Fiscal redistribution around elections when "democracy is not the only game in town"

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Abstract: This paper examines whether policy intervention around elections affects income inequality and actual fiscal redistribution. We first develop a simplified theoretical framework which allows us to examine fiscal redistribution around elections when "democracy is not the only game in town" and there is a threat of revolution from some groups of agents. Subsequently, employing data for a panel of 65 developed and developing countries during the period of 1975-2010 we provide robust empirical evidence of electoral cycles on income inequality and actual fiscal redistribution in countries characterized as "new democracies". Moreover, our analysis suggests that this effect is mainly driven by a political instability channel which induces incumbents to redistribute resources –through fiscal policy-towards the poorer segments of the society in order to convince them the "democracy works". In contrast, inequality and actual fiscal redistribution are not affected by elections in countries characterized as established democracies.

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1. Introduction

Numerous studies on Political Budget Cycles (PBC) suggest that around the election date, incumbents manipulate policy instruments in order to increase the chances of their re-election.[1] A strand of this literature places the spotlight on factors conditioning the occurrence and the strength of fiscal policy manipulation for electoral purposes (for a literature review on conditional PBCs, see Klomp and de Haan (2013a)). Starting from Schuknecht (1996) the relevant literature suggests that fiscal manipulation is more likely in developing countries where the institutional checks and balances are weaker, allowing for greater political discretion over policy instruments.[2] Shi and Svensson (2006) provide evidence of fiscal expansions around elections in both developing and developed countries although they show that the effect is far stronger in developing countries, where information asymmetries between voters and politicians are more pronounced. Brender and Drazen (2005), on the other hand, argue that PBCs are not driven by differences in the level of development between countries but instead by differences in the age of the political regime. More precisely, they suggest that pre-electoral fiscal manipulation is stronger in countries characterized as "new democracies" because of the voters' lack of familiarity with the electoral process.[3]

Another strand of the literature investigates how pre-electoral manipulation affects the composition rather than the level of fiscal policy. More precisely, Schuknecht (2000) provides empirical evidence of pre-electoral manipulation at the national level –in 24 developing countries- through increases in public investment rather than public consumption. Similar empirical findings are provided by studies conducted at the local level, which suggest that around elections authorities expand the level of investment spending (see, e.g., Khemani (2004); Drazen and Eslava (2010)). The theoretical argument behind these empirical findings is that capital spending for investment projects can be easily targeted to particular geographical constituencies, and therefore is able to increase very effectively the political support received by

[1] The opportunistic approach was firstly formulated in the traditional model of "political business cycles" of Nordhaus (1975). In contrast, the partisan approach deals with the behavior of ideologically motivated politicians (see, e.g., Hibbs (1977)).

[2] Streb eat al. (2009) support this argument by showing that in non-OECD countries the budget balance falls significantly more in election years in comparison to what occurs in OECD countries.

[3] More recently, Klomp and de Haan (2013b) provided evidence that the occurrence of a PBC is much stronger in developing counties and "young democracies" as opposed to industrial countries and "old democracies". However, Efthyvoulou (2012), based on a sample of 27 European Union members for which fiscal policy is the only remaining instrument that incumbents can use, provides evidence in favour of a systematic electoral cycle in the level of fiscal policy. It is worth noting, though, that when Klomp and de Haan (2013c) employ a semi pooled model to allow the impact of elections to vary across countries, they find no PBC in most countries.

the incumbent (see e.g., Drazen and Eslava (2010)). In contrast, Block (2002) and Vergne (2009) provide empirical evidence that around elections politicians in developing countries shift the composition of spending towards current expenditure and away from capital expenditure. Similar findings are also obtained by Katsimi and Sarantides (2012) for a sample of OECD countries, where policymakers seem to provide immediate benefit to voters through cuts in direct taxation whereas capital spending decreases. The theoretical justification of these empirical results dates back to the Rogoff's (1990) argument, who suggests that electorally motivated incumbents signal their competence by shifting public policy toward more visible fiscal items and away from capital expenditure that becomes visible in future periods.[4]

This paper contributes to the relevant literature basically in two ways. First, it seeks to investigate the implications of pre-electoral manipulation of fiscal policy on income inequality. As already mentioned, previous empirical studies have verified that pre-electoral periods exert significant impact on the size and the composition of government spending (see e.g., Brender and Drazen (2005); Vergne 2009) as well as on the size and the composition of tax revenues (see e.g., Persson and Tabellini, 2003; Katsimi and Sarantides, 2012). These changes on fiscal policy are expected to have vital distributional implications which- to the best of our knowledge- have not been examined by the relevant literature. To this end, we employ data from Standardized World Income Inequality Database (SWIID), developed by Solt (2009) which allow us to investigate the effect of PBC on (i) market income inequality (i.e. Gini coefficient before taxes and transfers) on (ii) net income inequality (i.e. Gini coefficient after taxes and transfers) as well as on (iii) actual fiscal redistribution (i.e. the percentage change of Gini indices before and after transfers and taxes).

Second, our analysis extends the theoretical model of Aidt and Mooney (2014) in order to develop a simple theoretical framework in which "elections take place in the shadow of revolution". This allows us to investigate the differences on the political budget cycles between countries characterized as "old democracies" (where elections are the one and only common acceptable political rule) and "new democracies" where the democratic regime is not fully consolidated and therefore incumbent politicians face a potential threat of revolution from specific groups of agents (see e.g. Fearon, 2011; Little, 2012; Little et al., 2014). In the latter

[4] We note that manipulation of the composition of fiscal policy seems particularly relevant in developed economies, in which the incumbent may avoid deficit creation due to the fear of voters' disfavour (see, e.g., Brender and Drazen (2008)).

case, incumbent politicians decide pre-electoral fiscal policy by taking into account also the probability of democratic regime's collapse and not only their own reelection probability. Uncertainty concerning the type of the political regime alters in a very fundamental way the pre-electoral optimal strategy of the incumbent and consequently affects the impact of elections on the implemented fiscal policy. More precisely, our theoretical model suggests that in "new democracies" fiscal policy also serves as a device of consolidating democracy and it is not solely a policy instrument that affects the reelection probability of the incumbent. Thus, in young democracies pre-electoral fiscal redistribution allocates resources to a broader group of agents (which also include low-income agents) instead of being strictly targeted to the middle-class that consist the pivotal group in the "established" ones.[5]

Our empirical analysis builds on a dataset of 65 developed and developing countries over the period of 1975-2010. Our main results can be summarized as follows: first, our analysis fails to provide evidence in favour of an electoral cycle on (i) market income inequality, (ii) net income inequality and (iii) actual fiscal redistribution for countries characterized as "established democracies", irrespective of whether they are developed or developing countries. In contrast, our analysis provides robust empirical evidence that in countries characterized as "young democracies" elections exert a positive and highly significant impact on actual fiscal redistribution. Moreover, our findings suggest that the effect of elections is stronger in young democracies characterized by relatively higher political instability. This is accordance with the implications driven from our theoretical framework which suggests that in vulnerable democratic regimes incumbent politicians allocate resources –through fiscal policy-towards the poorer segments of the society in order to convince them that "democracy works" and therefore to mitigate the risk of a potential revolution. Our empirical findings are also in line with previous studies examining the impact of the political regime's age on political budget cycles (see e.g. Brender and Drazen, 2005; 2009, Klomp and de Haan, 2013d).

The rest of the paper is organized as follows. Section 2 introduces the theoretical framework and formalizes the testable implications of the theoretical model. Section 3 describes

[5] Obviously, our theoretical results are in line with those obtained by Brender and Drazen (2005; 2009) although in our model differences on the political budget cycles between "new" and "old democracies" is driven by the potential threat of revolution and not from lack of familiarity of the electorate with the democratic electoral process as suggested by them.

the data and demonstrates the empirical setup. Section 4 presents the empirical results. Finally Section 5 summarizes the main points.

2. Theoretical Framework

This section elaborates on the theoretical link between elections and fiscal redistribution so as to formalize the testable empirical implications driven by the relevant theoretical literature. To this end, we present a simple theoretical framework adapted from Lohmann (1998) and Aidt and Mooney (2014) which allows us to examine fiscal redistribution during pre-electoral periods.

We consider an economy populated by three types of individuals: the rich (R) of size δ_R, the middle class (M) of size δ_M and the poor (P) of size δ_P where we assume that $\delta_M > \delta_R+\delta_P$ and $\delta_R +\delta_M+\delta_P=1$. The rich have a fixed income y_R, the middle class a fixed income y_M and the poor a fixed income y_P where $y_R>y_M >y_P$ during two periods t=1,2. Tax rate (τ) is proportional on income of each group and it is fixed at a level of $\tau = \bar{\tau}$ in both periods. Elected national government -in each period- collects tax revenues and runs a balanced government budget by deciding whether to use given tax revenues in order to finance a lump-sum targeted transfer (T_t^P) that only goes to poor people or a lump-sum transfer (T_t^M) that is directed to the middle class or a lump-sum transfer (T_t^R) that is directed to the rich group of the individuals. Finally, the government decides whether to extract resources from public funds by diverting tax revenues to private income (r_t) for itself. The government budget constraint is $T_t^P + T_t^M + T_t^R + r_t = \bar{\tau}\bar{y}$ where $\bar{y}$ is the average income. An election takes place between the two periods.

Citizens' wellbeing depends on three factors: (i) the budget allocation, (ii) the quality of the politician running the government and (iii) random events (luck). The utility generated by the budget allocation and private consumption is

$$u_t^P = (1-\bar{\tau})y_P + T_t^P \quad (1)$$

$$u_t^M = (1-\bar{\tau})y_M + T_t^M \quad (2)$$

$$u_t^R = (1-\bar{\tau})y_R + T_t^R \quad (3)$$

Quality of governance matters for the citizens because the utility they get from a given budget allocation increases with the quality of the incumbent politician. The total utility of the agents is

$$U_t^P = (1-\bar{\tau})y_P + T_t^P + q_t + \mu_t \quad (4)$$

$$U_t^M = (1-\bar{\tau})y_M + T_t^M + q_t + \mu_t \quad (5)$$

$$U_t^R = (1-\bar{\tau})y_R + T_t^R + q_t + \mu_t \quad (6)$$

where q_t is a quality shock, which determines how competent is the incumbent and μ_t is a "luck" shock that makes him look more or less competent that may be the case. The fundamental information assumption of the model is that the voters observe total utility but they are unable to decompose this into the three sub-components.[6] Although, the two shocks are unobserved, they are both drawn from known distributions. The luck shock (μ_t) is drawn independently in each period and equals to -1/2 (resp. 1/2) with probability P=1/2 (resp. P=1/2).[7] The quality shock (q_t) is a characteristic of the politician and follows a uniform distribution over $\left[-\frac{1}{2},\frac{1}{2}\right]$.If the politician is getting reelected the quality shock from period 1 also applies to period 2 whereas if a new politician is elected in period 2 a new quality shock is drawn from the above mentioned known uniform distribution.

The total utility of the politician is:

$$W_{POL} = \ln(r_1) + p_I\beta(M + r_2) \quad (7)$$

[6] The underlying assumption is that voters are ill-informed about the finer details of public finance. This is analogous to the assumption in Lohmann (1998) that voters don observe in direct way the implemented monetary policy.
[7] That is the luck shock (μt) follows a Bernoulli distribution with P(-1/2)=P(1/2)=1/2

where $0<\beta<1$ is a discount factor and p_I is the probability that the incumbent is reelected. The quantity r_t denotes rents grabbed in period t=1,2 and M denotes the exogenous rents from winning the elections.

We solve the model under two alternative political regimes. The first one (that will serve as benchmark) is an established democratic regime in which "democracy is the only game in town". In this case, citizens vote the politician which is – according to their view- the most competent and then all agents accept the electoral outcome as the sole common political rule. In such a context, the incumbent politician has incentive to strictly focus on the welfare of the middle class trying to engineer a pre-election increase in its utility since the latter makes him appear more competent and consequently increases his probability of reelection. In this case, our results are similar to those obtained by the relevant theoretical literature (see e.g. Aidt and Mooney, 2014; Shi and Svensson, 2006; Lohmann, 1998). The second political regime is a "new democracy" in which "elections take place in the shadow of revolution". In this case, the incumbent politician faces a potential threat of revolution from some groups of agents and the previous described strategy of focusing solely on the welfare of the middle class fails to ensure staying in office. In such a case, politicians have also to take into account the probability of survival of the democratic regime *per se* (except of their own reelection probability) in order to stay in power. Since the fragility of the democratic regime is related to the welfare of groups other than the pivotal voter, the optimal strategy for the incumbent is to focus on the welfare of a broader group of agents.

