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## Walk the Line: Conflict, State Capacity and the Political Dynamics of Reform

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# Walk the Line: Conflict, State Capacity and the Political Dynamics of Reform\*

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## Abstract

This paper develops a dynamic framework to analyze the political sustainability of economic reforms in developing countries. First, we demonstrate that economic reforms that are proceeding successfully may run into a political impasse, with the reform's initial success having a negative impact on its political sustainability. Second, we demonstrate that greater state capacity to make compensatory transfers to those adversely affected by reform, need not always help the political sustainability of reform, but can also hinder it. Finally, we argue that in ethnically divided societies, economic reform may be completed not despite ethnic conflict, but because of it.

*Keywords:* Economic Reform, State Capacity, Politics, Redistribution, Compensation, Ethnic Conflict.

*JEL classification:* D72, O20, P16.

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## 1 Introduction

The past two decades have witnessed many episodes of economic reform across the developing world. Reforms across countries in Latin America, Africa and Asia were adopted with considerable popular enthusiasm. However, sustaining and completing these reform packages has turned out to be much more difficult, with policymakers having to ‘walk the line’ between success and failure. On the one hand, in countries such as Brazil and India, economic reform has continued, albeit fitfully and incrementally, despite their slow progress (Bardhan, 2005 and Kohli, 2006). In contrast, economic reform has run into a political impasse, or even been reversed in a number of other countries, despite being successful (Rodrik, 2008). In this paper we develop a unified framework that allows us to analyze the dynamic interaction between the progress of economic reforms and their political sustainability, in a world with imperfect state capacity. In doing so, we throw light on the varied experience with the sustainability of reforms across the developing world, to address three issues. First, why is it that reforms that are proceeding successfully often run into a political impasse? Second, is it easier or more difficult to politically sustain economic reforms in countries where the fiscal capacity of the state is better? Third, we examine the relationship between ethnic polarization and the political sustainability of economic reforms. In doing so we ask: does ethnic discord intensify or mitigate the politics of economic reform?

Such issues associated with the political sustainability of reform are of significant importance in an economy’s development. Hausmann, Pritchett and Rodrik (2005) conclude that the likelihood of sustained growth accelerations is significantly greater when fundamental economic reform is carried out. However, as Rodrik (2006) points out, “What is required to *sustain* growth should not be confused with what is required to *initiate* it” (emphases in the original). One of the striking aspects of the growth experience of many developing countries has been that the main difficulty lies not in their inability to initiate economic growth, but rather in sustaining it, with the result that “...their growth spurts eventually fizzle out” (Rodrik, 2006). And this ‘fizzling out’ may be precisely because of the difficulties in sustaining the reform process, which can be short-circuited by the politics arising out of distributional conflict, the limitations of state capacity or even the onset of conflict on other dimensions (e.g. ethnic or religious). Despite the long-recognized importance of these issues, (see Hoff and Stiglitz, 2001, for an overview), there has been little examination of the dynamic relationship between the unfolding of economic reforms and their continuation, and the impact of state capacity and non-economic factors on this relationship.

Accordingly, we develop a simple dynamic framework where a government is in position to implement an economic reform that potentially generates economic benefits to the populace. We

follow Fernandez and Rodrik (1991) in assuming that not only do reforms have distributional effects in the sense of generating winners and losers, but that there is individual specific uncertainty, so that an individual does not know whether he will be a ‘winner’ or a ‘loser’ from the reform process. The main new feature in our framework is that both the implementation of the reform, as well as the resolution of uncertainty about the identity of winners and losers, is dynamic and revealed over time. At each stage, based on the outcome of the reform so far, the government in power has the option to discontinue any further reform. Governments also have the ability to tax winners to compensate losers (as in Jain and Mukand, 2003). The most crucial element of our framework is that we endogenize both the government’s decision on the continuation of reforms *and* on redistribution, through a political equilibrium involving the winners and losers at each stage. The benefits that accrue to each individual at any stage derive both from his being personally a ‘winner’ or a ‘loser’, together with any redistributive compensation. The latter of course depends crucially on which group (the winners or the losers) is in political control, *and* on limitations in state capacity, which may place constraints on a government’s ability to efficiently administer and implement tax-transfer policies (as in Besley and Persson, 2011). Anticipation of future changes in benefits, both directly as well as indirectly through changes in political power, have a bearing on the dynamic evolution of the citizen’s preferences over the initiation and continuation of reform.

While simple, our theoretical framework gives rise to a rich set of predictions. First, it throws light on the dynamic evolution of political support for economic reforms. There is little disagreement that economic reform, by causing major structural changes, typically results in unemployment, dislocation and economic hardship for significant proportions of the affected populations. Not only economists, but most of the general public, probably understands this and still favors the adoption of economic reform. Yet, what is puzzling is why a majority of citizen-workers may change their mind about continuing with the very policies that they had supported, even though the initial impact of the reform is *favorable* (see Stokes (2001) and Rodrik (1996)). This is especially puzzling if one thinks of voters as being forward looking, because then positive performance of the reform should presumably provide some indication of the shape of the future. However, we show that even though a reform may be initially much more successful than was originally expected, continuation of the reform may still run into a political impasse.

In order to see why a political impasse may emerge, we begin by observing that at any stage, a citizen-worker’s political backing of the reform depends on his expected benefits from its continuation. An important part of these benefits, especially for individuals who are *not* winners from the initial stages of reform, is the degree of compensation to be expected from the winners. The ability to extract this compensation through implementing redistributive taxation of course depends

on retaining political control. We show that both the probability and the expected cost of losing political control is highest when the initial phase of reform has been successful, resulting in a relatively large number of winners. This gives rise to the result that the relative success of the initial phase of reform may actually decrease political support for continuation of the reform, even if such continuation is expected to raise overall income. This result echoes the puzzling finding by Stokes (2001) in her summary of the experience of economic reforms across the developing world: “Our most startling result is that in every country people sometimes reacted to economic deterioration by supporting the government and its economic program. Conversely, they sometimes reacted to economic improvement with pessimism and opposition”.

For efficiency enhancing reforms to be Pareto improving, it is essential that the state have the capacity to tax winners from economic reform to compensate the losers (Acemoglu, 2003). However, as emphasized by Besley and Persson (2011), the state in most developing countries has imperfect capacity to administer and implement such transfers. The natural presumption is that improvements in state capacity for redistribution would typically increase political support for both the initiation of reform as well as its continuation. Somewhat strikingly, we show that this need not always be the case. In particular, countries with higher state capacity may find it *more* difficult to politically sustain successful economic reforms. The key insight is that in countries with relatively high state capacity, the group in political control finds it much easier to extract redistributive compensation by taxing winners. Therefore, the potential costs of continuing with economic reform that may jeopardize their political control are much higher in countries with higher state capacity. Our theoretical framework also highlights a more subtle effect: whether greater state capacity hurts or helps the reform’s political sustainability depends on the type of reform under consideration. In particular, greater state capacity has an adverse impact on the political sustainability of reform if the dynamic evolution of the reform resolves uncertainty about the identity of winners and losers relatively gradually, rather than quickly.

The results described so far have focused on the dynamics of reform and its sustainability in the presence of distributional conflict between economic winners and losers. If the reform also results in winners (or losers) being concentrated in specific ethnicities, then ethnic political conflict provides a further reason that the sustainability of economic reform can be undermined.<sup>1</sup> However, the opposite has also been seen in some countries. India’s experience with economic reform during the nineties provides one such puzzling counter-example. Bardhan (2005) cites data from the 2004 National Economic Survey to emphasize the paradox of an economic reform that persisted despite

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<sup>1</sup>Evidence of this can be seen in the history of economic reform in a wide variety of developing and transition countries, such as Kenya, Uganda, Armenia, Georgia and the former Yugoslavia (see Horowitz, 2005).

considerable unpopularity. In this context, political scientists such as Ashutosh Varshney have argued that ethnic conflict in fact helped sustain economic reform rather than hinder it. More broadly, he argues that

“... in so many multiethnic societies today, ethnic conflicts may enter mass politics more quickly than disputes over economic reforms. The relegation of reforms to a secondary political status, however, can work to the advantage of reformers, for *a mass preoccupation with ethnic issues provides political room to push reforms*. Given a multiplicity of salient political issues, even minority governments can press ahead with economic reforms.” (Varshney, 1998 emphasis added)

In an extension of our benchmark model, we draw on Glaeser (2005) to show that an incumbent politician may engage in propaganda to deliberately increase the political salience of ethnicity. By making ethnicity more politically salient than the economy, a politician who stands to gain from reform is able to sustain and complete it. Interestingly, we show that such a strategy, of using non-economic issues to ensure continuation, works only when the initial success with the reform is in an intermediate range. Therefore, for a range of moderately successful first-stage reforms, we may have a scenario where political reform continues not despite ethnic conflict, but rather because of it. While one may debate whether the Indian experience with economic reform and ethno-religious conflict in the nineties accords with Varshney’s narrative, it is difficult to deny that such ethno-nationalist sentiments have been exploited by governments interested in courting public opinion to push through controversial policy measures across the developing world, be it in democratic India or an authoritarian China.

*Related Literature:* This paper is directly related to the literature on the politics of reform in developing countries (see Rodrik (1996) for an early survey). Seminal contributions in the area include Alesina and Drazen (1991) who show how a ‘war of attrition’ between different groups can lead to costly delay, and Fernandez and Rodrik (1991) who emphasize the importance of individual-specific uncertainty in creating an inefficient bias against economic reform. Other channels that may inhibit or delay reform have been investigated by several papers (e.g. Rubinchik and Wang (2008), Jain and Mukand (2003)). Acemoglu and Robinson (2000) illustrate how elites may block economic or institutional reform if it may erode their political power. This idea of an anticipated loss of political control is also central to the analysis here. However, what is distinctive about our analysis is that we focus on the dynamics of political control and how it relates to the issue of political sustainability of reform, rather than its initiation (as most of the above papers have studied). Accordingly, we analyze the impact on a reform’s sustainability of both how quickly the

distributional impact of reform is revealed as well as the government's endogenous choice of whether or not to compensate losers.

