4.35]***
Change in primary CAB <sup>4</sup> *reform dummy		-0.044 [0.28]				
Financial freedom <sup>5</sup> index *reform dummy			0.204 [1.27]		0.366 [2.39]**	0.488 [3.27]***
(Total Current Primary Expenditure / GDP) <sup>6</sup> *reform dummy				-0.215 [1.61]	-0.368 [2.24]**	-0.378 [2.98]***
Change in cyclical conditions <sup>4</sup>	0.07 [2.27]**	0.072 [2.22]**	0.078 [2.36]**	0.069 [2.20]**	0.083 [2.55]**	0.085 [2.78]***
Change in inflation <sup>4</sup>	-0.025 [1.97]**	-0.025 [1.99]**	-0.026 [2.10]**	-0.025 [2.00]**	-0.028 [2.28]**	-0.052 [1.98]**
Change in primary CAB <sup>4</sup>	0.07 [0.96]	0.077 [0.92]	0.071 [0.96]	0.074 [0.97]	0.079 [0.99]	0.033 [0.31]
Cyclical conditions <sup>4</sup>	0.049 [1.70]*	0.05 [1.77]*	0.05 [1.70]*	0.049 [1.71]*	0.05 [1.71]*	0.128 [4.66]***
Political controls <sup>7</sup>	✓	✓	✓	✓	✓	✓
Observations	101	101	101	101	101	71

Notes: coefficients are marginal probability effects, robust z statistics in parenthesis (absolute value). \*, \*\*, and \*\*\* denote, respectively, significant at 10%, 5%, 1%. All interacted variables are standardised.

1/ Constructed using "Database of Political Institutions", Beck et al. (2001). 2/ 1 if in the past two years at least one of five structural indicators (unemployment benefit, labour taxes, EPL, product market regulations, retirement schemes) improves by more than 2 standard deviations. 3/ Two-years average of the overall index of market rigidities constructed in Duval (2005). The index rises as distortions fall. 4/ Two-years average of output gap, cyclically adjusted primary balance, inflation and their y-o-y change. Source: OECD Economic Outlook, June 2007. 5/ Two-years average of the index of financial freedom. Source: Fraser Institute for Economic Freedom. Higher scores denote higher freedom. 6/ Two-years average of total current primary expenditure, % of GDP. Source: European Commission AMECO database. 7/ See Footnote to Table 1.

**Table 6: Re-election probability and economic reforms. Evidence from probit regressions. Myopic voters**

Dependent variable <sup>1</sup> : 1 if the identity of the government chief executive does not change after elections.	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline adding interaction with initial conditions	(1) adding interaction with fiscal stance	(1) adding interaction with financial regulation	(1) adding interaction with government size	(1) adding interaction with both financial regulation and government size	(5), only EU countries
Reform dummy <sup>2</sup>	-0.083 [0.43]	-0.082 [0.43]	-0.048 [0.24]	-0.112 [0.62]	-0.073 [0.38]	-0.455 [1.78]*
Overall index of market rigidity *reform dummy	-0.166 [1.80]*	-0.17 [1.94]*	-0.119 [1.06]	-0.332 [3.10]***	-0.214 [1.85]*	-0.166 [1.51]
Cyclical conditions <sup>4</sup> *reform dummy	0.264 [1.88]*	0.272 [2.11]**	0.338 [2.19]**	0.356 [2.49]**	0.386 [2.46]**	1.773 [2.94]***
Change in primary CAB <sup>4</sup> *reform dummy		-0.033 [0.26]				
Financial freedom <sup>5</sup> index *reform dummy			0.453 [5.10]***		0.4 [4.83]***	0.396 [3.44]***
(Total current primary expenditure / GDP) <sup>6</sup> *reform dummy				0.309 [3.27]***	0.175 [2.03]**	0.188 [2.38]**
Change in cyclical conditions <sup>4</sup>	0.046 [1.86]*	0.047 [1.91]*	0.104 [4.05]***	0.058 [2.41]**	0.103 [4.00]***	0.159 [2.10]**
Change in inflation <sup>4</sup>	-0.014 [2.02]**	-0.014 [1.99]**	-0.02 [2.37]**	-0.018 [2.89]***	-0.022 [2.59]***	-0.01 [0.50]
Change in primary CAB <sup>4</sup>	0.1 [1.91]*	0.117 [1.29]	0.103 [1.54]	0.117 [2.15]**	0.113 [1.67]*	0.077 [0.93]
Cyclical conditions <sup>4</sup>	-0.054 [0.97]	-0.058 [1.22]	-0.08 [1.35]	-0.064 [1.20]	-0.082 [1.41]	-0.57 [2.99]***
Political controls <sup>7</sup>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>
Observations	102	102	102	102	102	71

Notes: coefficients are marginal probability effects, robust z statistics in parenthesis (absolute value). \*, \*\*, and \*\*\* denote, respectively, significant at 10%, 5%, 1%. All interacted variables are standardised.