2.1 Fiscal redistribution when "democracy is the only game in town".

First, consider the benchmark case of an established democracy. The timing of the events in this case is as follows: (1) At the beginning of period 1 a balanced budget $\left\{T_1^P, T_1^M, T_1^R, r_1\right\}$ is implemented. (2) The two random shocks q_1 and μ_1 are realized. Random shocks are not observed directly by anyone but all agents are able to observe total utility. (3) At the end of the first period, elections take place and the voters either re-elect the incumbent politician or elect a new politician. (4) The winner implements a balanced budget $\left\{T_2^P, T_2^M, T_2^R, r_2\right\}$ for period 2. (5) A new luck shock μ_2 is realized. If the incumbent of the first period was reelected the quality shock

from period 1 (i.e. q_1) carries over to period 2 otherwise a new quality shock q_2 is realized. (6) Finally, total utility is determined and observed by all the agents.

Solving the model with backwards induction, we see that in period 2, the politician has no incentive to behave well. Therefore, he appropriates the maximum amount of rents $r_2^* = \bar{\tau}\bar{y}$ implying zero targeted transfers to all alternative groups of agents $T_2^{P*} = T_2^{M*} = T_2^{R*} = 0$. Equations (4)-(6) imply that voters are clearly better off with a more competent (high q) politician, as this gives them higher period 2 utility. Thus, they use elections as a mean to reappoint competent politician and oust incompetent ones, taking into account their observed utility in period 1 and knowing that the opponents' expected quality at the elections is $E(q) = 0$.[8] We now describe how this takes place and how it shapes politician's incentives in period 1.

2.1.1. The optimal voting behavior and the utility targets.

In order to describe how the politician's decisions in period 1 affect the probability of re-election we need to describe optimal voting behavior.

In period 2, since $r_2 = \bar{\tau}\bar{y}$ and $T_2^P = T_2^M = T_2^R = 0$ the welfare of agents in the three groups is as follows:

$$U_2^P = (1-\bar{\tau})y_P + q_2' + \mu_2 \quad (8)$$

$$U_2^M = (1-\bar{\tau})y_M + q_2' + \mu_2 \quad (9)$$

$$U_2^R = (1-\bar{\tau})y_R + q_2' + \mu_2 \quad (10)$$

where $q_2' = p_I q_1 + (1-p_I)q_2$ since if the incumbent of the first period is getting reelected the quality shock from period 1 (q_1) carries over to period 2 whereas if a new politician is elected a new quality shock (q_2) is realized. Since all politicians implement the same post election budget, the only reason voters care about who gets reelected is that quality varies.

As seen from period 1, the expected quality of the politician elected in period 2 is

[8] This is because the quality shock of the opponent is drawn from a uniform distribution which is known to the voters.

$$E_1 q_2' = p_I E_1 q_1 + (1 - p_I) E_1 (E_2 q_2) = p_I E_1 q_1 \quad (11)$$

This is because the expected quality of a new politician is zero on average $E_1(E_2 q_2) = E_2 q_2 = 0$. Thus, the voters want to re-elect the incumbent if and only their estimate of his quality at the end of the period 1 is positive. That is, if and only if $E_1 q_1 > 0$. Since in our model $\delta_M > \delta_R + \delta_P$ the pivotal group of voters is the group of the middle class (M). Thus, we further proceed by focusing on the preferences of this specific group of agents on the actions of the politician.

More precisely, to form a Bayesian estimate of the expected quality of the incumbent middle class voters use information on the observed utility of the first period U_1^M and their knowledge about the equilibrium budget strategy of the incumbent. The equilibrium budget strategy of the incumbent is $\tilde{u}_1^M = (1 - \bar{\tau}) y_M + \tilde{T}_1^M$. Subtracting equilibrium budget strategy ($\tilde{u}_1^M$) from equation (5) we get:

$$U_1^M - \tilde{u}_1^M = T_1^M - \tilde{T}_1^M + q_1 + \mu_1 = q_1 + \mu_1 \quad (12)$$

where we get the last equality by making use of the fact that at equilibrium $T_1^M = \tilde{T}_1^M$. Equation (12) shows that using their knowledge of the equilibrium, voters can infer the sum of the two shocks (but they are unable to decompose between these two and therefore to infer the quality of the politician). A rational voter can solve the resulting signal extraction problem and estimate that:

$$E_1 q_1 = \frac{\sigma_q^2}{\sigma_\mu^2 + \sigma_q^2} (U_1^M - \tilde{u}_1^M) = \xi (U_1^M - \tilde{u}_1^M) \quad (13)$$

where ξ is a constant term, $0 < \xi < 1$

Based on equation (13) we conclude that the incumbent politician will be reelected if realized utility of the middle class exceed the budget related utility that the voters are expecting from the

incumbent to deliver in equilibrium. That is if and only if $U_1^M - \tilde{u}_1^M > 0$. Using equation (12) we can restate this criterion as $q_1 + \mu_1 > \tilde{T}_1^M - T_1^M$.

Having assumed that μ_1 follows a Bernoulli distribution with P(-1/2)=P(1/2)=1/2 and that q_1 follows a uniform distribution over $\left[-\frac{1}{2}, \frac{1}{2}\right]$ we get that summation $q_1 + \mu_1$ follows a uniform distribution over $[-1,1]$.

Consequently we get the following probability of reelection as perceived by the incumbent:

$$p_I = \frac{1}{2}[1-(\tilde{T}_1^M - T_1^M)] \tag{14}$$

Equation (14) shows that reelection probability is increasing in the actual fiscal redistribution directed to the middle class. This provides an incentive to decide the allocation of tax revenues such as to increase fiscal redistribution towards this group of individuals.

2.1.2. The budget allocation in equilibrium

Combining equations (7) and (14) with the government budget constraint we conclude that the equilibrium values for $\left\{T_1^P, T_1^M, T_1^R, r_1\right\}$ are those that maximize the incumbent inter-temporal utility:

$$W_{POL} = \ln(r_1) + \left[\frac{1}{2}[1-(\tilde{T}_1^M - T_1^M)]\right]\beta(M + r_2) \tag{15}$$

subject to the government budget constraint in the first period $T_1^P + T_1^M + T_1^R + r_1 = \bar{\tau}\bar{y}$ and the rent extraction decision of the second period (i.e. $r_2^* = \bar{\tau}\bar{y}$). Then, Appendix 2 shows:

Proposition 1. *The politician generates a rational political budget cycle. The pre-election result is* $T_1^{M*} = \bar{\tau}\bar{y} - \frac{1}{\beta(\mathrm{M} + r_2)} > 0$, $r_1^* = \frac{1}{\beta(\mathrm{M} + r_2)} < \tau\bar{y}$, $\mathrm{T}_1^{P*} = \mathrm{T}_1^{R*} = 0$ *and the after election result* $\mathrm{T}_2^{P*} = T_2^{M*} = T_2^{R*} = 0$ *and* $r_2^* = \tau\bar{y}$.

That is although the politician wants more rents and less fiscal redistribution, in the pre-electoral period cuts rents and increase fiscal redistribution to the middle class in order to convince pivotal voters of his quality.

Proposition 2. *Pre-electoral increases in transfers targeted to the group of the middle class* $T_1^{M*} = \bar{\tau}\bar{y} - \frac{1}{\beta(\mathrm{M} + r_2)} > T_2^{M*}$ *do not change the after tax and transfers Gini coefficients and therefore do not affect actual fiscal redistribution.*

Since pre-electoral increased transfers are solely directed to the middle class and not to the lower income group of agents, elections fail to affect -after tax and transfers- income inequality and actual fiscal redistribution.

2.2 Fiscal redistribution when "elections take place in the shadow of revolution".

In this Section we solve the model for the case of a "new-established democracy". More precisely, we assume that in the first years after democratic consolidation, "democracy is not the only game in town" and citizens have an option to revolt against the incumbent if the later fails to ensure a minimum amount of competence. Therefore, in this case the democratic regime is not taken as given and there is a probability of democratic regime's collapse and consequently reversal to other forms of governance.

The timing of the events in this case is as follows: (1) At the beginning of period 1 a balanced budget $\left\{\mathrm{T}_1^P, T_1^M, T_1^R, r_1\right\}$ is implemented. (2) The two random shocks q_1 and μ_1 are realized. Random shocks are not observed directly by anyone but all agents are able to observe total utility. (3) At the end of the first period, elections take place and the voters either re-elect the incumbent politician or elect a new politician. (4) After elections, the citizens decide whether to revolt or not. More precisely, if the incumbent politician fails to convince the citizens that his

quality exceeds a minimum amount of competence, a revolution takes place and the democratic regime collapses with probability p_R . (5) In period 2, regardless of whether democratic regime survived or not [in stage 4] the official implements a balanced budget $\left\{T_2^P, T_2^M, T_2^R, r_2\right\}$ (6) A new luck shock μ_2 is realized. If the democratic regime was survived and the incumbent of the first period was reelected the quality shock from period 1 (i.e. q_1) carries over to period 2 otherwise a new quality shock q_2 is realized. (7) Finally, total utility is determined and observed by all the agents.

Solving again the model with backwards induction, we see that in period 2, the official (whether democratically elected or not) has no incentive to behave well. Therefore, he extracts the maximum amount of rents $r_2^* = \bar{\tau}\bar{y}$ implying zero targeted transfers to all alternative groups of agents $T_2^{P*} = T_2^{M*} = T_2^{R*} = 0$. As in Section 2.1, equations (4)-(6) imply that citizens are clearly better off with a more competent (high *q*) politician, as this gives them higher period 2 utility. Thus, they use elections as a mean to reappoint competent politician and throw out of office incompetent ones. However, in the case of a "new established democracy" the citizens have one additional option in order to ensure a minimum amount of competence (i.e. quality *q*) that is the option to revolt against the incumbent and to oust him out of office. Now we describe how this takes place and how it shapes politician's incentives in period 1.

2.2.1. The optimal voting behavior and the utility targets.

Since $\delta_M > \delta_R + \delta_P$ when elections take place the pivotal group of voters remains the group of the middle class (M). Following the rationale developed in Section 2.1.1 the criterion of the middle class to vote for the incumbent is $U_1^M - \tilde{u}_1^M > 0$ that concludes to the following probability of reelection as perceived by the incumbent: $p_I = \frac{1}{2}[1-(\tilde{T}_1^M - T_1^M)]$. Thus, reelection probability in a "new established democracy" is identical to that characterized the established ones. More precisely, the probability of reelection is increasing in the fiscal transfers (T_1^M) directed to the middle class.

2.2.2. The threat of revolution.

After elections take place, the citizens from the middle class (M) and the low income (P) groups decide whether to revolt or not.[9] Citizens revolt if and only their estimate of the incumbent quality at the end of the first period is negative and below a threshold quality level $\bar{q}$. That is, if and only $E_1 q_1 < \bar{q} < 0$. This condition poses a binding constraint to the incumbent only in the case of the low income citizens. This is because middle class citizens determine the probability of reelection through their voting behavior and therefore they demand an even higher (i.e. a positive) competence at the end of the first period in order to vote for the incumbent.[10] Thus, we focus on the low income group of agents and we examine how the threat of potential revolution shapes politician's incentives in period 1.

Low income citizens revolt against the incumbent if and only their estimate of his quality at the end of the period 1 is negative and below a threshold quality level $\bar{q}$, $E_1 q_1 < \bar{q} < 0$. As in Section 2.1.1 in order to form a Bayesian estimate of the expected quality citizens rely on the observed utility of the first period U_1^P and their knowledge about the equilibrium budget strategy of the incumbent. The equilibrium budget strategy of the incumbent is $\tilde{u}_1^P = (1-\bar{\tau}) y_M + \tilde{T}_1^P$. Subtracting equilibrium budget strategy ($\tilde{u}_1^P$) from equation (4) we get:

$$U_1^P - \tilde{u}_1^P = T_1^P - \tilde{T}_1^P + q_1 + \mu_1 = q_1 + \mu_1 \tag{16}$$

Equation (16) shows that using their knowledge of the equilibrium, citizens can infer the sum of the two shocks (but they are unable to decompose between these two and therefore to infer the quality of the politician). A rational citizen can solve the resulting signal extraction problem and estimate that:

[9] Our assumption that revolution can take place at the end of the first period and only after elections is consistent with a small albeit growing theoretical literature that treats elections as a public signal of government's popularity which helps the citizens to solve potential problems of collective actions and to revolt against the incumbent whenever there is verified a high level of anti-regime sentiments (see e.g. Fearon, 2011; Little 2012; Little et al. 2014). Moreover, Brender and Drazen (2007) provide empirical evidence that, in young democracies, the regime is almost three times more likely to collapse in election years than in non-election years.