Furthermore, we enrich the framework on the political economy of reform by explicitly incorporating two features that are present in a wide spectrum of developing countries, namely the issues of imperfect state capacity and the possibility of ethnic differences influencing politics. As we discuss in our analysis below, the impact of these two dimensions attains much more significance in a dynamic analysis of reforms, as we do here. Accordingly, our paper is also related to the nascent literature on state capacity and the political economy of reform, initiated by Besley and Persson (2011, especially chapter 7). In studying the interaction of ethnic issues and reform, our paper is also related to the recent literature on ethnicity and politics. Padro i Miquel (2007) shows how ethnic differences can contribute to the perpetuation of bad incumbents and inefficient policies. Glaeser (2005) analyzes when an incumbent politician may stoke hatred of a minority in order to further his re-election chances. On the other hand, Testa (2010) suggests that ideological polarization across political parties may not be an unmitigated negative, and that the median voter may be able to obtain better electoral accountability on economic issues when the ideological heterogeneity is large. Esteban and Ray (2008) investigate conditions under which ethnicity is likely to be the salient factor in conflict within society. Our paper contributes to this literature by analyzing the conditions under which reforms can be perpetuated due to ethnic considerations and when they cannot.

This paper is also related to the literature on the political economy of reform in the context of transition economies (see the papers mentioned in the two excellent surveys by Roland (2002) and Tommasi and Velasco (1996)). An important contribution of this literature has been its emphasis on the *design* of economic reform to overcome political constraints. For instance, Dewatripont and Roland (1992) underscore the optimality of 'divide-and-rule' tactics and partial reform in a world where worker layoffs have to be achieved through majority consent. In contrast to much of the transition literature, this paper does not explore the optimal design of reforms with a view of sidestepping political constraints. Rather it takes the political constraints arising from democratic politics as given, and explores how these constraints impinge on the sustainability of reform through a variety of channels that are relevant for developing countries – the (endogenous) compensation of losers, the role of state capacity, and identity politics.

The rest of the paper is organized as follows. The basic framework is presented in sections 2.1 and 2.2, and the equilibrium with and without politics is presented in subsections 2.3 and 2.4. The effect of state capacity is analyzed in section 2.5, while section 3 studies the impact of ethnic issues on reform. We conclude with a discussion in section 4.

## 2 A Model of Economic Policy Reform

We now describe the details of our framework, where, in each period, an elected citizen-policymaker makes the decision of whether or not to initiate or continue economic reform. Individual citizen-workers face individual-specific uncertainty with respect to the consequences of economic reform, in which some will turn out to be winners and others will be losers. However, this uncertainty is resolved gradually, over time, as the reform proceeds. In addition to making decisions about initiating and continuing reforms, the elected citizen-policymaker can also choose a tax-transfer regime so as to compensate the losers, by redistributing some of the gains from the winners. Below we describe a minimal framework that allows us to examine the consequences of the dynamic interaction of the trajectory of reform with the underlying politics.

### 2.1 The Economic Structure: Reform and Wages

Consider an economy with two sectors,  $A$  and  $M$ , each of which employs labor to produce traded goods. The productivity in each sector depends on a publicly supplied input, say infrastructure. Each citizen-worker inelastically supplies one unit of labor, and their wages in each sector are proportional to the productivity in that sector, which depends on the amount of government expenditure on infrastructure in that sector. Suppose that rising world demand for goods in sector  $M$  causes world prices in that sector to become much higher than in sector  $A$ . Hence, an economic reform is being considered, in which government expenditure is to be reallocated away from the less productive  $A$  sector and toward the more productive  $M$  sector. This resource reallocation requires more than one period to be realized.<sup>2</sup> At each stage, the reform changes the returns to labor in the two sectors with wages in the  $M$  sector rising, while those in the  $A$  sector fall. This results in some intersectoral labor reallocation, with workers who end up in the  $M$  sector gaining from the reform, and those who remain in the  $A$  sector losing, due to the fall in their wages. However, ex-ante there is uncertainty both about the proportion of winners as well as their identity, in the sense that (at least some) workers cannot predict ex-ante whether they personally will be part of the group of winners.<sup>3</sup>

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<sup>2</sup>While we directly assume that reform requires (at least) two periods to complete, this assumption might also arise from a convexity in adjustment costs.

<sup>3</sup>This individual-specific uncertainty might stem, for example, from the fact that workers in sector  $A$ , which is adversely affected by the reform, will have to retrain in order to move to the growing  $M$  sector. While workers may have some beliefs about how easy or difficult it may be for them to make the intersectoral move, they may not know for sure. Thus there is uncertainty regarding the extent of these retraining and relocation costs. This uncertainty can be both at an individual as well as at an aggregate level, the latter reflecting the aggregate costs to society from

More specifically, we model the reform as a two-stage process, in which each stage of the reform takes one period to implement. Initially, in period  $T = 0$ , the government faces the decision of whether to launch the (first stage) reform. If the reform is launched, the government in power in the next period decides whether to continue the process of reform by implementing the second stage. For simplicity, and without loss of generality, suppose that at the beginning, all workers are employed in sector  $A$ . If the status quo is maintained, and there is no reform, then everyone earns the same wage, denoted by  $w$ . If the reform is launched, incurring a fixed cost<sup>4</sup>  $K$ , then in the first period, a proportion  $\tilde{\alpha}$  of citizens find employment in sector  $M$ . These are the “winners” – their wage goes up to  $w(1 + \theta)$ , while the remaining proportion  $1 - \tilde{\alpha}$  who remain in sector  $A$  are “losers” with their wages decreasing to  $w(1 - \delta_0\theta)$ , where  $0 < \delta_0\theta < 1$ . The reform is characterized by two kinds of *ex ante* uncertainty. First, there is uncertainty about the aggregate outcome  $\tilde{\alpha}$  of the reform; this could represent uncertainty about the difficulty of reorganizing the economy through the reallocation of resources and labor from one sector to another. Specifically  $\tilde{\alpha}$  is commonly believed to be distributed over  $[0, 1]$  according to the cumulative distribution function  $F(\tilde{\alpha})$ . Second, there is individual specific uncertainty in that the identities of the winners and losers are not known *ex ante*. Indeed for simplicity, we assume that everyone has the same ex-ante chance of being a winner. At the end of the first period, the wages (and thus the specific identities of the winners and losers) are realized. The government in power in period  $T = 1$  then decides on the taxation regime, and can choose to redistribute the gains and losses, a process that we describe in further detail below.

If the first stage of the reform is launched, then there is an opportunity to escalate to a second (and final) stage of the reform in period  $T = 1$ , by transferring more governmental resources towards sector  $M$ . Alternatively, the government in power can choose to discontinue any further reform.<sup>5</sup> In the latter case, i.e. if the reform runs aground, there is no change to the realized wages from the first stage, i.e. the  $\tilde{\alpha}$  winners retain wages  $w(1 + \theta)$  while the losers continue to earn  $w(1 - \delta_0\theta)$ . However if the government decides to continue with the reforms, we assume that the initial winners (i.e. those who became employed in sector  $M$  during the first stage of the reform) now see their wages rise further, to  $w(1 + \theta(1 + a))$ . In addition, among the  $1 - \tilde{\alpha}$  proportion of initial losers, a

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such a reallocation. For a fuller discussion, see Jain and Mukand (2003) and Fernandez and Rodrik (1991).

<sup>4</sup>This could be, for example, the cost of reorienting the bureaucratic and administrative set-up to channel government expenditure towards sector  $M$  instead of the traditional sector  $A$ .

<sup>5</sup>While this is not the case that we systematically explore, we sketch out in footnote 10 the scenario under which reforms may be reversed. The available evidence suggests that this is in fact the more empirically relevant case (Rodrik, 1996; Werner, 1999) - i.e., reforms tend to run aground, rather than being reversed.

fraction  $\alpha_2$  are now realized as winners and see their wages rise to  $w(1 + \theta)$ , while those remaining in the  $A$  sector see a further decrease in their wages, to  $w(1 - (\delta_0 + \delta_1)\theta)$ , where  $0 < (\delta_0 + \delta_1)\theta < 1$ . Thus, in the second stage of reform, there is no uncertainty about the fraction of winners and losers, although there is still *ex ante* uncertainty about their identity. While the assumption of a known  $\alpha_2$  in the second stage helps simplify the analysis, it is also related to the notion that there is usually much greater uncertainty about the appropriateness of reforms at the initial rather than in the latter stages. Again, at the end of this period, wages are realized. The government in power in period  $T = 2$  then decides on taxation to redistribute any gains and losses.

## 2.2 The Citizen-Government, Elections and Redistribution

In terms of the political structure, we adopt a framework in which elections take place at the beginning of each of the periods,  $T = 0$ ,  $T = 1$  and  $T = 2$ , where one of the citizens is elected to run the government. Following the standard assumption in ‘citizen-candidate’ models (e.g. Osborne and Slivinski, 1996, Besley and Coate, 1997), we too assume that the elected politician cannot pre-commit to undertake a policy, and voters rationally expect him to take decisions according to his or her expected gains or losses from the decision. Furthermore, we assume in this section that there are no ‘ego rents’ from being in office (we relax this assumption in the next section), so the elected politician chooses policy to maximize his expected income. Anticipating the choices that will be made by each type of politician, each citizen-worker makes his voting decision to maximize his own expected income over the subsequent periods, net of taxes and transfers.