1/ Constructed using "Database of Political Institutions", Beck et al. (2001). 2/ 1 if in the election year at least one of five structural indicators (unemployment benefit, labour taxes, EPL, product market regulations, retirement schemes) improves by more than the median positive change. 3/ Overall index of market rigidities constructed in Duval (2005). The index rises as distortions fall. 4/ Output gap, cyclically adjusted primary balance, inflation and their y-o-y change. Source: OECD Economic Outlook, June 2007. 5/ Index of financial freedom. Source: Fraser Institute for Economic Freedom. Higher scores denote higher freedom. 6/ Total current primary expenditure, % of GDP. Source: European Commission AMECO database. 7/ See Footnote to Table 1.

**Table 7: Re-election probability and economic reforms. Evidence from probit regressions. Perfectly rational voters #**

Dependent variable <sup>1</sup> : 1 the identity of the government chief executive does not change after elections.	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline adding interaction with initial conditions	(1) adding interaction with fiscal stance	(1) adding interaction with financial regulation	(1) adding interaction with government size	(1) adding interaction with both financial regulation and government size	(5), only EU countries
Reform dummy <sup>2</sup>	-0.053 [0.21]	0.015 [0.06]	0.119 [0.71]	-0.05 [0.21]	0.094 [0.54]	0.017 [0.06]
Overall index of market rigidity <sup>3</sup> *reform dummy	-0.188 [2.02]**	-0.192 [2.08]**	-0.144 [1.35]	-0.336 [2.78]***	-0.223 [1.78]*	-0.09 [1.16]
Cyclical conditions <sup>4</sup> *reform dummy	0.415 [1.52]	0.534 [2.01]**	0.552 [1.91]*	0.482 [1.82]*	0.592 [1.98]**	0.05 [0.09]
Change in primary CAB <sup>4</sup> *reform dummy		0.207 [0.86]				
Financial freedom index <sup>5</sup> *reform dummy			0.469 [5.29]***		0.425 [5.19]***	0.411 [4.97]***
(Total current primary Expenditure / GDP) <sup>6</sup> *reform dummy				0.283 [2.66]***	0.155 [1.65]*	0.169 [1.94]*
Change in cyclical conditions <sup>4</sup>	0.081 [1.31]	0.083 [1.32]	0.124 [1.87]*	0.115 [1.78]*	0.141 [2.00]**	0.14 [1.54]
Change in inflation <sup>4</sup>	-0.027 [1.39]	-0.029 [1.41]	-0.046 [2.09]**	-0.034 [1.85]*	-0.049 [2.20]**	-0.025 [1.28]
Change in primary CAB <sup>4</sup>	-0.01 [0.13]	-0.278 [0.89]	-0.056 [0.58]	-0.012 [0.15]	-0.058 [0.61]	-0.095 [0.83]
Cyclical conditions <sup>4</sup>	-0.161 [1.35]	-0.213 [1.88]*	-0.234 [1.83]*	-0.171 [1.52]	-0.24 [1.83]*	0.017 [0.07]
Political controls <sup>7</sup>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>
Observations	101	101	101	101	101	71

Notes: coefficients are marginal probability effects, robust z statistics in parenthesis (absolute value). \*, \*\*, and \*\*\* denote, respectively, significant at 10%, 5%, 1%. 1/ Constructed using "Database of Political Institutions", Beck et al. (2001). 2/ 1 if during the term in office at least one of five structural indicators (unemployment benefit, labour taxes, EPL, product market regulations, retirement schemes) improves by more than the median positive change. 3/ Standardised average over the term in office of the overall index of market rigidities constructed in Duval (2005). The index rises as distortions fall. 4/ Average over the term in office of output gap, cyclically adjusted primary balance, inflation and their y-o-y change. Source: OECD Economic Outlook, June 2007. 5/ Average over the term in office of the index of financial freedom. Source: Fraser Institute for Economic Freedom. Higher scores denote higher freedom. 6/ Average over the term in office of total current primary expenditure, % of GDP. Source: European Commission AMECO database. 7/ See Footnote to Table 1.