[10] Note that middle class citizens vote for the incumbent if only their estimate of the incumbent quality at the end of the first period ($E_1 q_1$) is positive (i.e. if $E_1 q_1 > 0$).

$$E_1 q_1 = \frac{\sigma_q^2}{\sigma_\mu^2 + \sigma_q^2}(U_1^P - \tilde{u}_1^P) = \xi(U_1^P - \tilde{u}_1^P) \tag{17}$$

Based on equation (17) we conclude that low income citizens revolt if $\xi(U_1^P - \tilde{u}_1^P) < \bar{q}$. Using equation (16) we can restate this criterion as $q_1 + \mu_1 - \frac{\bar{q}}{\xi} < \tilde{T}_1^P - T_1^P$. Since $q_1 + \mu_1$ follows a uniform distribution over $[-1,1]$, we get that $q_1 + \mu_1 - \frac{\bar{q}}{\xi}$ follows a uniform distribution over $\left[-1 - \frac{\bar{q}}{\xi}, 1 - \frac{\bar{q}}{\xi}\right]$. Thus the probability of revolution as perceived by the incumbent is as follows:

$$p_R = \frac{1}{2}[1 + \frac{\bar{q}}{\xi} + (\tilde{T}_1^P - T_1^P)] \tag{18}$$

that leads to the following probability of democratic regime survival:

$$p_D = 1 - p_R = \frac{1}{2}[1 - \frac{\bar{q}}{\xi} + (T_1^P - \tilde{T}_1^P)] \tag{19}$$

Equation (19) shows that the probability of democratic regime's survival is increasing in fiscal transfers directed to the low income group of individuals (T_1^P). Thus, when "elections take place in the shadow of revolution" incumbent faces an incentive increase fiscal redistribution towards the poorer agents since in this way he stabilizes the political regime and consequently increases the probability to stay in office. In other words, in a relatively new democracy focusing solely on the preferences of the middle class (which remain the pivotal voter when elections are taking place) is not be enough in order to remain in office since there is a threat of revolution from the low income group that may lead to political regime switch.

Consequently, the total utility of the politician in the case a "new established" democracy takes the following form:

$$W_{POL} = \ln(r_1) + p_D p_I \beta(M + r_2) \tag{20}$$

where p_I is the probability of the incumbent to be reelected and p_D the probability of the democratic regime to survive.

2.2.3. The budget allocation in equilibrium

Combining equations (20), (14) and (19) with the government budget constraint we conclude that the equilibrium values for $\left\{T_1^P, T_1^M, T_1^R, r_1\right\}$ are those that maximize the incumbent inter-temporal utility in the case of a "new established" democracy:

$$W_{POL} = \ln(r_1) + \left[\frac{1}{2}[1-(\tilde{T}_1^M - T_1^M)]\right]\left[\frac{1}{2}[1-\frac{\overline{q}}{\xi}+(T_1^P - \tilde{T}_1^P)]\right]\beta(M + r_2) \tag{21}$$

subject to the government budget constraint in the first period $T_1^P + T_1^M + T_1^R + r_1 = \overline{\tau}\,\overline{y}$ and the rent extraction decision of the second period (i.e. $r_2^* = \overline{\tau}\,\overline{y}$). Equation (21) shows that in the case of a "new established democracy" fiscal transfers to the middle class (T_1^M) and fiscal transfers to the low-income group of agents (T_1^P) are equally efficient in achieving the purpose of incumbent's survival. This is because fiscal transfers directed to the low-income group of agents (T_1^P) is a policy instrument that affects democratic consolidation whereas fiscal transfers directed to the middle class (T_1^M) is a policy instrument that affects re-election probability. Then, Appendix 2 shows:

Proposition 3. *The politician generates a rational political budget cycle. The pre-election result is* $T_1^{M*} = \overline{\tau}\,\overline{y} - \frac{1}{\frac{1}{2}\beta(M + r_2)} - T_1^{P*} \geq 0$, $T_1^{P*} = \overline{\tau}\,\overline{y} - \frac{1}{\frac{1}{2}\beta(M + r_2)} - T_1^{M*} \geq 0$, $r_1^* = \overline{\tau}\,\overline{y} - T_1^{M*} - T_1^{P*} < \overline{\tau}\,\overline{y}$, $T_1^{R*} = 0$ *and the after election result* $T_2^{P*} = T_2^{M*} = T_2^{R*} = 0$ *and* $r_2^* = \tau\overline{y}$.

That is although the politician wants more rents and less fiscal redistribution, in the pre-electoral period cuts rents and increase fiscal redistribution at least to the one of the two groups of agents (i.e. $T_1^{M*} \neq 0$ or $T_1^{P*} \neq 0$) in order to convince the citizens of his quality. Obviously, incumbent's survival can be obtained through several combinations of T_1^{M*} and T_1^{P*}.

Proposition 4. *Every combination of* T_1^{M*} and T_1^{P*} *that ensures* $T_1^{P*} > 0$ *directs an amount of total transfers to the low-income group of agents. In this case pre-electoral increases in transfers reduce the -after tax and transfers- Gini coefficients and increase actual fiscal redistribution.*

Therefore, in the case of "new established democracies" positive pre-electoral transfers to the low income group of agents ($T_1^{P*} > 0$) can be optimal solution for the incumbent. In this case, an amount of transfers is directed to the low income agents and therefore elections exert a negative impact on -after tax and transfers- income inequality and a positive impact on actual fiscal redistribution.

3. Econometric analysis

3.1 Data set and variables

Following previous studies, we measure income inequality using the Gini coefficient index. This index ranges from a minimum value of zero, indicating that all individuals have the same income, to a theoretical maximum of one, at which all incomes are concentrated in one person. A primary concern on research for inequality is data comparability, both over time and across countries. Our preferred data are obtained by the *SWIID,* developed by Frederick Solt (Solt (2009)). The *SWIID* maximizes the comparability of income inequality statistics for the largest possible sample of countries and years, namely for 174 countries for as many years as possible from1960 to 2010. For the construction of the dataset, Solt (2009) employed a custom missing-data algorithm to standardize Gini estimates from all major existing resources of inequality data (e.g., *Luxembourg Income Study*, *World Income Inequality database* etc). An important advantage of the SWIID is that it maximizes the comparability of income inequality statistics for the largest possible sample of countries and years. The SWIID includes Gini estimates for gross income (before taxes and transfers) as well as net income (after taxes and transfers) denoted as

gini_market and *gini_net*, respectively. Furthermore, the percentage change between g*ini_market* and g*ini_net* gives us an estimate of fiscal redistribution[11]:

$$redist_{it} = \frac{pre\ tax\ Gini_{it} - post\ tax\ Gini_{it}}{pre\ tax\ Gini_{it}} \tag{22}$$

An additional advantage of the SWIID is that, potential pre-electoral effects on income distribution can help us to draw inferences regarding the implemented fiscal policy around elections. For instance, pre-electoral policies based on targeted transfers to low income groups potentially can affect *gini_net* and *redist*, while public projects that promote public employment, if targeted to low-income groups, can affect *gini_market*. Moreover, the SWIID provides estimates of uncertainty for each observation of the income inequality and redistribution measures. Closely related to this point, Solt (2009) notes that inequality data are often thin in the early years included in the SWIID. For this reason, the variable *redist* is only reported after 1975 for most of the advanced countries and only after 1985 for most countries in the developing world. Hence, given that the quality of data is significantly improved, we opt for using only those observations for the variables *gini_market* and *gini_net* for which the variable *redist* is available.[12]

It should be stressed that the Political Cycles models assume competitive elections. Therefore, in our sample we include only those countries for which the variable *POLITY2* from the *Polity IV Project* receives positive values, and at the same time variables *Liec* and *Eiec* from the *Database on Political Institutions (DPI)*, provided by the World Bank (Keefer (2012)), receive values equal or higher than 6.[13] Following the majority of the empirical literature, we measure electoral uncertainty by constructing an election dummy (*elec*) that receives the value of one in an election year and zero otherwise. It is worth noting that we restrict our attention to legislative elections for countries with parliamentary political systems and presidential elections for countries with presidential systems. Election dates were collected from the *DPI* and

[11] This measure is denoted by Solt (2014) as *relative fiscal redistribution*. Alternatively, if we use the difference between market-income and net-income Gini-indices that Solt denotes as *absolute fiscal redistribution*, our results remain essentially the same.
[12] It is worth noting that, in Section 4.3, we conduct a battery of robustness checks in order to limit further the uncertainty that is related to the Gini estimates and be more confident about the precision of our results.
[13] A value of 6 indicates that multiple parties did win seats, but the largest party can receive more than 75% of the seats. However, our sample and results remain essentially the same if we restrict variables *Liec* and *Eiec* to receive a value of 7, which indicates multiparty elections and that the largest party got less than 75% of the seats.

complemented, when needed, with information from various sources (e.g., the *African Elections Database*).

Moreover, to check for differences between "new" and "established democracies", based on the approach of Brender and Drazen (2005), we consider the first four elections after a shift to a democratic regime, indicated by the first year of a string of uninterrupted positive *POLITY* values, as elections held in a "new democracy". We expect that in "new democracies", it is more likely to find systematic electoral patterns on income inequality/redistribution for two reasons. First, according to the above-mentioned study, "new democracies" are more prone to policy manipulation, since incumbents might be rewarded at the polls if they can "mislead" inexperienced voters to attribute the good economic conditions to their competency. Second, we expect that, in "new democracies", checks and balances are weaker, allowing for greater political discretion over policy instruments. Thus, we separate binary indicator *elec* into variables *elec_new* and *elec_old*, for elections in "new democracies" and in "old/established democracies", respectively. In our case, among the 362 elections in the sample, 109 elections were held in "new democracies".[14]

Another interesting issue concerning this literature is the timing of elections. As argued by Berument and Heckelman (1998), the timing of elections may not be exogenous to government policy but is chosen strategically by the incumbent when economic conditions are favourable, raising issues of a reverse causation in our specification. On the other hand, early elections may be also called due to a deterioration of economic conditions that may create a majority for replacing the government. In order to address the issue of potential endogeneity of electoral procedures, we follow the approach of Brender and Drazen (2005) to distinguish pre-determined elections. More precisely, we look at the constitutionally determined election interval and take as predetermined those elections that are held during the expected year of the constitutionally fixed term. Hence, we split electoral indicator *elec_new* into *elec_new_pred* (resp. *elec_new_endog*) for predetermined (resp. endogenous) elections held in "new democracies", and *elec_old* into *elec_old_pred* (resp. *elec_old_endog*) for predetermined (resp.

[14] Moreover, pre-electoral manipulation of fiscal policy, and thus income distribution, may depend significantly on the nature of the constitutional rules. As outlined by the relevant literature, politicians in proportional and parliamentary democracies are more prone to promote broad-based policies, such as welfare spending, whereas in majoritarian and presidential ones, this holds for geographically targeted expenditures (see, e.g., Milesi-Ferretti et al. (2002); Persson and Tabellini (2002)). Hence, electoral cycles may differ between proportional and majoritarian systems or presidential and parliamentary governments. It is worth noting, though, that when we split our electoral indicator to account for these differences, the results (available upon request) did not produce any significant electoral effect on income inequality/redistribution.

endogenous) elections in "old democracies". In our case, among the 109 (253) elections held in "new democracies" ("old democracies") in the sample, 87 (177) elections are classified as predetermined. Our unbalanced cross-country time series dataset includes observations for 65 countries over the period of 1975-2010 (see Appendix 1).[15]

In turn, we consider in our empirical analysis a number of explanatory control variables that we expect to affect income inequality and redistribution. More precisely, we include in the set of explanatory variables GDP per capita (*gdppc*) and its squared term (*gdppc^2*), obtained from *Penn World Tables*, to test for the hump-shaped relation between economic development and inequality, as described by Kuznets (1955). Moreover, from the same database we obtain an index of human capital per person (*human capital*), based on years of schooling (Barro and Lee (2013)) and returns to education (Psacharopoulos (1994)). We expected an increase in the *human capital* index to be negatively related to income inequality (see e.g., Li et al. (1998)). In addition, in our analysis we include a number of demographic variables obtained from World Bank's *World Development Indicators* (*WDI*).

More precisely, we employ the dependency ratio of the population (*dependency*) that is measured as the percentage of the population younger than 15 years or older than 64 to the number of people of working age between 15 and 64 years. This variable allows us to control for demographic influences on the structure of social spending and fiscal redistribution (see, e.g., Galasso and Profeta, 2004; von Weizsacker, R., 1996). The next control is population density (*population density*) defined as the population divided by land area in square kilometers. A larger share of population density ensures economies of scale in the provision of the public good and therefore higher fiscal redistribution for given level of spending (see e.g. Alesina and Wacziarg, 1998). Yet, the model includes the inflation rate (*inflation*), because low-income households are likely to be relatively more vulnerable to price increases than others (see, e.g., Albanesi 2007). Furthermore, we use the KOF Index of Economic Globalisation (*global*), developed by Dreher (2006), to test the potential effects of economic globalisation on fiscal redistribution and income inequality (see e.g. Rodrik, 1997; 1998). Finally, we control for regional fixed effect through dummies identifying countries in East-Asia Pacific, Eastern Europe and Central Asia, Latin America, Middle-East and North Africa, North America and Western Europe, the Pacific and the

[15] The sample size was restricted by the availability of income inequality data as well as the competitiveness of elections for those countries and years for which income inequality data are available. Moreover, it is worth noting, that when we restrict the sample to those countries that we have more than 10 observations results (available upon request) remain unaffected.