At the beginning of period  $T = 0$ , since all workers are in the  $A$  sector and identical, the government is assumed to be drawn randomly from the citizens in that sector. This citizen-government makes the decision of whether to launch the reform ( $R_0 = 1$ ) or not ( $R_0 = 0$ ) by initiating the reallocation of government resources from sector  $A$  to  $M$ . The economic impact of this first stage of reforms is realized at the end of the period, after which elections take place to re-elect or replace the incumbent government. The government in power in period  $T = 1$  makes two policy decisions. First, it chooses a tax-transfer regime  $t_1$  for the realized incomes so far, where the higher income ‘winners’ may be taxed to compensate the ‘losers’ from the economic reform so far. Second, the government also makes the decision on the second stage of reforms i.e. whether to escalate (in which case  $R_1 = 1$ ) or continue with the current level ( $R_1 = 0$ ). Again, the economic impact of the reforms is realized at the end of the period, after which elections take place to re-elect or replace the incumbent government. The citizen-government in power in period  $T = 2$  has only one policy decision, which is to determine the tax-transfer scheme,  $t_2$ , for the populace in that period.

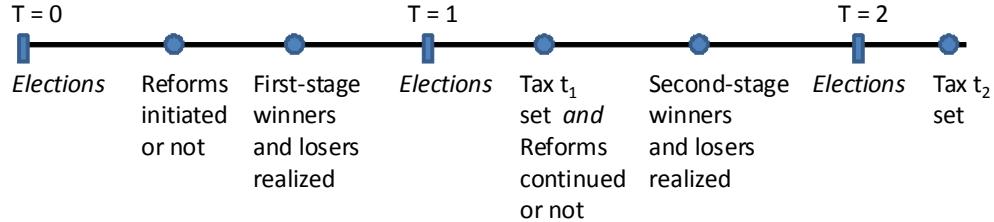


Figure 1: Timing of the game

*Tax Structure and State Fiscal Capacity:* We assume that a citizen-government's choice of the tax-transfer vector  $t_i$  in any period  $i$ , is constrained by the administrative capacity  $\tau$  of the state to identify 'winners', collect taxes and compensate the losers. The argument for the importance of this fiscal capacity of the state has been made most comprehensively by Besley and Persson (2011), who argue that this capacity can differ across countries, due to differences in incomes, institutions and histories. In what follows, we begin by assuming that countries have perfect state capacity. In other words, governments have the capacity to implement any tax-vector, so long as it is politically expedient. However, in Section 2.5 below we relax this assumption where, following Besley and Persson (2011), we assume that the equilibrium (proportional) tax rate chosen by any citizen-government  $t_i$  will be constrained by the maximal tax-rate  $\tau$  that can be implemented by the state, i.e.  $t_i \leq \tau$  for any period  $i$ . We will then examine the implications of differences in state capacity  $\tau$  on the launching and continuation of reforms.

We impose some standard restrictions on the tax-transfer vector  $t_i$ : it must satisfy a balanced-budget requirement, and workers with identical wages cannot be taxed at different rates. Furthermore, we rule out a regressive tax on wages, and require that the tax-transfer scheme be (weakly) 'order-preserving', i.e. workers with higher pre-tax income cannot end up worse off, post-redistribution, than workers with lower pre-tax income.<sup>6</sup>

Having described the economic and political structure of the model, we summarize the timing of the game above in Figure 1.

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<sup>6</sup>Thus, for example, the majority cannot simply expropriate all income of the minority.

## 2.3 Equilibrium Analysis: Efficiency, the Resolution of Uncertainty and Economic Reforms

Before analyzing decision-making with politics, we first establish a benchmark for economic efficiency – the first-best decisions which maximize aggregate income, ignoring politics. We begin by considering the second stage first. For a given realization  $\tilde{\alpha}$  of the outcome of the first-stage reform, the decision of whether or not to escalate the second-stage reforms is based on balancing the expected gains with the expected losses, i.e., according to whether:

$$\tilde{\alpha}aw\theta + (1 - \tilde{\alpha})[\alpha_2(1 + \delta_0)w\theta - (1 - \alpha_2)\delta_1w\theta] \geq 0$$

The first part of the left-hand side captures the further increase in wages of the first-stage winners due to escalation of reforms, while the second part gives the expected gains for the first-stage losers from doing so.

A particular aspect of reforms will turn out to be important in our analysis below – namely, the resolution of individual-specific uncertainty. In the case of some economic reforms, this individual-specific uncertainty can be resolved either gradually or relatively early. As we will subsequently observe, these have very different implications for the policy sequences we may observe in a political equilibrium.

**Assumption 1** :  $\alpha_2(1 + \delta_0)w\theta > (1 - \alpha_2)\delta_1w\theta$  i.e.  $\alpha_2 > \frac{\delta_1}{1 + \delta_0 + \delta_1}$  (“Slow resolution of uncertainty”)  
**Assumption 1'** :  $\alpha_2(1 + \delta_0)w\theta < (1 - \alpha_2)\delta_1w\theta$  i.e.  $\alpha_2 < \frac{\delta_1}{1 + \delta_0 + \delta_1}$  (“Rapid resolution of uncertainty”)

Under assumption 1, the identity of ‘winners’ is gradually revealed across the two stages of the reform. In this case, even if a citizen does not immediately find employment in sector  $M$ , and is thus not a ‘winner’ from the first stage of reform, it is relatively likely that he may turn out to be a winner in the latter stages. In particular, the wages of the first stage losers (i.e. those who remain in sector  $A$ ) are expected to increase if the reform continues (due to the likely possibility of them moving to sector  $M$  in the second stage). Thus under assumption 1, it is always optimal to continue with the second stage of reforms. In this case, the intertemporal distribution of winners across the two stages of reform is relatively balanced.

In contrast, under the alternate assumption 1', most of the individual-specific uncertainty is resolved in the early stages of reform. In this case, the winners from the first-stage of reform see their earnings increase even more if the reforms continue, while those of the first-stage losers fall even further (in expected terms). Thus, there is a rapid resolution of uncertainty in the sense that anyone who is not revealed to be a winner at the first-stage sees their prospects diminish further in the later stages. In other words, in the absence of redistributive transfers, inequality will increase

with more reform under this assumption. Of course, continuing with the second stage of reform can be efficient if the additional gains to the first-stage winners are enough to outweigh the expected losses to those who were first-stage losers. Accordingly, in this case it is only optimal to continue if there are enough winners from the first stage i.e. if:

$$\tilde{\alpha} \geq \alpha^* = \frac{(1 - \alpha_2)\delta_1 - \alpha_2(1 + \delta_0)}{a + [(1 - \alpha_2)\delta_1 - \alpha_2(1 + \delta_0)]}$$

Writing this more succinctly, in period  $T = 1$ , it is optimal to continue with the second-stage of reforms only if  $\tilde{\alpha} \geq \alpha_1^c$ , where  $\alpha_1^c = 0$  under assumption 1 and  $\alpha_1^c = \alpha^*$  under assumption 1'.

Going back to period  $T = 0$ , it will be efficient to start the reforms if the lifetime expected gains from it are positive i.e. if the following holds:

$$(1 + \beta)(\bar{\alpha}\theta w - (1 - \bar{\alpha})\delta_0\theta w) + \beta \int_{\alpha_1^c}^1 \{\tilde{\alpha}aw\theta + (1 - \tilde{\alpha})[\alpha_2(1 + \delta_0)w\theta - (1 - \alpha_2)\delta_1w\theta]\}dF(\tilde{\alpha}) > K \quad (1)$$

where  $\bar{\alpha}$  is the expected value of  $\tilde{\alpha}$ , and  $\beta$  is the discount factor for future payoffs.

## 2.4 Economic Reform under Political Constraints

In analyzing the game with politics, we are interested in examining the *policy sequences* that can emerge in political equilibrium. A policy sequence describes the sets of decisions taken by the government at each stage: for the  $T = 0$  government, whether to launch the reform or not,  $R_0 \in \{0, 1\}$ ; for the  $T = 1$  government, the choice of a tax regime  $t_1$  for the period and whether or not to continue with the reform,  $R_1 \in \{0, 1\}$ ; for the  $T = 2$  government, the tax regime  $t_2$  for the period. The reform decision taken by each government also has implications for the probability distributions over the succeeding governments' policy choices. Thus, formally, a policy sequence is a triple  $\{R_0, \pi_1(t_1, R_1; R_0, \tilde{\alpha}), \pi_2(t_2; R_1, R_0, \tilde{\alpha})\}$ , where  $\pi_1$  and  $\pi_2$  denote the probability distribution over the subsequent governments' policy choices: about taxes,  $t_2$ , for the period-2 government, and about taxes,  $t_1$ , as well as the reform continuation decision,  $R_1$ , for the period-1 government.

As mentioned earlier, given our assumptions, each citizen-government chooses policies to maximize his expected income. Anticipating the choices that will be made by each type of politician, in a political equilibrium, each citizen-worker makes his voting decision to maximize his own expected income over the subsequent periods, net of taxes and transfers.<sup>7</sup>

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<sup>7</sup>We should point out that the structure of government policy-making and of voting here is that of the citizen-candidate framework, as in Besley and Coate (1997), and Osborne and Slivinski (1996). They also analyze the issue of the slate of candidates who stand for election when voters' preferences are dispersed. In our case (as we discuss later), with two groups of voters, this issue becomes particularly simple.

We now describe the political equilibrium of our game. We are mainly interested in examining the conditions under which equilibrium policy sequences involve full versus partial reform, i.e. whether economically efficient reforms can be politically sustained, or whether they may hit a political impasse and run aground. As mentioned earlier, in this section we suppress the effect of (imperfect) state capacity, and assume that the taxation mechanism is perfect (i.e.  $\tau = 1$ ). Therefore, if the incumbent government finds such redistribution in its interest, it can completely redistribute income across winners and losers from the economic reform.