Caribbean and Sub-Saharan Africa. A complete list of all variables used in our estimations is provided in the Data Appendix.[16]

3.2. Empirical Specification

The basic specification we use to analyze the impact of elections on income inequality and fiscal redistribution is in the following form:

$$Y_{it} = a_0 Y_{it-1} + a_1 elec_{it} + \beta Z_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (23)$$

where Y_{it} stands for the dependent variables that are of interest for income inequality (*gini_market* and *gini_net*) and fiscal redistribution (*redist*) in country *i* and year *t*; *elec* is the indicator we use to capture the influence of elections; *Z* is the vector of country-specific socio-economic control variables that we expect to affect income inequality and redistribution; μ_i and λ_t are unobserved country and time-specific effects, respectively, and ε_{it} is the error term.

In line with many previous studies, we include the lagged dependent variable Y_{it-1} on the right-hand side of our estimated equation, since income inequality may exhibit a great deal of persistence for which one has to control (see, e.g., Chong et al. (2009); Amendola et al. (2013)). A problem that arises from this specification, though, is that regressions produce high autoregressive coefficients near or above 0.9, suggesting that we might well be faced with nonstationarities. If our dependent variable is not stationary, we are faced with spurious relationships when that variable is entered on the right-hand side of the equation. Hence, before proceeding in our estimations, we carry out the Maddala and Wu (MW) (1999), Choi (2001), Levin et al. (LLC) (2002) and Im et al. (IPS) (2003) tests to check for the presence of a unit root. The LLC test assumes that the autoregressive coefficient is common across all cross sections, whereas the other tests are less restrictive, allowing for individual unit roots processes so that the persistence parameters may vary across cross-sections. The null hypothesis in all panel unit root tests is that all series are non-stationary against the alternative that at least one series in the panel is stationary. As can be seen in Table 1, when a constant and a trend are included, we have clear indications that variables *gini_market*, *gini_net* and *redist* are non-stationary. For this reason, we

[16] We have also attempted to include in our model a series of other control variables, such as population size, population density, population growth, foreign aid, voter turnout, variables on political constraints, and others. However, none of these variables had a significant effect on income inequality/redistribution, and due to other concerns as well (correlation of control variables, reduction of sample size), we do not include them in our estimations. Results are available upon request.

apply the same panel unit root test to the first-differenced data. The trend drops out in that case and therefore is not included in the panel unit-root-test regressions in first differences. The results indicate that we can reject the null of non-stationarity at the 1% significance level.

[Table 1, here]

A common approach for dealing with non-stationary data is to take first differences in order to proceed with a dynamic specification in differences (see, e.g., Mechtel and Potrafke (2013)). Hence, we end up estimating the following equation:

$$\Delta Y_{it} = a_0 \Delta Y_{it-1} + a_1 elec_{it} + \beta \Delta Z_{it} + \lambda_t + \varepsilon_{it} \quad (24)$$

where we first difference our dependent variable and the covariates of our model − all measured initially in levels − with the exception of the electoral dummy variable. This implies that we put more structure in the data for the identification of the election effect. It is worth noting, though, that the inclusion of a lagged dependent variable introduces a potential bias by not satisfying the strict exogeneity assumption of the error term ε_{it}. One solution could probably be the application of dynamic panels (e.g., Arellano and Bond (1991); Blundell and Bond (1998)). The problem that arises is that these estimators yield consistent estimates in *small T large N panels.* In our case, we have 65 countries, and when we split our sample between developed and developing countries, these numbers decrease to 22 and 43 countries, respectively. Still, as it is analyzed in the literature, the estimated bias of this formulation is of order *1/T*, where *T* is the time length of the panel, even as the number of countries becomes large (see, among others, Nickell (1981)). The average time series length of our panel is around 22, 29 and 18 for the whole sample, the developed and developing countries, respectively, making the bias probably negligible. It is worth noting by taking first differences we eliminate time-invariant country effects, but not time-fixed effects. Hence, we estimate equation (24) using a dynamic OLS model with time fixed effects.[17] However, in the next section that we check the robustness of our results, splitting even

[17] The F-test results presented in our tables indicate that time-fixed effects are in general significant, and therefore they are included in the regressions. The qualitative results in all regressions do not significantly change when we exclude year effects.

further our sample and reducing the average time series length below 12, we implement also the bias-corrected Least Squares Dummy variable estimator (LSDVc).

4. Results

4.1 Baseline Results

We start our analysis by estimating Equation (24), using the set of control variables described above. Regarding the lagged dependent variable, our results reveal positive and statistically significant coefficients, in the strong majority of our estimates, suggesting that income inequality display a great deal of persistence. Moreover, we get some weak evidence that GDP per capita is positively related to *Δredist* (*Δgini_market*) in the group of developed (developing) countries. Furthermore, the squared term of GDP per capita, namely *Δgdppc^2*, has a negative, though not robust effect on *Δredist* (*Δgini_market*) in the case of developed (developing) countries. Interestingly enough, the human capital indicator *(Δhc)* has a statistically significant effect only when regressed against net income inequality in Table 8, while we find no effect of the age dependency (*Δdependency)* on income inequality and fiscal redistribution.[18] On the other hand, the coefficient of variable *Δpopulation_density*, when the OLS model is applied, is positive when significantly related to market inequality and fiscal redistribution. Next, as expected, the variable *Δinflation* is positively and significantly related to net inequality in the general specification of Table 2. This result, though, does not seem to be robust on the one hand, and on the other hand, when we split our sample between developed and developing countries, it seems to be driven by the case of developing countries. Finally, the variable *Δglobal* has a positive (negative), though not robust, effect on net income inequality (fiscal redistribution) in developed countries.

[Table 2, here]

Moving one step forward, in columns (1)-(3) of Table 2 we estimate the effect of elections on income inequality (*Δgini_market* and *Δgini_net*) and fiscal redistribution (*Δredist),* using the

[18] It should be noted that the qualitative results remain essentially the same after dropping these two variables from our regressions.

simple pre-electoral indicator. Our results indicate that the variable *elec* is negative and significantly related to the variable *Δgini_net* at the 10% level. Hence, we get some weak evidence that around elections net income inequality decreases. In columns (4)-(6), we separate binary indicator *elec* into variables *elec_new* and *elec_old*, for elections held in "new" and "old democracies", respectively. Our results show that the variable *elec_new* is negatively related to net income inequality at the 1% level.[19] Given the insignificant coefficient of variable *elec_new* when related to *Δgini_market* in column (4), we have a clear indication that in "new democracies" incumbents intervene pre-electorally to redistribute income to low-income groups. Indeed, in column (6), the coefficient of *elec_new* is positively related to *Δredist* at the 5% level, which implies that in "new democracies" office-motivated incumbents engage in pre-electoral manipulation to redistribute income to the poorer members of the society. Next, in columns (7)-(9) we proceed into a four-way split of our electoral indicator to distinguish between pre-determined and endogenous elections that were held either in "new" or in "old democracies". The significant coefficient of the variable *elec_new_pred*, suggests that only in "new democracies" and during predetermined electoral campaigns, held during the expected year of the constitutionally fixed term, incumbents adopt policies that generate fiscal redistribution.

Next, in Table 3 we replicate the regressions of columns (7)-(9) of Table 2, after splitting the sample between developed and developing countries. We separate the sample because according to the literature, apart from the issue of the age of the democracy, the level of development can be a crucial determinant for the pre-electoral intensity of fiscal manipulation (see e.g., Streb and Torrens (2013), Klomp and de Haan (2013b)). More specifically, in developing countries checks and balances can be weaker, and informational asymmetries regarding the competence level of the incumbent (a crucial assumption of PBC models) more pronounced, making more likely the adoption of intense pre-electoral policies. In the case of developed countries, it has been argued that the electorate can monitor more easily the elected officials, and punish those who engage in pre-electoral manipulation (see e.g., Brender and Drazen (2008)). On the other hand, it is true that incumbents in developed countries have a greater variety of policy instruments on their disposal. This availability gives them the opportunity to disguise a possible pre-electoral intervention on the one hand, in order to avoid

[19] As already mentioned, following the approach of Brender and Drazen (2005), we consider the first four elections after a shift to a democratic regime, as elections held in a "new democracy". Alternatively if we reduce the number to three the effect of elections becomes stronger, while the opposite holds if we increase the number of elections held in a "new democracy" to five.

the punishment of the electorate, and on the other hand, it makes highly likely an impact on income inequality and/or redistribution measures.

The division of the sample reveals that the result for fiscal redistribution (*Δredist*), is driven by the experience of less-developed countries. More precisely, the electoral indicator suggests for developing countries an increase in *Δredist* of 0.87% during predetermined elections in "new democracies". Given that the mean value of *redist* in the sample of developing countries is 9.87%, the estimate implies that, on average, the percentage reduction in market income inequality due to taxes and transfers increases by 8.8% during predetermined elections in "new democracies".

[Table 3, here]

Our empirical findings are in line with the results driven from our theoretical model as well as with previous studies examining similar issues (see e.g. Brender and Drazen, 2005; 2009). More precisely, our analysis suggests that in relatively vulnerable democratic regimes incumbent politicians allocate resources –through fiscal policy-towards the poorer segments of the society whereas in the case of well established democracies our analysis fails to verify impact of elections on fiscal redistribution. According to our model this difference can be explained by taking into account that in new democracies elections take place "in the shadow of revolution" from low income groups and therefore fiscal policy serves as a device of consolidating democracy. Our findings are also in accordance with Brender and Drazen (2008; 2009) who suggest that pre-electoral shift in fiscal policy in "new democracies", does not improve re-election prospects and conclude that incumbent politicians provide benefits mostly because they seek to provide a signal that "democracy works" and therefore to prevent a reversion to autocracy.[20] The same authors provide evidence that, in young democracies, the regime is almost three times more likely to collapse in election years than in non-election years.

On the other hand, results for developed countries deviate significantly from what we get for developing countries. More precisely, although we get a negative effect of *elec_new_pred* on market inequality (*Δgini_market*), which contributes to the significant reduction of net inequality, fiscal redistribution does not seem to be affected pre-electorally. In is worth noting,

[20] According to Brender and Drazen (2009), in a "new democracy", antidemocratic elites are not the only ones that may pose a threat to the democratic regime. The support by the masses cannot always be taken for granted and electoral policies can serve to shore up mass support.

though, that we cannot make strong inferences about this result, because we have only 8 electoral observations for this variable. However, this result may indicates that the level of development of the public sector in developed countries, allows them to intervene pre-electorally using a variety of different policy instruments. In particular, government intervention may not come solely from transfers, but also from public projects that can potentially decrease market inequality (see, e.g., Alesina et al. (2000)). Moreover, empirical evidence suggests that, in developed and established democracies, incumbents intervene pre-electorally through cuts in direct taxation and increases in public consumption (see e.g., Efthyvoulou (2012); Katsimi and Srantides (2012)). Interestingly enough, though, this intervention does not seem to generate fiscal redistribution or to affect income inequality. This empirical finding is in accordance to the theoretical argument of Olson (1982) that long periods of democracy are associated with formation and accumulation of interest groups and lobbies that demand redistribution in favour of them and away from more disadvantaged citizens in order to ensure political support to the government.

4.2. Sensitivity analysis

In this section we inquire into the robustness of the analytical results obtained in Tables 3, by re-estimating the regressions under various modifications. First, we re-estimate equation (24) after splitting our sample into "new" and "old democracies". Second, we repeat regressions of Table 3 using an alternative electoral indicator that allows us to control for differences in election dates across as well as within countries. Finally, we repeat regressions to ensure that the results of Table 3 are not influenced by outlier observations.

4.2.1. Alternative Specification

As a first step of the sensitivity analysis, instead of dividing the electoral dummy variable between "new" and "old democracies", we proceed to split our sample. More precisely, in columns (1)-(3) of Table 4 we restrict our sample only to those observations that a country is considered as an "old democracy". Next, we re-run equation (24) for "old democracies" after splitting the sample between developed and developing countries, in columns (4)-(6) and (7)-(9), respectively. Moreover, in columns (10)-(12) we keep only those observations that a country is considered a "new democracy", while in columns (13)-(15) we keep in our sample only "new

democracies" in developing countries.[21] As already discussed in section 2.2, the inclusion of a lagged dependent variable on the right-hand-side of the equation introduces a potential bias of order *1/T*, where *T* is the time length of the panel (see, among others, Nickell (1981)). The average time series length of our panel until know was above 18 and the bias is probably negligible. However, in this section that the average length of the panel decreases in some cases below 12, we opt for using the LSDVc estimator as proposed by Kiviet (1995) and extended by Bruno (2005) to unbalanced panels.[22]

[Table 4, here]

As can be seen, our results in Table 4 seem to verify those obtained in Table 3. More precisely, it seems that in "old democracies", irrespective of whether they are developed or developing counties, income inequality and fiscal redistribution are not affected during electoral campaigns. More importantly, results verify that only in "new democracies" and during predetermined electoral campaigns incumbents adopt policies that generate fiscal redistribution.

4.2.2. Weighted electoral indicator

Until now, in order to capture the effect of elections, we followed the majority of the relevant literature, and we included in our regressions an election dummy (*elec*) that receives the value of one in an election year and zero otherwise. It is important to note that this indicator is not affected by the specific timing of elections. This might be problematic, because if elections take place early in the year, then the dummy variable may be capturing primarily post-electoral effects. One way to deal with this issue is to construct a pre-election indicator (*preel*) that takes the value of x/12, with x denoting the month the election is held, in order to directly control for differences in election dates across as well as within countries (see, e.g., Franzese 2000). In order to reproduce regressions in Table 3, we proceed into a four-way split of variable *preel*. More precisely, we split indicator *preel* into *preel_new_pred* (*preel_new_end*) and *preel_old_pred*

[21] Unfortunately, we do not have enough observations to perform regressions for "new democracies" in developed economies.

[22] We use the Arellano-Bond (1991) as the first step estimator, whereas we undertake 200 repetitions of the procedure to bootstrap the estimated standard errors. The qualitative results, though, remain unaffected when we apply the Anderson and Hsiao (1982) or the Blundell and Bond (1998) models as first-step estimators or even when we apply more repetitions to estimate the standard errors.

(*preel_old_end*), for predetermined (endogenous) elections in "new" and "old democracies", respectively.

[Table 5, here]

Regarding the effect of elections on inequality and redistribution, the qualitative results presented in Table 5 remain essentially the same as those depicted in Table 3. More precisely, our previous finding that fiscal redistribution (*Δredist*) increases only during predetermined elections held in "new democracies" continues to hold.

4.2.3. Testing for outliers

As a final step, we perform three checks to ensure that the results presented in Table 3 are not influenced by outlier observations. First, to control for the effect of individual outliers, we use Cook's distance that measures the effect of deleting a given observation based on each observation's residual in the regression and its leverage in the estimation process. Hence, according to the rule of thumb, we re-estimate regressions without observations with a Cook's distance larger than 4/*n* (where n the number of observations). As can be seen, Cook's distance identified 32 to 40 outlier observations in the various specifications. In Tables 6 that we re-estimate our regressions after dropping the identified outlier observations the statistical significance of the main variables of interest remain unaffected. Moreover, as expected, the R-squared of the estimated equations has significantly improved by the exclusion of the outliers.

[Table 6, here]

Second, as already mentioned, the SWIID maximizes the comparability of available income inequality data, but incomparability remains and it is reflected in the standard errors reported for each observation of variables *gini_market*, *gini_net* and *redist*. The provision of standard errors is an additional advantage of the SWIID, because it allows us to take into account the largest part of the remaining uncertainty of inequality data estimates. Hence, in Table 7, in order to increase further the reliability of our results, we choose to exclude from regressions 10% of the observations that variables *gini_market*, *gini_net* and *redist* are associated with the higher

standard errors.[23] The results that are reported in Tables 7 and confirm our previous finding about the positive impact of elections held in "new democracies" on fiscal redistribution.

[Table 7, here]

Finally, in Table 8 we estimate our preferred specifications excluding the ex-Soviet Union countries. Given the profound restructuring of these countries' societies and economies during the period of democratisation, which probably differs from other democratizations observed in our sample, we attempt to assess the importance of this group of countries for our results. Hence, in columns (1)-(3) of Table 8 we choose to exclude the ex-Soviet Union countries from the full sample of 65 countries, as well as from the group of developing countries in columns (4)-(6). As can be seen in Table 8, our results for the effect of elections on fiscal redistribution do not seem to be driven by the experience of the ex-Soviet Union countries.

[Table 8, here]

4.3. Regime's stability and fiscal redistribution around elections

So far our results indicate that the age of the regime is a crucial determinant for the shape of fiscal policy around elections. More specifically, during the first four elections of a newly established democratic regime, fiscal manipulation seems to generate fiscal redistribution. On the other hand, pre-electoral manipulation after the consolidation of the democratic regime does not seem to provide any distributional implications. It seems that the vulnerability of the democratic regime in the first years after the transition is directly related to this result. More precisely, according to Brender and Drazen (2009), in the first years after the transition, antidemocratic elites are not the only threat to the newly established regime. The support by the masses cannot always be taken for granted, and electoral policies can serve to shore up mass support. The same authors provide evidence that in "new democracies" the regime is almost three times more likely to collapse in election years than in non-election years. Hence, fiscal redistribution to low-

[23] Additionally, if we drop from our sample the three Sub-Saharan Africa countries, where the precision of the estimates for the Gini-indices and fiscal redistribution measures may not be that accurate, our results (available upon request) remain unaffected.

income groups can serve as a signal that "democracy works" and prevent a reversion to autocracy at a time of high vulnerability. On the other hand, after some years where the regime consolidates, although evidence suggests that elected officials manipulate fiscal policy, the effect on fiscal redistribution disappears.

In this section we attempt to provide additional evidence that the vulnerability of the regime, which so far has been measured by the age of the democracy, is of paramount importance for the observed pro-poor pre-electoral policies. Ideally, in our analysis, we would prefer to use measures for the public attitudes towards democracy based on the World Value Survey (Inglehart et al. 2004). Unfortunately, though, for the most relevant to our research questions of this survey (e.g., having a democratic political system) we have only 3 observations per country from 1994 onwards. As an alternative, we use measures of state violence that are provided at the Social, Political, and Economic Event Database (SPEED), collected by Nardulli et al. (2012) at the University of Illinois. The database includes daily observations for a range of variables (e.g, coups, anti-regime protests etc), which we collapse into simple counts per country-year. From the alternatives provided, we choose the variables *state repression* and *state violence* as the two most relevant for our purpose. Hence, in order to identify the potential effect of regime's stability on the relationship between the elections and fiscal redistribution we modify equation (3) in the following way:

$$\Delta Y_{it} = a_0 \Delta Y_{it-1} + a_1 elec_{it} + \alpha_2 elec * \Delta state\ repression + \\ + \alpha_3 \Delta state\ repression + \beta \Delta Z_{it} + \lambda_t + \varepsilon_{it} \quad (25)$$

$$\Delta Y_{it} = a_0 \Delta Y_{it-1} + a_1 elec_{it} + \alpha_2 elec * \Delta state\ violence + \\ + \alpha_3 \Delta state\ violence + \beta \Delta Z_{it} + \lambda_t + \varepsilon_{it} \quad (26)$$

where the variables *state repression* and *state violence* enter in equation (25) and (26), on their own and interacted with the variable *elec*. More precisely, in Table 9, where the dependent variable is fiscal redistribution (*Δredist*), we interact the four-way split electoral indicator with the two alternative measures of political instability. In columns (1) and (4) we use the whole sample of countries, while in columns (2), (5) and (3), (6) the groups of developed and developing countries, respectively.

[Table 9, here]

The results obtained are very interesting. As can be seen, the variable *Δstate repression* is insignificantly related to fiscal redistribution in all estimates, while *Δstate violence* is negatively related to fiscal redistribution in the specification for the whole groups of countries in column (4). Moreover, when we split the sample between developed and developing countries, none of the electoral variables, or the interacted terms, are statistically significant for the case of developed countries. Nonetheless, for developing countries when we interact *state repression* and *state violence* with the electoral indicators, evidence is supportive for the effect of pre-electoral instability on the shape of fiscal policy. More specifically, in column (3) although we find no evidence of fiscal redistribution around endogenous elections in "new democracies", when we interact the variable *elec_new_end* with *state repression* the effect becomes positive and statistically significant. Interestingly enough, for the same group of countries, it seems that *state violence* is an important determinant of fiscal redistribution not only in "new" but in "old" democracies as well, as indicated by the statistically significant coefficients of the variables *elec_new_pred*Δstate violence* and *elec_old_pred*Δstate violence*. Hence, as expected, in the first years after the transition to the democratic regime, when the elected officials face turbulences around elections, they shift fiscal policy towards poorer segments of the society in order to stabilize the regime. The fact that we get an identical result for "old democracies" in developing countries, might prove that the path to consolidation in many cases is not completed after the end of the first years of the democratic transition.

5. Conclusions

This paper examines whether policy intervention around elections affects income inequality and actual fiscal redistribution. Building on the theoretical model of Aidt and Mooney (2014) we develop a simplified theoretical framework which allows us to examine fiscal redistribution around elections when "democracy is not the only game in town" and there is a threat of revolution from the low income groups of agents. Our analysis suggests that in relatively vulnerable democratic regimes -where fiscal policy also serves as a device of consolidating

democracy- incumbent politicians allocate resources to a broader group of agents (which include low-income agents) during the pre-electoral periods. In contrast, in relatively stable democratic regimes fiscal transfers are strictly targeted to the middle class that consists the pivotal group of voters in "old democracies".

Subsequently, employing data for a panel of 65 developed and developing countries during the period of 1975-2010 we provide robust empirical evidence that in countries characterized as "young democracies" elections exert a positive and highly significant impact on actual fiscal redistribution. Moreover, our findings suggest that the effect of elections is stronger in young democracies characterized by relatively higher political instability. In contrast, our analysis fails to provide evidence in favour of an electoral cycle on (i) market income inequality, (ii) net income inequality and (iii) actual fiscal redistribution for countries characterized as "established democracies", irrespective of whether they are developed or developing countries.

Appendix 1: List of countries

Country	Developed economy	Transition economy	"New democracy"	Years included in the sample (as "New Democracy")	Number of elections (as "New Democracy")
Argentina			√	1987-2010 (1987-2003)	5 (4)
Armenia		√	√	1995-2008(1995-2008)	3(3)
Australia	√			1975-2010	13
Austria	√			1985-2010	8
Bangladesh			√	1992-2010 (1992-2010)	2(2)
Belgium	√			2001-2010	3
Bolivia			√	1991-2004 (1991-1997)	4(2)
Brazil			√	1987-2009 (1987-2002)	5(4)
Bulgaria		√	√	1993-2010 (1993-2006)	4 (3)
Canada	√			1975-2010	10
Chile			√	1990-2009 (1990-2009)	4(4)
Colombia				1987-2009	5
Costa Rica				1987-2009	5
Czech Republic		√	√	1995-2010(1995-2006)	5(4)
Denmark	√			1978-2010	11
Dominican Rep.			√	1988-2009(1988-1994)	6(2)
Ecuador			√	1989-2009(1989-1996)	6(2)
El Salvador			√	1987-2008 (1987-1994)	4(2)
Estonia		√	√	1997-2010(1997-2003)	3(2)
Finland	√			1975-2010	8
France	√			1975-2010	8
Germany	√			1991-2010	5
Guatemala			√	1987-2006(1987-1999)	5(4)
Honduras			√	1991-2010(1991-1993)	5(1)
Hungary		√	√	1991-2010(1991-2002)	5(3)
India				1987-2005	6
Indonesia			√	1999-2010(1999-2010)	3(3)
Ireland	√			1982-2009	7
Israel				1978-2005	8
Italy	√			1977-2010	9
Japan	√			1977-2010	11
Korea	√		√	1987-2010(1987-2000)	6(4)
Latvia		√	√	1993-2010(1993-2002)	5(3)
Lithuania		√	√	1994-2010(1994-2010)	4(3)
Luxemburg				2001-2010	2
Malaysia				1989-2005	4
Mexico			√	1994-2010(1994-2010)	3(3)
Moldova		√	√	1993-2010(1993-2009)	5(4)
Nepal			√	1992-2002(1992-2002)	2(2)
Netherlands	√			1975-2010	11
New Zealand	√			1978-2007	9
Norway	√			1978-2010	8
Panama			√	1989-2010(1989-2004)	5(4)
Paraguay			√	1992-2010(1992-2000)	5(3)
Peru			√	1987-2010(1987-1995)	5(2)
Philippines			√	2002-2009(2002-2009)	1(1)
Poland		√	√	1990-2010(1990-2004)	4(3)
Portugal	√		√	1982-2010(1982-1985)	9(2)
Romania		√	√	1992-2010(1992-2004)	5(4)
Russia		√	√	1994-2008(1994-2008)	4(4)
Senegal			√	2000-2006(2000-2006)	1(1)
Slovak Rep.		√	√	1994-2010(1995-2002)	5(4)
Slovenia		√	√	1992-2010(1994-2004)	5(4)
South Africa				1987-2006	5
Spain	√		√	1982-2010(1982-1986)	8(2)
Sweden	√			1977-2010	10
Switzerland	√			1982-2010	7
Thailand				1987-2004	3
Trinidad and Tobago				1987-2005	5
Ukraine		√	√	1994-2008(1994-2008)	3(3)
United Kingdom	√			1975-2010	8
United States	√			1975-2010	8
Uruguay	√	√	√	1987-2010(1987-2004)	5(4)
Venezuela				1987-2008	4
Zambia			√	1992-2005(1992-2005)	2(2)

Appendix 2

Proposition 1. *The politician generates a rational political budget cycle. The pre-election result is* $T_1^{M*} = \bar{\tau}\bar{y} - \frac{1}{\beta(\mathrm{M} + r_2)} > 0$, $r_1^* = \frac{1}{\beta(\mathrm{M} + r_2)} < \tau\bar{y}$, $\mathrm{T}_1^{P*} = \mathrm{T}_1^{R*} = 0$ *and the after election result* $\mathrm{T}_2^{P*} = T_2^{M*} = T_2^{R*} = 0$ *and* $r_2^* = \tau\bar{y}$.