The simplicity of the economic and political structure of our model makes the description of equilibrium, of the electoral game in each period, straightforward. To begin with, recall that at the start of the game, at  $T = 0$ , all workers are employed in sector  $A$  and are identical. Thus voters will be indifferent across any citizen-candidates that stand for election and will randomly choose among them. If the reform is enacted, then at the end of this initial period, two groups of voters emerge – the “winners” (i.e. those who have been able to move to sector  $M$ ) and the “losers” (i.e. those who remain in sector  $A$ ). Since politicians cannot credibly pre-commit to follow any particular policy, a citizen-candidate’s political affinity is determined by his economic affiliation. Hence each citizen-worker would prefer a candidate drawn from his own sector. Thus in the elections at the beginning of period  $T = 1$ , all losers vote for any citizen-candidate from sector  $A$  (who is a loser like them) while the winners will vote for any candidate from sector  $M$ . A similar argument works for the elections at the beginning of period  $T = 2$ .

Given this voting behavior, we now derive the outcomes of the elections in periods  $T = 1$  and  $2$ . Consider possible outcomes at the end of the second stage of economic reforms. If the fraction of ‘winners’ after the second stage of reform,  $\tilde{\alpha} + (1 - \tilde{\alpha})\alpha_2$ , are in a majority, then the citizen-candidate who will be elected into office for the last period will be from this group, and he will choose *zero* redistribution. On the other hand, if  $\tilde{\alpha} + (1 - \tilde{\alpha})\alpha_2 \leq 1/2$ , the  $A$ -sector workers are in a majority, and thus a “loser” will be elected to office for period  $T = 2$ . He will set the tax-transfer rates  $t_2$  so as equalize incomes between the winners and the losers.<sup>8</sup>

Moving sequentially backward, consider the scenario where the reforms have been initiated and at the end of period  $T = 0$ , the proportion of “winners” is  $\tilde{\alpha}$ . Here we can have two broad cases – with the ‘winners’ being in a majority or not.

If  $\tilde{\alpha} > \frac{1}{2}$ , the winners are in a majority and thus a citizen-candidate from this group (i.e. the

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<sup>8</sup>This follows from our assumptions on the feasible tax-transfer vector: namely, symmetric treatment for individuals with identical wages, and non-regressivity. As in Dixit and Londregan (2005), this also follows from the simple structure of the model, in which voters maximize post-tax income (‘homo oeconomicus’, in the terminology of Corneo and Grüner, 2002), rather than other social objectives (Corneo and Grüner, 2000, 2002).

$M$  sector) will be voted into office in both periods  $T = 1$  and  $T = 2$ . In this eventuality, the government will choose to continue with the reforms and set zero taxes in both of these periods.

In contrast, if  $\tilde{\alpha} \leq \frac{1}{2}$ , the  $A$  sector retains its majority in this interim stage. Since the politician who will be elected into office for period  $T = 1$  will be drawn from the  $A$  sector, he will choose full redistribution as the tax-regime for that period. His decision to progress further with the reforms or not will depend on expected future gains and losses for workers who are still in the  $A$  sector at the end of the initial period. There are now two sub-cases that are of interest:

- (a) If he chooses to continue with the reform, and if  $\tilde{\alpha} + (1 - \tilde{\alpha})\alpha_2 \leq \frac{1}{2}$  i.e. if  $\tilde{\alpha} \leq \frac{\frac{1}{2} - \alpha_2}{1 - \alpha_2}$ , then  $A$  sector workers will continue to be in a political majority in the future and redistribution is assured at the end of the second period. Hence, the decision to continue reforms or not simply depends on whether aggregate income is raised or lowered as a result, i.e., whether the second-stage is economically efficient. In this case, the decision will be the same as in the first-best case i.e. continue reforms only if  $\tilde{\alpha} \geq \alpha_1^c$ , which assures that the second stage reform is economically efficient.
- (b) The other possibility is that if both  $\tilde{\alpha} + (1 - \tilde{\alpha})\alpha_2 > \frac{1}{2}$  and  $\tilde{\alpha} < 1/2$ , then the first-stage “losers” realize that the continuation of reforms will result in a shift of political power towards the  $M$  sector. In this case there will be no redistribution at the end of the second stage of reforms. Hence the period  $T = 1$  government, which is drawn from the  $A$  sector and represents their interests, will choose to progress further with the reform only if their expected incomes without redistribution go up, i.e. if:

$$\alpha_2(1 + \theta)w + (1 - \alpha_2)(1 - (\delta_0 + \delta_1)\theta)w > \tilde{\alpha}(1 + \theta)w + (1 - \tilde{\alpha})(1 - \delta_0\theta)w \quad (2)$$

$$\text{i.e. if: } \frac{\alpha_2(1 + \delta_0) - (1 - \alpha_2)\delta_1}{1 + \delta_0} > \tilde{\alpha} \quad (3)$$

The left-hand side of (2) gives the expected income for a first-stage loser from continuation of the reforms; given that his chance of being a winner in the second stage is  $\alpha_2$ , his wage may go up to  $(1 + \theta)w$  or it may go down to  $(1 - (\delta_0 + \delta_1)\theta)w$ . On the other hand, the right-hand side gives the redistributed income from the first-stage of reforms which he gets to enjoy if the reforms were discontinued at this interim stage. Thus a first-stage loser will prefer continuation of the reforms only if the former outweighs the latter. Note that the numerator of the left-hand side of (3) is negative under Assumption 1'. Thus in this case, the first-stage losers will never vote to continue with the reforms when  $\tilde{\alpha} + (1 - \tilde{\alpha})\alpha_2 > 1/2$ , i.e. when  $\tilde{\alpha} > \frac{\frac{1}{2} - \alpha_2}{1 - \alpha_2} = \alpha_m$  (say).

Combining the analysis of the various cases, one can write succinctly that reforms will be continued by the government in period  $T = 1$  if either  $\tilde{\alpha} > \frac{1}{2}$  or  $\tilde{\alpha} \in I_c$ , where

$I_c = [0, \max\{\alpha_m, \frac{\alpha_2(1+\delta_0)-(1-\alpha_2)\delta_1}{1+\delta_0}\}]$  under assumption 1, and  $I_c = [\alpha^*, \alpha_m]$  under Assumption 1'.

We now move to decision making in period  $T = 0$  where the incumbent citizen-government is faced with the decision of whether or not to initiate the economic reform. Accordingly, the required condition for starting with reforms in the first-stage is that the expected gains from it, anticipating the politics in periods  $T = 1$  and  $T = 2$  is positive i.e.:

$$(1 + \beta)(\bar{\alpha}\theta w - (1 - \bar{\alpha})\delta_0\theta w) + \beta \int_{\bar{\alpha} \in I_c \cup (\frac{1}{2}, 1]} \{\tilde{\alpha}aw\theta + (1 - \tilde{\alpha})[\alpha_2(1 + \delta_0)w\theta - (1 - \alpha_2)\delta_1w\theta]\}dF(\tilde{\alpha}) > K \quad (4)$$

Since  $I_c \cup (\frac{1}{2}, 1]$  is smaller than the interval  $[\alpha_1^c, 1]$ , under both assumptions 1 and 1', this condition (4) is harder to satisfy than the efficiency condition (1) derived above, i.e., the parameter sub-space for which the reform is launched in the first place is smaller when political considerations are taken into account.

This analysis is summarized in the proposition below.

**PROPOSITION 1:** *There exists a political equilibrium in which the unique equilibrium policy sequence is given by:*

(I) *Under Assumption 1:*

- (i) *At  $T = 0$ , reforms are initiated if condition (4) holds.*
- (ii) *At  $T = 1$ , if  $\tilde{\alpha} > \frac{1}{2}$ , then there is no redistribution and reforms are continued i.e.  $t_1 = 0, R_1 = 1$ .*
- (iii) *At  $T = 1$  if  $\tilde{\alpha} < \frac{1}{2}$ , then there is full redistribution of income, and  $R_1 = 1$  if  $\tilde{\alpha} \leq \max\{\alpha_m, \frac{\alpha_2(1+\delta_0)-(1-\alpha_2)\delta_1}{1+\delta_0}\}$ . Otherwise, the reform runs into a political impasse, i.e.  $R_1 = 0$ .*

(II) *Under Assumption 1':*

- (i) *At  $T = 0$ , reforms are initiated if condition (4) holds*
- (ii) *At  $T = 1$ , if  $\tilde{\alpha} > \frac{1}{2}$ , then there is no redistribution and reforms are continued i.e.  $t_1 = 0, R_1 = 1$ .*
- (iii) *If  $\tilde{\alpha} < \frac{1}{2}$ , then there is full redistribution of income, and  $R_1 = 1$  if  $\tilde{\alpha} \in [\alpha^*, \frac{1-\alpha_2}{1-\alpha_2}]$ . Otherwise, the reform runs into a political impasse, i.e.  $R_1 = 0$ .*

(III) *Under either assumption, at  $T = 2$ , there is full redistribution if the “losers” are in a majority, and no redistribution otherwise.*

The above proposition describes the entire set of policy sequences that may arise in a political equilibrium to the game, and characterized in figure 2 below.<sup>9</sup> A comparison with the set of efficient choices (see previous section), reveals two kinds of inefficiency.

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<sup>9</sup>Figure 2 is drawn for the case where  $\frac{\frac{1}{2}-\alpha_2}{1-\alpha_2} > \frac{\alpha_2(1+\delta_0)-(1-\alpha_2)\delta_1}{1+\delta_0}$  so that the  $\max\{\frac{\frac{1}{2}-\alpha_2}{1-\alpha_2}, \frac{\alpha_2(1+\delta_0)-(1-\alpha_2)\delta_1}{1+\delta_0}\} = \frac{\frac{1}{2}-\alpha_2}{1-\alpha_2}$ , which we denote by  $\alpha_m$ .