Proof.

In period 2, the politician has no incentive to behave well. Therefore, he extracts the maximum amount of rents $r_2^* = \bar{\tau}\bar{y}$ implying zero targeted transfers to all alternative groups of agents $\mathrm{T}_2^{P*} = T_2^{M*} = T_2^{R*} = 0$.

In period 1, the incumbent decides optimally $\mathrm{T}_1^P, T_1^M, T_1^R$ and r_1 by maximizing equation (15) subject to the government budget constraint in the first period (*i.e.* $\mathrm{T}_1^P + T_1^M + T_1^R + r_1 = \bar{\tau}\bar{y}$) and the rent extraction decision of the second period (i.e. $r_2^* = \bar{\tau}\bar{y}$). Equation (15) shows that T_1^P and T_1^R implies solely costs from the point of view of the incumbent. Therefore, in the absence of any cost benefit trade off, optimal decision is $\mathrm{T}_1^{P*} = \mathrm{T}_1^{R*} = 0$.

Taking the first order derivative with respect to T_1^M, we have:

$\frac{1}{\bar{\tau}\bar{y} - T_1^P - T_1^M - T_1^R} = \beta(\mathrm{M} + r_2)$ which for given $\mathrm{T}_1^{P*} = \mathrm{T}_1^{R*} = 0$ concludes to $T_1^{M*} = \bar{\tau}\bar{y} - \frac{1}{\beta(\mathrm{M} + r_2)}$ which is positive for $\mathrm{M} > \bar{\tau}\bar{y} - \frac{1}{\beta(\bar{\tau}\bar{y})}$.

Finally, from the government budget constraint in the first period (*i.e.* $\mathrm{T}_1^P + T_1^M + T_1^R + r_1 = \bar{\tau}\bar{y}$) we take $r_1^* = \frac{1}{\beta(\mathrm{M} + r_2)} < \tau\bar{y}$

Proposition 2. *Pre-electoral increases in transfers targeted to the group of the middle class* $T_1^{M*} = \bar{\tau}\bar{y} - \frac{1}{\beta(\mathrm{M}+r_2)} > T_2^{M*}$ *do not change the after tax and transfers Gini coefficients and therefore do not affect actual fiscal redistribution.*

Proof.

By definition the –after tax and transfers- Gini coefficient in period 2 (after the elections) equals to:

$$G_2 = \delta_p - \delta_R + s_{R,2}(\delta_{\mathrm{M}} + \delta_R) - s_{P,2}(\delta_P + \delta_M)$$

where the δ's denote the proportions of the three groups and the s's denote the –after taxes and transfers-income shares of the rich and the poor in the second period.

Similarly the –after tax and transfers-Gini coefficient in period 1 (before the elections) equals to:

$$G_1 = \delta_p - \delta_R + s_{R,1}(\delta_{\mathrm{M}} + \delta_R) - s_{P,1}(\delta_P + \delta_M)$$

where the δ's denote the proportions of the three groups and the s's denote the –after taxes and transfers-income shares of the rich and the poor in the first period.

Obviously, since $s_{R,1} = s_{R,2}$ and $s_{P,1} = s_{P,2}$ (i.e. the –after taxes and transfers-income shares of the rich and the poor do not change from period 1 to period 2), $G_1 = G_2$. Therefore, in the pre-electoral period income inequality remains constant $\Delta G = 0$.

Proposition 3. *The politician generates a rational political budget cycle. The pre-election result is* $T_1^{M*} = \bar{\tau}\bar{y} - \frac{1}{\frac{1}{2}\beta(\mathrm{M}+r_2)} - T_1^{P*} \geq 0$, $T_1^{P*} = \bar{\tau}\bar{y} - \frac{1}{\frac{1}{2}\beta(\mathrm{M}+r_2)} - T_1^{M*} \geq 0$, $r_1^* = \bar{\tau}\bar{y} - T_1^{M*} - T_1^{P*} < \bar{\tau}\bar{y}$, $\mathrm{T}_1^{R*} = 0$ *and the after election result* $\mathrm{T}_2^{P*} = T_2^{M*} = T_2^{R*} = 0$ *and* $r_2^* = \tau\bar{y}$.

Proof.

In period 2, the politician has no incentive to behave well. Therefore, he extracts the maximum amount of rents $r_2^* = \bar{\tau}\bar{y}$ implying zero targeted transfers to all alternative groups of agents $\mathrm{T}_2^{P*} = T_2^{M*} = T_2^{R*} = 0$.

In period 1, the incumbent decides optimally $\mathrm{T}_1^P, T_1^M, T_1^R$ and r_1 by maximizing equation (21) subject to the government budget constraint in the first period (*i.e.* $\mathrm{T}_1^P + T_1^M + T_1^R + r_1 = \bar{\tau}\bar{y}$) and the rent extraction decision of the second period (i.e. $r_2^* = \bar{\tau}\bar{y}$). Equation (21) shows that T_1^R implies solely costs from the point of view of the incumbent. Therefore, in the absence of any cost benefit trade off, optimal decision is $\mathrm{T}_1^{R*} = 0$.

Then, taking the first order derivatives with respect to T_1^P and T_1^M we have:

$\frac{1}{\bar{\tau}\bar{y} - T_1^P - T_1^M - T_1^R} = \frac{1}{2}\beta(\mathrm{M} + r_2)$ which for given $\mathrm{T}_1^{R*} = 0$ concludes to $T_1^{M*} = \bar{\tau}\bar{y} - \frac{1}{\frac{1}{2}\beta(\mathrm{M} + r_2)} - T_1^{P*}$

and

$\frac{1}{\bar{\tau}\bar{y} - T_1^P - T_1^M - T_1^R} = \frac{1}{2}\beta(\mathrm{M} + r_2)$ which for given $\mathrm{T}_1^{R*} = 0$ concludes to $T_1^{P*} = \bar{\tau}\bar{y} - \frac{1}{\frac{1}{2}\beta(\mathrm{M} + r_2)} - T_1^{M*}$

Finally, from the government budget constraint in the first period (*i.e.* $\mathrm{T}_1^P + T_1^M + T_1^R + r_1 = \bar{\tau}\bar{y}$) we take $r_1^* = \bar{\tau}\bar{y} - T_1^{M*} - T_1^{P*}$ which is smaller than r_2^* for any positive value of T_1^{M*} or T_1^{P*}

Proposition 4. *Every combination of* T_1^{M*} and T_1^{P*} *that ensures* $T_1^{P*} > 0$ *directs an amount of total transfers to the low-income group of agents. In this case pre-electoral increases in transfers reduce the -after tax and transfers- Gini coefficients and increase actual fiscal redistribution.*

Proof.

By definition the –after tax and transfers- Gini coefficient in period 2 (after the elections) equals to:

$G_2 = \delta_p - \delta_R + s_{R,2}(\delta_{\mathrm{M}} + \delta_R) - s_{P,2}(\delta_P + \delta_M)$

where the δ's denote the proportions of the three groups and the s's denote the income shares of the rich and the poor in the second period.

Similarly the –after tax and transfers-Gini coefficient in period 1 (before the elections) equals to:

$$G_1 = \delta_p - \delta_R + s_{R,1}(\delta_M + \delta_R) - s_{P,1}(\delta_P + \delta_M)$$

where the δ's denote the proportions of the three groups and the s's denote the –after taxes and transfers-income shares of the rich and the poor in the first period.

It can be easily verified that when $T_1^{P*} > T_2^{P*} = 0$ we have $s_{P,1} > s_{P,2}$ (i.e. the –after taxes and transfers- income shares of the poor increases in period 1 compared to period 2) and consequently $G_1 < G_2$. In other words, in the pre-electoral period income inequality decreases, $\Delta G < 0$.

Data Appendix: variable descriptions, descriptive statistics and data sources

Variable	Description	Obs.	Mean	SD	Min	Max	Source
gini_market	Gini coefficient of gross household market(pre-tax, pre-transfer) income	1425	44.745	6.574	28.563	69.954	Solt (2009) , Standardized World Income Inequality Database (SWIID)
Δ gini_market	Change in Gini coefficient of gross household income	1425	0.127	1.316	-8.646	7.294	SWIID
gini_net	Gini coefficient of household disposable (post-tax, post-transfer) income	1425	35.860	10.012	19.700	65.721	SWIID
Δ gini_net	Change in Gini coefficient of household disposable (post-tax, post-transfer) income	1425	0.056	0.897	-5.685	5.452	SWIID
redist	Percentage reduction of Gini coefficient before and after the fiscal redistribution (i.e. before and after taxes and transfers)	1425	20.105	16.814	-20.701	59.907	SWIID
Δredist	Change in percentage reduction of Gini coefficient before and after the fiscal redistribution (i.e. before and after taxes and transfers).	1425	0.054	1.701	-12.390	12.756	SWIID
elec	Dummy variable that receives the value 1 in the election year and 0 otherwise.	1425	0.255	0.436	0	1	Keefer (2012), Database of Political Institutions (DPI)
elec_new	Dummy variable that receives the value 1 for elections held in "new democracies" and 0 otherwise.	1425	0.077	0.267	0	1	DPI
elec_old	Dummy variable that receives the value 1 for elections held in "old democracies" and 0 otherwise.	1425	0.178	0.382	0	1	DPI
elec_new_pred	Dummy variable that receives the value 1 for predetermined elections held in "new democracies" and 0 otherwise.	1425	0.062	0.241	0	1	DPI
elec_new_endog	Dummy variable that receives the value 1 for endogenous elections held in "new democracies" and 0 otherwise.	1425	0.015	0.123	0	1	DPI
elec_old_pred	Dummy variable that receives the value 1 for predetermined elections held in "old democracies" and 0 otherwise.	1425	0.124	0.329	0	1	DPI
elec_old_endog	Dummy variable that receives the value 1 for endogenous elections held in "old democracies"and 0 otherwise.	1425	0.055	0.228	0	1	DPI
preel_new_pred	Indicator variable that receives value (x/12) in the election year, with x the months before election, for predetermined elections held in "new democracies" and 0 otherwise.	1425	0.037	0.160	0	1	DPI
preel_new_endog	Indicator variable that receives value (x/12) in the election year, with x the months before election, for endogenous elections held in "new democracies" and 0 otherwise.	1425	0.010	0.086	0	1	DPI
preel_old_pred	Indicator variable that receives value (x/12) in the election year, with x the months before election, for predetermined elections held in "old democracies" and 0 otherwise.	1425	0.072	0.212	0	1	DPI
preel_old_endog	Indicator variable that receives value (x/12) in the election year, with x the months before election, for endogenous elections held in	1425	0.034	0.156	0	1.083	DPI

	"old democracies" and 0 otherwise.						
Liec	Legislative index for electoral competitiveness.	1425	6.974	0.191	6.000	7.000	DPI
Eiec	Executive index for electoral competitiveness.	1425	6.974	0.191	6.000	7.000	DPI
gdppc	Real GDP per capita income	1425	16.986	12.500	0.736	80.231	Penn World Tables 8 (PWT)
Δgdppc	Change in real GDP per capita income	1425	0.333	0.657	-5.814	4.934	PWT
gdppc^2	Real GDP per capita income squared	1425	444.663	627.043	0.542	6437.068	PWT
Δgdppc^2	Change in real GDP per capita income squared	1425	15.279	49.568	-894.607	676.467	PWT
hc	Index of human capital per person	1425	2.710	0.455	1.404	3.619	PWT
Δhc	Change in index of human capital per person	1425	0.017	0.015	-0.031	0.084	PWT
dependency	Population under the age of 14 as a share of total population (%)	1425	56.139	12.017	37.589	97.765	World Bank Development indicators (WDI) online
Δdependency	Change in population under the age of 14 as a share of total population (%)	1425	-0.454	0.559	-2.354	1.425	WDI online
population density	Population divided by land area in square kilometers (%)	1425	122.993	150.577	1.847	1160.990	WDI online
population density	Change in urban population as a share of total population (%)	1425	1.035	2.304	-2.799	19.547	WDI online
inflation	Inflation rate	1425	0.355	2.782	-0.235	68.369	WDI online
Δinflation	Change in inflation rate	1425	-0.058	2.949	-64.570	39.090	WDI online
global	KOF index of economic globalization	1425	63.472	16.880	9.863	98.877	Dreher (2006)
Δglobal	Change in KOF index of economic globalization	1425	0.841	2.284	-11.071	19.396	Dreher(2006)
state repression	Intensity of state repression	1142	1.114	3.111	0.000	31.600	Social, Political, and Economic Event Database (SPEED)
Δ state repression	Change in intensity of state repression	1142	-0.148	3.305	-32.100	22.700	SPEED
state violence	Intensity of state violence	1142	2.793	14.858	0.000	313.200	SPEED
Δ state violence	Change in intensity of state violence	1142	-0.067	16.878	-275.300	313.200	SPEED

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Table 1. Panel Unit root tests (H_0: unit root)

Variables	LLC		IPS		ADF- Fisher Chi-square		ADF-Choi Z-stat	
	Constant	Constant and Trend	Constant	Constant and Trend	Constant	Constant and Trend	Constant	Constant and Trend
gini_market	-1.952** (0.025)	-0.318 (0.375)	1.701 (0.955)	0.473 (0.689)	116.379 (0.626)	153.433** (0.028)	1.759 (0.961)	0.986 (0.838)
Δgini_market	-10.505*** (0.000)	-	-8.867*** (0.000)	-	305.895*** (0.000)	-	-7.397*** (0.000)	-
gini_net	-2.354*** (0.009)	-0707 (0.239)	1.214 (0.887)	1.7001 (0.955)	128.125 (0.334)	110.296 (0.767)	1.207 (0.886)	1.957 (0.974)
Δgini_net	-3.125*** (0.001)	-	-6.414*** (0.000)	-	271.299*** (0.000)	-	-6.673*** (0.000)	-
redist	-5.389*** (0.000)	-0.827 (0.204)	-3.565*** (0.000)	-0.416 (0.338)	183.299*** (0.000)	149.287** (0.047)	-2.885*** (0.002)	-0.295 (0.383)
Δredist	-5.622*** (0.000)	-	-8.133*** (0.000)	-	342.399*** (0.000)	-	-8.379*** (0.000)	-

Notes: The "Δ" prefix of a variable indicates that the first differences were taken. Figures without parenthesis are test statistics and those inside parentheses are respective probabilities. *** denotes significance at 1% level, ** denotes significance at 5% level and * denotes significance at 10% level. Results are reported for a lag length of 1, but are not sensitive to this choice.

Table 2. Elections and fiscal redistribution: basic findings

Dependent variable:	(1) Δgini_market	(2) Δgini_net	(3) Δredist	(4) Δgini_market	(5) Δgini_net	(6) Δredist	(7) Δgini_market	(8) Δgini_net	(9) Δredist
elec	-0.038	-0.088*	0.132	-	-	-	-	-	-
	(0.07)	(0.04)	(0.09)						
elec_ new	-	-	-	-0.020	-0.247***	0.631**	-	-	-
				(0.13)	(0.09)	(0.26)			
elec_old	-	-	-	-0.046	-0.018	-0.088	-	-	-
				(0.07)	(0.04)	(0.08)			
elec_new_pred	-	-	-	-	-	-	0.049	-0.268***	0.853***
							(0.12)	(0.10)	(0.30)
elec_new_endog	-	-	-	-	-	-	-0.281	-0.164	-0.204
							(0.34)	(0.24)	(0.36)
elec_old_pred	-	-	-	-	-	-	-0.035	-0.015	-0.025
							(0.08)	(0.05)	(0.09)
elec_old_endog	-	-	-	-	-	-	-0.071	-0.024	-0.230
							(0.18)	(0.08)	(0.25)
ΔY_{t-1}	0.220**	0.191**	0.179**	0.220**	0.194**	0.180***	0.222***	0.192**	0.183***
	(0.08)	(0.09)	(0.07)	(0.08)	(0.09)	(0.07)	(0.08)	(0.09)	(0.07)
Δgdppc	0.149	0.036	0.166	0.149	0.034	0.177	0.143	0.035	0.154
	(0.09)	(0.08)	(0.12)	(0.09)	(0.08)	(0.12)	(0.09)	(0.08)	(0.12)
Δgdppc^2	-0.001	-0.000	-0.002*	-0.001	-0.000	-0.002*	-0.001	-0.000	-0.002*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Δhc	-0.006	-2.182	2.773	-0.001	-2.221	2.906	0.003	-2.220	2.947
	(2.57)	(2.03)	(2.50)	(2.57)	(2.05)	(2.51)	(2.58)	(2.05)	(2.53)
Δdependency	0.128	0.069	0.075	0.128	0.068	0.077	0.127	0.068	0.074
	(0.09)	(0.08)	(0.10)	(0.09)	(0.07)	(0.10)	(0.09)	(0.07)	(0.11)
Δpopulation_density	0.047*	0.006	0.075***	0.046*	0.008	0.070***	0.045*	0.008	0.066***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Δinflation	0.019	0.025*	-0.018	0.019	0.026*	-0.020	0.018	0.026*	-0.023
	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)
Δglobal	0.029	0.027**	-0.012	0.029	0.027**	-0.011	0.029	0.027**	-0.011
	(0.02)	(0.01)	(0.03)	(0.02)	(0.01)	(0.03)	(0.02)	(0.01)	(0.03)
R^2	0.131	0.132	0.086	0.131	0.135	0.094	0.132	0.135	0.099
N	1421	1421	1421	1421	1421	1421	1421	1421	1421
Avg. time series length	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9

Notes: The "Δ" prefix of a variable indicates that the first differences were taken. All regressions include time and regional fixed effects. Robust standard errors, clustered by country, in parentheses. *** denotes significance at 1% level, ** denotes significance at 5% level and * denotes significance at 10% level.

Table 3. Elections and fiscal redistribution: Developed vs. Developing countries

	Developed countries			Developing countries		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**
elec_new_pred	-0.790**	-0.734*	0.051	0.087	-0.244**	0.873***
	(0.33)	(0.38)	(1.79)	(0.11)	(0.10)	(0.29)
elec_new_endog	-0.332	-0.159	-0.198	-0.213	-0.175	-0.152
	(0.26)	(0.15)	(0.40)	(0.34)	(0.24)	(0.44)
elec_old_pred	-0.019	0.000	-0.031	-0.024	0.028	-0.039
	(0.09)	(0.07)	(0.11)	(0.13)	(0.10)	(0.18)
elec_old_endog	0.010	0.038	-0.257	-0.184	-0.145	-0.123
	(0.23)	(0.09)	(0.33)	(0.27)	(0.17)	(0.36)
ΔY_{t-1}	0.339***	0.352***	0.254***	0.138	0.129	0.154
	(0.07)	(0.07)	(0.06)	(0.11)	(0.10)	(0.09)
Δgdppc	0.116	-0.018	0.218	0.449*	0.226	0.229
	(0.13)	(0.09)	(0.14)	(0.24)	(0.25)	(0.40)
Δgdppc^2	-0.001	0.000	-0.002*	-0.012*	-0.006	-0.005
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Δhc	2.732	0.839	4.497	-2.918	-5.157	1.719
	(3.02)	(1.29)	(4.26)	(3.96)	(3.36)	(3.62)
Δdependency	0.144	0.016	0.152	0.070	0.049	0.046
	(0.10)	(0.07)	(0.12)	(0.12)	(0.12)	(0.15)
Δpopulation_density	0.003	0.001	0.006	0.067***	0.014	0.089***
	(0.03)	(0.02)	(0.04)	(0.02)	(0.02)	(0.02)
Δinflation	0.541	0.487	-0.529	0.018	0.027**	-0.027
	(2.87)	(1.80)	(1.64)	(0.02)	(0.01)	(0.02)
Δglobal	0.036	0.046*	-0.075**	0.027	0.022	0.002
	(0.05)	(0.02)	(0.03)	(0.02)	(0.01)	(0.03)
R^2	0.191	0.193	0.145	0.146	0.167	0.101
N	637	637	637	784	784	784
Avg. time series length	28.9	28.9	28.9	18.2	18.2	18.2

Notes: set Table 2

Table 4. Elections and fiscal redistribution: "New" vs. "Old" democracies in Developed and Developing countries

	"Old Democracies"			Developed economies "Old Democracies"			Developing economies "Old Democracies"			"New democracies"			Developing Economies "New democracies"		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Dependent variable:	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**
elec_pred	-0.003	-0.003	-0.013	-0.023	-0.008	-0.023	0.020	0.007	0.006	0.045	-0.232	0.822**	0.094	-0.205	0.908***
	(0.12)	(0.06)	(0.11)	(0.14)	(0.08)	(0.16)	(0.13)	(0.10)	(0.16)	(0.20)	(0.15)	(0.33)	(0.21)	(0.16)	(0.34)
elec_endog	-0.016	0.010	-0.193	0.007	0.042	-0.281	-0.138	-0.081	-0.163	-0.324	-0.237	-0.326	-0.361	-0.278	-0.314
	(0.05)	(0.09)	(0.17)	(0.17)	(0.10)	(0.20)	(0.26)	(0.21)	(0.33)	(0.37)	(0.27)	(0.59)	(0.42)	(0.31)	(0.65)
ΔY_{t-1}	0.384***	0.344***	0.359***	0.383***	0.379***	0.299***	0.258***	0.219***	0.460***	-0.044	0.003	0.043	-0.043	-0.004	0.066
	(0.04)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)
Δgdppc	0.024	-0.036	0.117	0.036	-0.082	0.216	0.616*	0.250	0.611	0.186	0.342	-0.258	0.412	0.420	0.086
	(0.13)	(0.07)	(0.14)	(0.21)	(0.12)	(0.24)	(0.36)	(0.30)	(0.45)	(0.63)	(0.47)	(1.01)	(0.64)	(0.47)	(1.02)
Δgdppc^2	-0.000	0.000	-0.001	-0.000	0.001	-0.001	-0.016	-0.006	-0.018	-0.012	-0.016	0.006	-0.030	-0.024	-0.022
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.04)	(0.03)	(0.02)	(0.05)
Δhc	0.335	-1.123	3.239	3.165	0.835	6.507	-3.357	-5.066	1.260	-5.807	2.232	-15.572	-6.560	3.840	-21.418
	(0.61)	(2.15)	(3.94)	(4.42)	(2.44)	(5.11)	(4.95)	(4.05)	(6.26)	(8.37)	(6.18)	(13.28)	(9.92)	(7.30)	(15.78)
Δdependency	-0.024	-0.019	-0.082	0.054	-0.018	0.055	-0.184	-0.040	-0.174	0.582**	0.616***	-0.163	0.573*	0.638***	-0.241
	(0.14)	(0.07)	(0.14)	(0.17)	(0.09)	(0.20)	(0.22)	(0.18)	(0.27)	(0.28)	(0.21)	(0.45)	(0.30)	(0.22)	(0.47)
Δpopulation_density	0.019	-0.006	0.059	0.025	-0.005	0.077	0.061	-0.004	0.092	-0.509***	0.066	-0.868***	-0.490***	0.090	-0.843***
	(0.02)	(0.04)	(0.08)	(0.12)	(0.07)	(0.14)	(0.10)	(0.08)	(0.12)	(0.19)	(0.14)	(0.30)	(0.18)	(0.13)	(0.29)
Δinflation	-0.048	0.038	-0.097	1.584	1.156	-0.326	0.228	0.266	-0.051	0.008	0.018	-0.025	0.007	0.017	-0.029
	(0.13)	(0.19)	(0.35)	(2.53)	(1.40)	(2.92)	(0.53)	(0.43)	(0.66)	(0.02)	(0.01)	(0.03)	(0.02)	(0.01)	(0.02)
Δglobal	0.036	0.036**	-0.023	0.049	0.054**	-0.067	0.030	0.023	0.001	-0.010	0.000	-0.012	-0.005	0.002	-0.008
	(0.06)	(0.01)	(0.03)	(0.04)	(0.02)	(0.05)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.05)	(0.03)	(0.02)	(0.05)
N	973	973	973	604	604	604	368	368	368	440	440	440	412	412	412
Avg. time series length	18.2	18.2	18.2	29.5	29.5	29.5	10.9	10.9	10.9	11.3	11.3	11.3	11.6	11.6	11.6

Notes: The "Δ" prefix of a variable indicates that the first differences were taken. LSDVc estimator using Arellano-Bond (1991) for initial bias correction. All regressions include time fixed effects. Standard errors bootstrapped with 200 replications, are reported in parentheses. *** denotes significance at 1% level, ** denotes significance at 5% level and * denotes significance at 10% level.