The first source of inefficiency is related to the dynamic continuation of reforms. While very successful first-stage reforms (i.e. if  $\tilde{\alpha} > \frac{1}{2}$ ) automatically find support for continuation among the winners, who form the majority, it is the reforms with middling levels of success that face the danger of running aground – so that we end up in an equilibrium with partial reform. This is particularly stark under assumption 1, when the reforms are efficient even on a ‘stage-by-stage’ basis, i.e. it is economically optimal to always continue with the reforms. But when political considerations are taken into account, citizen-workers who are losers at the end of the first stage of reforms face a trade-off. On the one hand, continuation of the reform results in efficiency benefits from the second-stage reforms. However, continuation of the reform has a potentially negative “political control” effect in the sense that after the second stage of reforms, the winners may be in the majority. This prospect of losing political control is important, since in that case the current majority group of losers from the first stage of reform will lose the political power to extract compensation from the winners at the end of the second stage. The danger of losing political control is particularly acute when the fraction of first-stage winners is relatively high (i.e.  $\tilde{\alpha} > \alpha_m$ ), so that together with the second-stage winners they may form the majority group in period  $T = 2$ . Thus, paradoxically, less successful first-stage reforms (i.e.  $\tilde{\alpha} < \alpha_m$ ) may find political support for continuation while more successful ones may run aground.<sup>10</sup>

This equilibrium policy sequence illustrates the possibility that, in some sense, the initial success of a reform might sow the seeds of its own destruction, in that the success of the reform process in the first period causes the reform to run into a political impasse and thereby remain incomplete. An appealing aspect of the above equilibrium policy sequence is that it captures, in a very simple framework, the emergence of a political impasse as a natural dynamic implication of the reform process. However, what is particularly striking is that it throws light on a large empirical literature that has long puzzled over the finding that public opinion about the reform process, and about the government implementing that reform, frequently varies *negatively* with the performance of the reform.

Perhaps the most comprehensive overview of the relationship between reforms and public opin-

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<sup>10</sup>While we do not consider the possibility of a complete reversal in reforms in period  $T = 1$  (to the initial status-quo), it can be incorporated into the model in a fairly straight-forward fashion. If the winners are in political control in period  $T = 1$ , obviously they will never choose to reverse. On the other hand, if the losers are in control of the government in period  $T = 1$ , under Assumption 1, continuation always leads to a rise in aggregate income. Thus, in this case, their decisions in Proposition 1 are unchanged even given the possibility of reversal. Under Assumption 1' however, reversal is optimal for very low values of  $\tilde{\alpha}$ . In this case, when the losers are in control in period  $T = 1$ , they will wish to reverse the reform for  $\tilde{\alpha}$  below a certain cutoff. The intuition behind the political impasse of Proposition 1, however, is still valid.

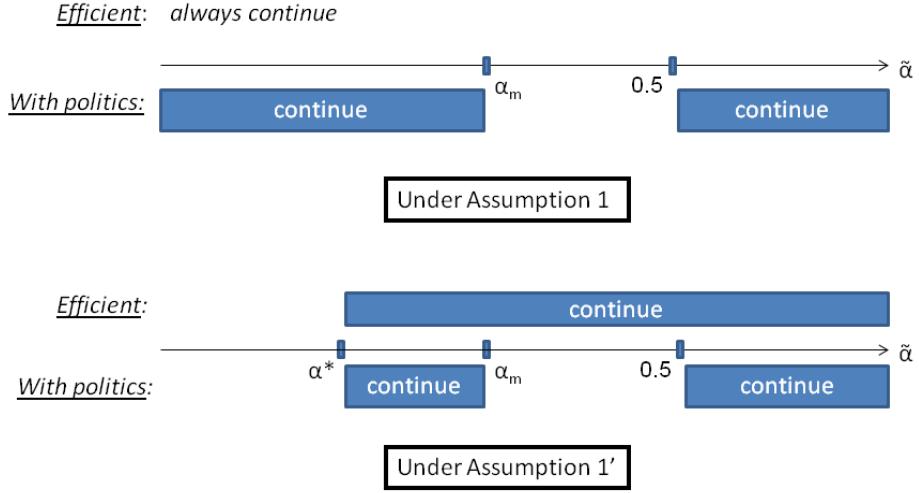


Figure 2: Reform continuation decisions with and without politics

ion is provided by Susan Stokes and coauthors (1996, 2001) who examine the reform experience in Latin America (Mexico, Peru and Argentina) and Europe (Spain, Poland and East Germany). In examining these country experiences, Stokes raises the puzzle that political support for the government and its reforms seemed to go down with an economic upturn. For instance, consider the case studies on the dynamics of public opinion in Mexico over the period 1988-97 (Laredo, 2001), Fujimori's Peru over the 90s (Stokes, 1996) and Argentina over the period 1989-1996 (Echegaray and Elordi, 2001). In each of these cases, a relatively successful initial economic reform (as measured in growth in wages and in GDP) was accompanied by the emergence of political opposition to the reform – which often resulted in a derailment of the reform process. Indeed, Stokes (1996) summarizes some findings of Remmer's (1991) empirical analysis of the political impact of economic crisis in 12 Latin American countries from 1982-1990: “[I]ncumbent parties suffered larger losses at the polls when inflation went down (significant), the incumbent party's share of the vote was larger when inflation rose and when GDP fell”.

In seeking to explain this puzzle, Stokes (1996) argues that the public's responses frequently suggest that they hold “...the belief that if things get worse they will later get better... [I]f the economy improves early on, the public may believe that reforms are failing and turn against the government”. Similarly, Przeworski (1993) in his detailed case study of the support and opposition to reform in the Polish case argued that his “...findings may indicate individual myopia, albeit with

a twist: Continuation of reforms is threatened when the economy shows the first signs of recovery". In contrast, we show that the puzzling dynamics of public opinion over the course of large-scale economic reform may not be due to some kind of myopia or voter irrationality on the part of voters, but rather a result of a very rational political calculus.

There is an additional feature that arises under assumption 1'. In this case, there are no efficiency benefits from continuing with the reform when  $\tilde{\alpha}$  is below  $\alpha^*$ . Thus in this case, even though there is no danger of losing political control in the future, economic considerations alone are sufficient to cause the government to discontinue further reforms.

There is a second source of inefficiency that arises in political equilibrium, namely, in the initiation of the reforms. As mentioned before, comparing condition (4) with (1), one can see that in the presence of political constraints, the reforms are less likely to be initiated in the first place. Again, this is related to the dynamic considerations of the problem. As efficient continuation of the reforms is less likely in the future, the expected value of reforms is lower under political constraints. This reduces the incentive to launch them in the first place.

## 2.5 Imperfect state capacity and Economic Reforms

In this sub-section, we examine the effect of the state's *fiscal capacity constraints*, which limit the power of the government to tax and redistribute across individuals. Since reforms create winners and losers, the extent of possible redistribution from the winners to the losers plays a crucial role in shaping citizen attitudes towards politically supporting the continuation of reforms or not. Following Besley and Persson (2011), we assume that the maximum tax-rate that can be implemented by the government is  $\tau \leq 1$ . The rest of the game is as before. Below we sketch out the key mechanisms at work, while the detailed derivation of the equilibrium is contained in the Appendix.

To begin with, we are interested in analyzing the effect of the differences in a state's fiscal capacity on the incentive to continue with an ongoing economic reform. Consider the decision calculus facing a citizen who at the end of the first stage of reform has been revealed to be a 'loser' (i.e. still belongs to sector  $A$ ) and whose group is still in political control (i.e.  $\tilde{\alpha} \leq 1/2$ ). In this case, the citizen-government elected to power in period  $T = 1$  will be from the 'loser' group. Such a government's decision on whether to continue with the reform ( $R_1 = 1$ ), or not ( $R_1 = 0$ ), will depend on the relative payoff from the two actions,  $V(R_1 = 1; \tau) - V(R_1 = 0; \tau)$ , where  $V(R_1; \tau)$  denotes the expected post-tax income for period  $T = 2$  of an  $A$ -sector citizen from decision  $R_1$ , when the state capacity constraint is given by  $\tau$ . How do differences in state capacity affect this

relative payoff and consequently, the decision to continue with reforms or let them run aground?

On the one hand, the payoff from stopping further implementation of the reform is given by:

$$V(0; \tau) = (1 - \tau)w(1 - \delta_0\theta) + \tau[\tilde{\alpha}w(1 + \theta) + (1 - \tilde{\alpha})w(1 - \delta_0\theta)] \quad (5)$$

In this case, the  $A$ -sector workers (the ‘losers’) retain their current majority even in the next period. Thus, the tax-rate that will be implemented is the maximal one i.e.  $\tau$ . Hence their post-tax income is a weighted average, with weights being  $(1 - \tau)$  and  $\tau$  respectively, on the pre-tax wage of an  $A$ -sector worker, and the average income of the population as a whole, after the first stage of the reform. Note that the higher is the state’s fiscal capacity  $\tau$  to implement redistribution, higher is the post-tax income of the ‘losers’ in this case.

An important factor affecting the comparison of this payoff with  $V(1; \tau)$  will be the nature of aggregate uncertainty in the reform (i.e. whether the reform is characterized by Assumption 1 or 1’). We consider each of these scenarios in turn.

I. *Economic Reform under Assumption 1*: In reforms of this type, losers from the first stage anticipate their wages (in expected terms) to go up if the reform is continued. Thus, even in the absence of any redistribution in period  $T = 2$  (as would happen if the state capacity was very poor or if they lost political control), they would expect to gain from continuing the reform. This implies that if the first-stage losers knew that they would maintain political control in the next stage, then they would surely prefer to continue with the reforms as it would increase both their (expected) personal income as well as the redistributed income. Hence, the marginal reforms under consideration in this case are those in which the first-stage losers stand to lose political control from continuation.

In such a scenario, how does their expected future income (with zero compensation) compare with their income from discontinuing the reform, in which case they maintain their first-stage political control and enjoy the redistributed income from the first-stage winners? When state capacity is low, this latter benefit is negligible. Hence they will be inclined to vote for continuation of the reforms, gambling on an increase in their personal wages rather than remaining losers for sure, with little compensation to boot. Now consider the impact of an increase in state capacity. The first-stage losers can now acquire much more compensation (when they are in political control) from the first-stage winners. In other words, the economic benefit from retaining political control becomes much more important. Thus, they will now be less keen to continue the reform which may jeopardize this political control (and the corresponding redistributive benefits). In this case, better state capacity can thus be inimical to the continuation of reforms.

Formally, as we show in the Appendix, in this case a first-stage loser will choose continuation of the reforms only if:

$$V(1; \tau) - V(0; \tau) = w\theta[\alpha_2(1 + \delta_0) - (1 - \alpha_2)\delta_1 - \tau\tilde{\alpha}(1 + \delta_0)] > 0$$

i.e. if  $\frac{\alpha_2(1 + \delta_0) - (1 - \alpha_2)\delta_1}{\tau(1 + \delta_0)} > \tilde{\alpha}$

Note that as state capacity  $\tau$  increases, the cutoff for continuation falls, thus making the decision for adopting  $R_1 = 1$  more stringent. In this case, better state-capacity makes the continuation of reforms less likely by ensuring for the first-stage losers a higher degree of compensation from maintaining the interim status-quo.

*II. Economic Reform under Assumption 1'*: In these type of reforms, continuation of reform is likely to identify relatively few new winners. Most of the efficiency benefits from continuation accrue through ever larger payoff gains to those who had already benefited from the first stage of reforms. Meanwhile, the wages of the first stage losers are likely to decrease (in expected terms) from continuation. Thus, citizens affiliated with the losing sector in period  $T = 1$  will never want to continue with the reforms if they anticipate losing political control in the future as a result. This is because in such a case their personal (expected) wages will decrease, and in addition, they will lose the ability to force redistributive transfers from the majority.

This implies that here the marginal reform being considered for continuation is one in which the first-stage losers maintain their political control in the future. Greater fiscal capacity on the part of the state means that the losers will be able to obtain a bigger share of the increased gains of the first-stage winners that continuation will bring. Thus in this case, as state capacity increases, the first-stage losers are more likely to decide in favor of continuation of the reform.

Formally, under assumption 1' a first-stage loser will choose continuation of the reform only if:

$$V(1; \tau) - V(0; \tau) = w\theta[\tau\tilde{\alpha}a + (1 - \tau\tilde{\alpha})\{\alpha_2(1 + \delta_0) - (1 - \alpha_2)\delta_1\}] > 0$$

i.e. if  $\tilde{\alpha} > \frac{(1 - \alpha_2)\delta_1 - \alpha_2(1 + \delta_0)}{\tau[a + (1 - \alpha_2)\delta_1 - \alpha_2(1 + \delta_0)]} = \frac{\alpha^*}{\tau}$

Note that as state capacity  $\tau$  increases, the cutoff for continuation falls and approaches the efficient cutoff  $\alpha^*$ . Thus in this case, better state-capacity makes the continuation of reforms more likely by ensuring a higher degree of compensation for the losers in the future.

The arguments sketched above give rise to the following Proposition.

**PROPOSITION 2** *The unique equilibrium policy sequence under state capacity  $\tau$  involves:*

- (I) *Under Assumption 1, at  $T = 1$ , reforms are continued if  $\tilde{\alpha} \leq \max\{\frac{\frac{1}{2}-\alpha_2}{1-\alpha_2}, \frac{\alpha_2(1+\delta_0)-(1-\alpha_2)\delta_1}{\tau(1+\delta_0)}\}$  or if  $\tilde{\alpha} > \frac{1}{2}$ . In this case, the continuation of reforms is less likely under higher state capacity.*
- (II) *Under Assumption 1', at  $T = 1$ , reforms are continued if  $\tilde{\alpha} \in [\frac{\alpha^*}{\tau}, \frac{\frac{1}{2}-\alpha_2}{1-\alpha_2}]$  or if  $\tilde{\alpha} > \frac{1}{2}$ . In this case, the continuation of reforms is more likely under higher state capacity.*

**PROOF:** See Appendix.

The preceding proposition demonstrates that the impact of a state's fiscal capacity can affect the political sustainability of reform in unexpected ways. This of course gives rise to the question of how differences in state capacity affect the prospects for the *initiation* of economic reform. Two considerations need to be kept in mind. First, observe that at the beginning of period  $T = 0$ , all citizen-workers have ex-ante identical prospects from economic reform. In other words, they are equally likely to be winners or losers. Given risk-neutrality, this implies that in computing the expected gains from reform, the anticipated tax-rate drops out of the calculations (shown formally in the Appendix) i.e. this expected payoff is independent of the ability of the state to tax winners to compensate losers. However, there is a second effect of differences in state capacity that we delineated above in Proposition 2. In particular, a country's fiscal capacity has an impact on the range of parameters over which reforms are continued. Thus, any effect that moves the continuation decisions closer to the efficient ones will improve the overall gains from the reform and thus encourage its initiation in the first place. Hence the next corollary follows from Proposition 2.

**COROLLARY 1:** *Under assumption 1, higher state capacity makes it less likely for reforms to start in the first place. Under assumption 1', reforms are more likely to get started when state capacity is greater.*

**PROOF:** See Appendix.

Again this corollary shows that the differential impact of state capacity highlighted in Proposition 2 is also present in the initial decision to begin reforms or not. Reforms which involve an increasing degree of compensation over time (i.e. satisfying assumption 1') require a higher degree of fiscal capacity on the part of the state in order for the citizens to agree to their initiation. On the other hand, for reforms in which the second stage gains are assured even without any compensation (i.e. satisfying assumption 1), the fear of reforms inefficiently running aground in higher capacity states may make citizens more hesitant in initiating them.

### 3 Identity Politics and the Dynamics of Reform

In the previous section we saw that distributional conflict between winners and losers can reduce the political sustainability of economic reform. As a number of observers have pointed out, ethnic divisions can also undermine economic reform (see Hoff and Stiglitz, 2001, for a discussion). For instance, if initial winners (or losers) are concentrated in specific ethnicities, then this may catalyze ethnic conflict that can jeopardize the continuation of further reform (Bangura and Gibbon, 1992). This has been observed in the history of economic reform in a wide range of countries such as Kenya, Uganda and other parts of Africa and also in Armenia, Georgia and the former Yugoslavia (see Horowitz, 2005).<sup>11</sup> It is perhaps not surprising that economic reforms may run into a political impasse if the distributional effects of reform occur along ethnic lines, and thus spark ethnic conflict.

Less noticed are the instances where economic reform seems to proceed despite the contemporaneous presence of ethnic conflict. This is illustrated in its most striking form in the Indian experience with the politics of reform in the past couple of decades. As argued by Kohli (2006), political campaigns in India during the period of economic reform coincided with voter mobilization on an ethnic-caste basis “instead of the less volatile interest-oriented appeals”. This, he argues, may not have hurt the political sustainability of economic reform. Indeed, in his survey on the politics of India’s economic reform, Kumar (2008) summarizes the views of a variety of observers: “Atul Kohli, Ashutosh Varshney and Jeffery Sachs suggest that the aggressive politics – affirmative legislation in favour of the backward classes and the rise of Hindutva – had so formed the template of political India that identities rather than economic reforms continued to dominate the language as well as the rhetoric deployed at the ground level. Mass politics, already aroused by passions, they argue, “far outweighed reform politics”.” More provocatively, Varshney (1998) claims that India’s political elite managed to push through economic reform by exploiting the caste and religious dimensions of mass politics.

Our benchmark model demonstrated that distributional conflict may politically undermine the sustainability of economic reform. This makes it particularly well suited to examine whether or not non-economic factors (such as ethnicity) can affect the political sustainability of reform. Accordingly, we extend our benchmark model to allow for the possibility that citizen-voters care about another dimension in addition to the economic one – namely, identity. Our extension adapts Glaeser

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<sup>11</sup>For example, President Museveni’s attempt to reform the land tenure system in Uganda was crippled by ethnic conflict, because the adverse distributional consequences of this reform were concentrated on the Baganda (Green, 2006). Similarly, according to Lehman (1992), reform in Kenya could not be politically sustained due to the (ethnically) uneven incidence of benefits and costs from further reform.

(2005) to examine conditions under which the incumbent has an incentive to stoke ethnic and sectarian tensions in order to increase the likelihood of remaining in power. In particular, in addition to his income, each citizen-worker has an identity-characteristic  $X$  or  $Y$ , which can be race, caste, religion, language or ethnicity. A fraction  $n_i$  of the population has characteristic  $i$ ,  $i \in \{X, Y\}$ . We will assume that group  $X$  is in the majority i.e.  $n_X > \frac{1}{2} > n_Y$ .<sup>12</sup> We assume that the economic gains from reform (i.e. the probability of being a winner at each stage) are identically distributed across these two groups, thereby deliberately ruling out the scenario where political conflict arises from the differential gains from reform across the two ethnic groups. To simplify the analysis, in this section, we assume that state capacity is perfect i.e.  $\tau = 1$ .