Table 5. Elections and fiscal redistribution: Alternative timing of elections

	Developed countries			Developing countries		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**
preel_new_pred	-1.696	-2.264**	2.180	0.113	-0.320**	1.181***
	(1.14)	(0.98)	(5.57)	(0.18)	(0.15)	(0.46)
preel_new_endog	-0.398	-0.232	-0.077	-0.382	-0.239	-0.348
	(0.39)	(0.21)	(0.51)	(0.34)	(0.26)	(0.52)
preel_old_pred	0.051	0.028	0.044	-0.014	0.019	-0.053
	(0.14)	(0.08)	(0.17)	(0.17)	(0.15)	(0.19)
preel_old_endog	-0.058	0.144	-0.621	-0.348	-0.155	-0.527
	(0.29)	(0.14)	(0.37)	(0.46)	(0.26)	(0.57)
ΔY_{t-1}	0.338***	0.353***	0.250***	0.137	0.128	0.151
	(0.07)	(0.07)	(0.06)	(0.10)	(0.11)	(0.09)
Δgdppc	0.110	-0.018	0.208	0.451*	0.223	0.245
	(0.13)	(0.09)	(0.14)	(0.25)	(0.25)	(0.41)
Δgdppc^2	-0.001	0.000	-0.002*	-0.012*	-0.006	-0.006
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Δhc	2.687	0.841	4.366	-2.954	-5.159	1.642
	(3.07)	(1.30)	(4.25)	(3.94)	(3.38)	(3.61)
Δdependency	0.147	0.014	0.169	0.068	0.054	0.027
	(0.10)	(0.07)	(0.12)	(0.12)	(0.12)	(0.15)
Δpopulation_density	-0.001	0.002	-0.005	0.067***	0.014	0.088***
	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)
Δinflation	0.574	0.555	-0.611	0.019	0.026*	-0.025
	(2.87)	(1.78)	(1.59)	(0.02)	(0.01)	(0.02)
Δglobal	0.036	0.046*	-0.074**	0.027	0.023	0.001
	(0.05)	(0.02)	(0.03)	(0.02)	(0.01)	(0.03)
R^2	0.190	0.196	0.151	0.147	0.166	0.099
N	637	637	637	784	784	784
Avg. time series length	28.9	28.9	28.9	18.2	18.2	18.2

Notes: set Table 2

Table 6. Elections and fiscal redistribution: Excluding outlier observations

	Developed countries			Developing countries		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**
elec_new_pred	-0.615**	-1.018***	-0.314	0.115	-0.073	0.408**
	(0.26)	(0.10)	(0.19)	(0.10)	(0.07)	(0.20)
elec_new_endog	-0.158	-0.181	0.255	-0.131	-0.022	-0.251
	(0.13)	(0.13)	(0.22)	(0.19)	(0.16)	(0.25)
elec_old_pred	-0.068	-0.005	0.084	0.009	0.080	-0.037
	(0.09)	(0.04)	(0.09)	(0.09)	(0.06)	(0.09)
elec_old_endog	-0.002	0.022	-0.144	-0.021	-0.153	-0.011
	(0.15)	(0.05)	(0.17)	(0.15)	(0.14)	(0.14)
ΔY_{t-1}	0.422***	0.372***	0.371***	0.261***	0.294***	0.239***
	(0.04)	(0.04)	(0.04)	(0.06)	(0.05)	(0.06)
Δgdppc	0.036	-0.056	0.169	0.172	0.049	0.294
	(0.10)	(0.06)	(0.11)	(0.19)	(0.18)	(0.27)
Δgdppc^2	-0.001	0.001	-0.002**	-0.004	-0.000	-0.005
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)
Δhc	2.132	1.514	1.195	-3.146	-1.811	2.083
	(2.67)	(1.39)	(2.48)	(3.30)	(1.95)	(2.88)
Δdependency	0.084	-0.003	0.132	-0.015	0.095	0.139
	(0.07)	(0.05)	(0.09)	(0.11)	(0.08)	(0.12)
Δpopulation_density	0.016	0.003	0.021	-0.009	0.013	0.058***
	(0.03)	(0.01)	(0.03)	(0.02)	(0.01)	(0.02)
Δinflation	0.842	0.305	-0.810	0.002	0.014	-0.011
	(2.45)	(1.18)	(1.21)	(0.00)	(0.01)	(0.01)
Δglobal	0.009	0.023	-0.055*	0.020	0.011	0.024
	(0.02)	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)
R^2	0.327	0.284	0.284	0.246	0.267	0.173
N	605	599	606	747	744	744
Avg. time series length	27.5	27.2	27.5	17.4	17.3	17.3

Notes: set Table 2

Table 7. Elections and fiscal redistribution: Excluding 10% of obs. with the higher uncertainty

	Developed countries			Developing countries		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**
elec_new_pred	-1.149***	-0.711*	-1.323***	-0.014	-0.245*	0.656***
	(0.17)	(0.39)	(0.27)	(0.14)	(0.13)	(0.24)
elec_new_endog	-0.361	-0.163	-0.129	-0.444	0.083	-0.487
	(0.37)	(0.16)	(0.42)	(0.36)	(0.20)	(0.39)
elec_old_pred	0.007	-0.014	0.028	-0.081	-0.050	-0.129
	(0.08)	(0.08)	(0.11)	(0.11)	(0.08)	(0.15)
elec_old_endog	0.021	0.095	-0.206	0.099	-0.147	0.131
	(0.27)	(0.07)	(0.35)	(0.24)	(0.16)	(0.42)
ΔY_{t-1}	0.323***	0.353***	0.269***	0.181*	0.245**	0.175
	(0.09)	(0.07)	(0.06)	(0.10)	(0.11)	(0.11)
Δgdppc	0.057	0.014	0.261*	0.487**	0.022	0.274
	(0.11)	(0.09)	(0.13)	(0.23)	(0.23)	(0.43)
Δgdppc^2	-0.000	0.000	-0.002**	-0.012*	-0.000	-0.005
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Δhc	2.757	1.041	5.390	-5.022	-2.108	-0.095
	(2.92)	(1.19)	(4.87)	(4.95)	(2.10)	(4.15)
Δdependency	0.088	0.016	0.175	-0.008	0.023	0.128
	(0.10)	(0.08)	(0.10)	(0.12)	(0.07)	(0.17)
Δpopulation_density	0.014	0.004	0.052*	0.050**	0.006	0.056
	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)
Δinflation	1.187	0.708	-0.898	0.028	0.024**	-0.010
	(2.61)	(1.86)	(1.78)	(0.02)	(0.01)	(0.01)
Δglobal	-0.004	0.051*	-0.076*	0.014	0.018	-0.019
	(0.03)	(0.03)	(0.04)	(0.02)	(0.01)	(0.03)
R^2	0.192	0.202	0.169	0.176	0.219	0.113
N	574	574	574	706	706	706
Avg. time series length	26.1	26.1	26.1	16.4	16.4	16.4

Notes: set Table 2

Table 8. Elections and fiscal redistribution: Excluding ex-Soviet Union countries

	All countries: excluding transition economies			Developing countries: excluding transition economies		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	**Δgini_market**	**Δgini_net**	**Δredist**	**Δgini_market**	**Δgini_net**	**Δredist**
elec_new_pred	0.068	-0.210*	0.817**	0.146	-0.165	0.845**
	(0.15)	(0.11)	(0.36)	(0.14)	(0.11)	(0.36)
elec_new_endog	0.049	0.198	-0.479	0.062	0.197	-0.503
	(0.18)	(0.17)	(0.31)	(0.20)	(0.20)	(0.40)
elec_old_pred	-0.018	0.004	-0.044	-0.019	0.043	-0.114
	(0.08)	(0.06)	(0.10)	(0.11)	(0.07)	(0.18)
elec_old_endog	-0.027	0.000	-0.192	-0.147	-0.102	-0.034
	(0.17)	(0.07)	(0.25)	(0.23)	(0.14)	(0.34)
ΔY_{t-1}	0.361***	0.361***	0.223***	0.364***	0.348***	0.207*
	(0.06)	(0.06)	(0.08)	(0.08)	(0.07)	(0.12)
Δgdppc	0.101	-0.005	0.199	0.351	0.035	0.539
	(0.08)	(0.08)	(0.13)	(0.23)	(0.27)	(0.51)
Δgdppc^2	-0.001	0.000	-0.002*	-0.009	-0.001	-0.013
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Δhc	-0.367	-2.236	3.196	-3.342	-5.293*	2.072
	(2.31)	(1.75)	(2.43)	(3.24)	(2.88)	(3.19)
Δdependency	0.049	0.013	0.050	-0.055	-0.036	-0.015
	(0.07)	(0.05)	(0.10)	(0.08)	(0.09)	(0.14)
Δpopulation_density	0.039*	0.008	0.060***	0.054***	0.012	0.081***
	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
Δinflation	0.009	0.009**	-0.002	0.011	0.012**	-0.006
	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Δglobal	0.008	0.017	-0.034	-0.001	0.009	-0.025
	(0.02)	(0.01)	(0.03)	(0.02)	(0.02)	(0.03)
R^2	0.205	0.217	0.129	0.275	0.276	0.147
N	1310	1310	1310	673	673	673
Avg. time series length	22.6	22.6	22.6	18.7	18.7	18.7

Notes: set Table 2

Table 9. Elections, fiscal redistribution and political instability

Instability measure:	**State repression**			**State Violence**		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	**Δredist**	**Δredist**	**Δredist**	**Δredist**	**Δredist**	**Δredist**
elec_new_pred	0.993***	0.076	1.026***	0.998***	0.124	1.033***
	(0.34)	(1.94)	(0.33)	(0.35)	(2.11)	(0.34)
elec_new_endog	0.136	-0.567	0.298	0.099	-0.565	0.176
	(0.36)	(0.40)	(0.48)	(0.38)	(0.44)	(0.46)
elec_old_pred	0.053	-0.023	0.166	0.046	-0.001	0.142
	(0.11)	(0.13)	(0.19)	(0.11)	(0.13)	(0.19)
elec_old_endog	-0.155	-0.260	0.267	-0.078	-0.108	0.205
	(0.29)	(0.37)	(0.46)	(0.24)	(0.25)	(0.45)
elec_new_pred*Δinstability	0.011	0.056	-0.001	0.008***	0.055	0.008**
	(0.04)	(0.11)	(0.05)	(0.00)	(0.08)	(0.00)
elec_new_endog*Δinstability	0.148**	0.303	0.174*	0.060	-0.120	0.059
	(0.07)	(0.26)	(0.11)	(0.07)	(0.13)	(0.09)
elec_old_pred*Δinstability	-0.071*	-0.085	-0.065	0.013***	-0.099	0.018***
	(0.04)	(0.10)	(0.05)	(0.00)	(0.07)	(0.01)
elec_old_endog*Δinstability	-0.036	-0.168	0.000	0.057	0.242	-0.006
	(0.04)	(0.18)	(0.03)	(0.07)	(0.26)	(0.02)
Δinstability measure	0.013	-0.013	0.013	-0.002*	-0.028	-0.002
	(0.01)	(0.03)	(0.02)	(0.00)	(0.03)	(0.00)
ΔY_{t-1}	0.180**	0.254***	0.152	0.178**	0.229***	0.149
	(0.07)	(0.06)	(0.11)	(0.07)	(0.06)	(0.11)
Δgdppc	0.229	0.261	0.040	0.269	0.278	0.142
	(0.19)	(0.19)	(0.49)	(0.18)	(0.19)	(0.46)
Δgdppc^2	-0.003	-0.003	0.004	-0.004	-0.003	0.002
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)
Δhc	1.957	4.490	0.048	2.636	5.865	0.224
	(2.69)	(4.54)	(3.57)	(3.00)	(5.60)	(3.53)
Δdependency	0.113	0.167	0.090	0.113	0.179	0.084
	(0.13)	(0.15)	(0.18)	(0.13)	(0.15)	(0.19)
Δpopulation_density	0.084***	0.031	0.103***	0.086***	0.030	0.104***
	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)	(0.03)
Δinflation	-0.025	0.992	-0.030	-0.022	1.025	-0.026
	(0.02)	(2.50)	(0.02)	(0.02)	(2.66)	(0.02)
Δglobal	-0.033	-0.090**	-0.023	-0.032	-0.104**	-0.023
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
R^2	0.106	0.154	0.110	0.107	0.165	0.110
N	1134	504	630	1134	504	630
Avg. time series length	18.3	24.0	15.4	18.3	24.0	15.4

Notes: set Table 2