The elected politician's ethnic group affiliation matters because in each period  $T$  the incumbent citizen-government chooses a policy  $a_T$  that determines the nature of a non-economic public good (which can be the state's patronization of culture, language or religion). There is some uncertainty about the degree of congruence in preferences across the two groups over this public good. In particular, the gap in preferences across the two groups on this non-economic dimension can with probability  $\varepsilon$  be small,  $\Delta = 0$  (congruent preferences), or with probability  $1 - \varepsilon$ , be large  $\Delta = 1$  (i.e. incongruent). If  $\Delta = 0$ , then both groups benefit in the same way from a given policy  $a_T$ . On the other hand, if  $\Delta = 1$ , their benefits are diametrically opposed i.e. if group  $X$  benefits from a particular policy  $a_T$ , it must mean that group  $Y$  gets harmed and vice-versa.<sup>13</sup> We assume that  $\varepsilon$  is 'small' so that ex-ante, the perceived differences across the two groups is negligible and thus initially, politics is based only on the economic dimension. However, if the citizens become sufficiently convinced that the underlying state is  $\Delta = 1$ , citizen-voters of all types would prefer the citizen-government to be affiliated with their own ethnicity.

We denote by  $G_i(j, e; \Delta)$  the utility to a citizen from group  $i$  on the non-economic dimension from having in office a politician of ethnicity  $j$  and experience  $e \in \{0, 1\}$  when the state of the world is  $\Delta$ . Following the discussion above, we assume that if the state is  $\Delta = 1$ , then all citizens prefer an experienced person of their own ethnicity to run the government, while if  $\Delta = 0$ , ethnicity of the politician does not matter:  $G_i(i, e; 1) > G_i(j, e; 1)$  and  $G_i(i, e; 0) = G_i(j, e; 0)$  for  $i \neq j$ .

We also assume that the incumbent has an advantage over identical challengers; specifically, we

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<sup>12</sup>We should point out that the model that we present can be considered to be a special case of a more general multi-dimensional framework where the group identity is endogenous to the decision of the incumbent government. A government that is politically vulnerable will prefer to make (with some probability) that dimension politically salient (which could even be the fear of an "external threat") that maximizes the probability of its re-election.

<sup>13</sup>For instance, if the cultural differences between the two groups is minimal, there will be little difference in their optimal policy choices on this dimension. On the other hand, if they differ greatly, then each group will wish to have its candidate in office to ensure the choice of its preferred cultural policy.

assume that over time the incumbent becomes more efficient in funneling ethnic goods to his own group i.e. experience matters:  $G_i(i, e = 1; 1) > G_i(i, e = 0; 1)$ .

The two assumptions together imply that if the state is  $\Delta = 1$ , then on the non-economic dimension, all citizens prefer an experienced person of their own ethnicity to run the government. The overall utility for a citizen is given by the sum of his economic payoff and his non-economic payoff  $G_i(j, e; \Delta)$ .

*'Incidents' and Propaganda:* Initially, as  $\varepsilon$  is small, ethnic identity does not play a role in determining citizen-voters' preferences over candidates. However, if they learn about clashes or riots between individuals of the two groups at the local level, citizens will update their priors. Thus, we allow for the possibility of a violent 'incident'  $\nu = 1$  (which could be a local clash or even murder) between two individuals who belong to different castes or ethnicities. The cause of the 'incident' can be prior personal differences between the two individuals unrelated to their ethnicity or it may arise as a by-product of large differences in preferences arising from their different ethnicities. However, the chances of such 'incidents' between members across these two communities are higher when their preferences differ than when they are congruent. Accordingly, we assume that the probability of such clashes when  $\Delta = 1$  is greater than when  $\Delta = 0$ , i.e.  $c_1 \equiv P(\nu = 1 | \Delta = 1) >> c_0 \equiv P(\nu = 1 | \Delta = 0)$ .

While such violent 'incidents' involving individuals at a local level may occasionally happen, they are unobserved by the wider populace. However, the incumbent politician can use the state machinery and (if it is to his advantage) engage in political propaganda, broadcasting this 'incident' to the wider populace. For simplicity, we assume that if the incumbent politician spends resources  $r(i)$  on propaganda, news about the occurrence of the violent incident reaches fraction  $i$  of the population.<sup>14</sup> Glaeser (2005) terms such propaganda as 'hatred', as such a supply of 'negative stories' serves to enhance negative feelings of one ethnic group towards another. On receiving information about a violent incident, people update their beliefs about the differences between the two groups. We denote by  $R$  the incumbent's 'ego-rents' from being in office.

The timing of the game is the same as before, except for the following addition. At the end of period  $T = 0$ , after the distributional effects of the first stage of reforms have been realized and the identity of the challenger been revealed, the incumbent makes a decision on whether to use the

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<sup>14</sup>In order to keep things simple, we follow Glaeser (2005) and allow only the political incumbent to engage in propaganda. In other words the randomly chosen challenger is assumed to lack the machinery to investigate the 'incident' and/or broadcast it to the wider populace. This is of course a simplification – though our general argument would hold so long as the incumbent government had better access to information about violent incidents in the country.

state machinery to engage in political propaganda and broadcast news of a violent ‘incident’ (if any) to the wider populace. As before, we are interested in examining the policy sequences that can emerge in a political equilibrium here.

Before embarking on the formal analysis, let us intuitively examine the issue under consideration. The point of departure from the earlier analysis occurs in the case when the incumbent politician of period  $T = 0$  (or the constituency he represents) is revealed to be a “winner” from the reform and  $\tilde{\alpha} < \frac{1}{2}$ . In this case, the “losers” are in a majority, and would like to elect a representative “loser” to office in the elections if they were to vote based only on the economic dimension. Anticipating such a situation, would the current “winner” incumbent indulge in political propaganda to make ethnicity the salient dimension in the elections in order to retain office? If he were successful with such a strategy, it would imply that reforms would be continued whereas reforms would grind to a halt in its absence.

The following analysis examines: (i) under what conditions would such a strategy of ethnic propaganda be successful, and (ii) when is it worthwhile for the incumbent to adopt such a strategy?

*Demand side of Ethnic Politics:* We now examine the conditions under which a citizen prefers to vote on the basis of his ethnicity rather than his interest on the economic dimension. In particular, suppose that an individual from group  $X$  receives information on the occurrence of an incident between individuals belonging to the different groups. Given that such negative incidents are more likely when there are large differences between the groups, this individual updates his belief that the state of the world is  $\Delta = 1$  to  $\frac{\varepsilon c_1}{\varepsilon c_1 + (1-\varepsilon)c_0}$ , which is higher than  $\varepsilon$ . In fact, given that such negative clashes are relatively rare when  $\Delta = 0$  as compared to when  $\Delta = 1$ , the news of any random clash will cause individuals to update their beliefs about there being large differences between the groups to much beyond  $\varepsilon$ . Upon receiving such information, the question is whether individuals will vote based on their ethnic or economic proclivity.

If the incumbent at the end of the first period is a ‘winner’ from group  $X$ , then all winners from group  $X$  will choose to vote for him because of their alignment on both dimensions. However, the challenger may be a ‘loser’ from group  $Y$  or even group  $X$ . If the challenger is a ‘loser’ of ethnicity  $Y$ , then citizen-voters who are losers from group  $X$  will vote for the ‘winner’ incumbent from their own group if the benefit on the non-economic public good dimension outweighs the economic gains from having a ‘loser’ in office. Of course, if the political challenger was a loser from group  $X$ , then the condition required to ensure that the incumbent gets re-elected will be much more stringent. We now sketch out these conditions under which a ‘partisan’ incumbent of ethnicity  $X$  will get re-elected even if facing a challenger who is a loser from the same ethnicity.

On receiving information about an incident  $\nu = 1$ , a citizen-voter will prefer an incumbent ‘winner’ from group  $X$  to a ‘loser’ so long as the following inequality holds:

$$[G_X(X, e = 1; \Delta = 1) - G_X(X, e = 0; \Delta = 1)] \frac{\varepsilon c_1}{\varepsilon c_1 + (1 - \varepsilon)c_0} > S(\tilde{\alpha}) \quad (6)$$

where  $S(\tilde{\alpha})$  is the relative economic gain from having a ‘loser’ in office. Given that the political challenger in the elections at  $T = 1$  is not only from group  $X$  but also a ‘loser’, citizen-voters who belong to the same ethnicity and are first-stage losers face a dilemma. If they went by the economic gains alone, they would strictly prefer the challenger who is also a ‘loser’ and belongs to group  $X$ . However, if the benefits from experience in efficiently transferring the (zero-sum) ethnic goods are large enough, we may have an incumbent get re-elected.<sup>15</sup>

The economic gain  $S(\tilde{\alpha})$  from choosing a ‘loser’ government versus a ‘winner’ comes from two sources: (i) the difference in tax-rates set by the two governments in period  $T = 1$ , and (ii) differences in their reform continuation strategies. While we compute this value explicitly in the Appendix, the crucial feature is that  $S(\tilde{\alpha})$  is increasing in  $\tilde{\alpha}$ . In other words, the economic loss from re-electing the incumbent winner is bigger when the proportion of first-stage winners  $\tilde{\alpha}$  is higher. Thus a strategy of using ethnic differences to sway voters will only work when  $\tilde{\alpha}$  is small. This can be seen from condition (6) which, given that  $S(\tilde{\alpha})$  is increasing in  $\tilde{\alpha}$ , only holds for  $\tilde{\alpha}$  below a certain cutoff, denoted by  $\alpha^c$ .

*Supply side of ethnic politics:* While the analysis so far has studied when a strategy of amplifying ethnic clashes to foment ethnic sentiments may work, the other side of the equation is whether the incumbent is willing to do so given that it is expensive to do such amplification. Note that if he spends resources  $r(i)$ , then fraction  $i$  of the population receive news of the clash. Among the voters, while all the ‘winners’ from ethnic group  $X$  will vote for the incumbent ‘winner’, among the ‘losers’ from this group, only those that receive news about the clash will do so (provided condition (6) is satisfied). All voters from group  $Y$  who receive news about the clash will analogously choose not to vote for the incumbent. Among those (from either group) who do not receive any news, there will be no update in their belief  $\varepsilon$  about the distance between the groups, and will vote based on economic considerations only.

Thus the total votes for the incumbent will be  $n_X \tilde{\alpha} + n_X(1 - \tilde{\alpha})i + n_Y \tilde{\alpha}(1 - i)$ . Hence the minimum  $i$  required for winning the election is given by  $\frac{1 - 2\tilde{\alpha}}{n_X(1 - \tilde{\alpha}) - n_Y \tilde{\alpha}}$ . Given that the rents from

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<sup>15</sup>We should emphasize that we have chosen this particular formulation only for simplicity. There are other more realistic scenarios which will give rise to similar incumbency effects. See Padro i Miquel (2007) for an elegant explanation of why a group may continue supporting an incumbent from its own group despite large losses in economic welfare.

being reelected to office are  $R$ , the incumbent will be willing to adopt this strategy only if:

$$R > r \left( \frac{1 - 2\tilde{\alpha}}{n_X(1 - \tilde{\alpha}) - n_Y\tilde{\alpha}} \right) \quad (7)$$

Note that since  $n_X > \frac{1}{2}$ , hence  $\frac{1 - 2\tilde{\alpha}}{n_X(1 - \tilde{\alpha}) - n_Y\tilde{\alpha}}$  is decreasing in  $\tilde{\alpha}$ . In the absence of any amplification the only voters who will vote for the incumbent are the winners i.e. a fraction  $\tilde{\alpha}$  of the population. When  $\tilde{\alpha}$  is higher, the amount of resources the incumbent has to spend to acquire extra voters through the use of the ethnic propaganda is not as high. This implies that condition (7) only holds for  $\tilde{\alpha}$  high enough. In other words, there exists a cutoff  $\tilde{\alpha}$ , say  $\alpha^{cc}$ , above which the politician will be willing to adopt the strategy of using ethnic manipulation to further his tenure in office and also continue with the reforms.

Together, the demand and supply conditions lead to the following proposition.

**PROPOSITION 3:** *For  $\varepsilon > \underline{\varepsilon}$ , there exists an equilibrium policy sequence in which, when  $\tilde{\alpha} \in [\alpha^{cc}, \alpha^c]$ , an incumbent from group  $X$  and sector  $M$  invests  $r(i)$  in propaganda that makes ethnic group identity politically salient in the elections at the beginning of period  $T = 1$ . In this case, the incumbent is re-elected and continues with the economic reform in period  $T = 1$  with no redistributive tax-transfers to compensate the losers from the first stage of economic reform.*

**PROOF:** See Appendix.

Therefore, we may have a scenario where political reform continues not despite ethnic conflict, but rather because of it. Interestingly, such a strategy of using non-economic issues to ensure re-election (and thereby continuation of the reforms without compensation for the losers) works only when the initial success with the reform,  $\tilde{\alpha}$ , is in an intermediate range. If the reforms are very unsuccessful i.e. generates a large proportion of losers, it is very costly for a ‘winner’ incumbent to persuade enough of them to vote for him in order to get reelected. On the other hand, when the reforms are sufficiently successful i.e.  $\alpha^c < \tilde{\alpha} < \frac{1}{2}$ , the losers would prefer to have political control by having a ‘loser’ politician in power. This would ensure them compensation from the winners, the level of which is high when  $\tilde{\alpha}$  is high. In such a situation, they would not be swayed by ethnic considerations in their voting decision and would be influenced by economic factors alone. However, for a range of moderately successful first-stage reforms, ethnic conflict can be strategically used to reduce the possibility of political impasse that may otherwise arise, as seen in Proposition 1.

## 4 Conclusion

This paper has developed a simple framework that allowed us to throw light on different aspects of the political sustainability of economic reform in developing countries. When economic reforms give

rise to distributional conflict, the initial success of reform can in fact give rise to a political backlash. Indeed our framework shows that, *pace* Przeworski (1993), the often-puzzling dynamics of public opinion over the course of large-scale economic reform may not be due to some kind of myopia or irrationality on the part of voters, but rather a result of rational calculus on the part of the interim majority. A large literature has emphasized that political reforms are easier to adopt and sustain if losers can be compensated. Accordingly, a natural presumption may be that greater capacity on the part of the state in taxing winners to compensate losers will increase the political sustainability of reform. However, our analysis suggests a note of caution: depending on the type of reform being considered, greater state capacity can help or hinder both the initiation and political sustainability of reform. Finally, we throw light on the presumption that ethnic conflict is typically likely to undermine economic reform. In a simple extension of our benchmark model, we suggest that this need not be the case. Indeed, a politician may increase the political sustainability of economic reform, precisely by making ethnicity (or other non-economic dimensions) politically salient.

However, we should emphasize that there are several facets of our framework that warrant future exploration. First, our framework took a state's fiscal capacity to tax and redistribute as exogenously given over the duration of the reform. However, given that state capacity can plausibly be improved by investment choices made by governments, it would be interesting to examine the politics of investment in state capacity over the course of economic reforms. Second, our analysis of the effects of introducing a non-economic dimension on the political sustainability of reform had several simplifying assumptions. It would be useful to develop a richer framework with an endogenous media sector that could either facilitate or hinder government propaganda, thereby reinforcing or undermining the government's ability to politically sustain economic reform (see Stromberg, 2004). Third, our analysis has been restricted to politics in electoral democracies. It would be useful to study whether it is easier or more difficult to sustain economic reform in countries where there are very different institutional structures for (limited) political accountability. Such a framework would throw light on the role of political protest and backlash in affecting the trajectory of reform in imperfect democracies such as Bolivia or Venezuela or in authoritarian countries such as China. Fourth, we do not consider here the issue of workers' incentives to invest in furthering their chances of moving to the growing sector. In the context of land reforms, Ghatak and Mookherjee (2011) look at the incentives of tenants to invest in the quality of land, anticipating their share of compensation from future sale of the land. In our context, it would be of interest to study the two-way interaction of these incentives with the dynamic politics of reforms.

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## Appendix

### PROOF OF PROPOSITION 2:

We solve for the equilibrium backwards (as in Proposition 1). Consider the scenario where, at the end of the second stage of reforms,  $A$ -sector workers are still in a majority, i.e.  $\tilde{\alpha} + (1 - \tilde{\alpha})\alpha_2 \leq 1/2$ . Then the politician elected in period  $T = 2$  will be from the  $A$ -sector and thus will set the maximal tax-rate  $\tau$  in order to obtain the greatest degree of redistribution from the winners to the losers. In contrast, if the ‘winners’, i.e. the  $M$ -sector workers, are in a majority, their elected candidate will choose a tax rate of 0, implying no redistribution.

One period earlier, the decision faced by the politician elected in period  $T = 1$  is (i) set the tax rate for the period, and (ii) whether or not to continue with the reform, given that the proportion of first-stage winners is  $\tilde{\alpha}$ . Again, depending on whether or not this politician is representative of the ‘loser’ group i.e. the  $A$ -sector workers, or not, he will either set the maximal tax-rate of  $\tau$  or the minimal one of 0. On the decision of continuing the reforms, if this politician represents the  $M$ -sector workers (who are in the majority at this stage if  $\tilde{\alpha} > \frac{1}{2}$ ), he will obviously decide for continuation of the reforms. However, if he is from the  $A$ -sector, he will compare the expected payoff to  $A$ -sector workers from halting the reform versus continuing it.

Denote by  $V(R_1; \tau)$  the expected post-tax income for period  $T = 2$  of an  $A$ -sector worker from continuation decision  $R_1 \in \{0, 1\}$  when the state capacity constraint is given by  $\tau$ . The payoff from letting the reform run aground is given by:

$$V(0; \tau) = (1 - \tau)w(1 - \delta_0\theta) + \tau[\tilde{\alpha}w(1 + \theta) + (1 - \tilde{\alpha})w(1 - \delta_0\theta)]$$

On the other hand, choosing continuation of the reforms means that an  $A$ -sector worker may be a winner with probability  $\alpha_2$  or remain a loser with probability  $1 - \alpha_2$ , with the tax and redistribution regime depending on who is in the majority at the end of stage two. In the case where  $\tilde{\alpha} + (1 - \tilde{\alpha})\alpha_2 \leq 1/2$  i.e. losers continue to be a majority at the end of the second stage, the period-2 payoff for a first-stage loser from continuation of the reforms is given by:

$$\begin{aligned} V_{losers\ maj}(1; \tau) &= (1 - \tau)[\alpha_2w(1 + \theta) + (1 - \alpha_2)w(1 - (\delta_0 + \delta_1)\theta)] \\ &\quad + \tau[\tilde{\alpha}w(1 + (1 + a)\theta) + (1 - \tilde{\alpha})\{\alpha_2w(1 + \theta) + (1 - \alpha_2)w(1 - (\delta_0 + \delta_1)\theta)\}] \end{aligned}$$

Note that if  $\tau = 1$ , to take one extreme case, then the worker’s post-tax income is the average for all workers after both stages of reform (as we had in the previous sub-section, 2.3), while at the other extreme, if  $\tau = 0$ , redistribution is impossible, and the worker expects only the expected (personal) gains from the second-stage reform,  $[\alpha_2w(1 + \theta) + (1 - \alpha_2)w(1 - (\delta_0 + \delta_1)\theta)]$ .

Thus in this case, a first-stage loser will choose continuation of the reform if:

$$\begin{aligned} V_{\text{losers maj}}(1; \tau) - V(0; \tau) &= w\theta[\tau\tilde{\alpha}a + (1 - \tau\tilde{\alpha})\{\alpha_2(1 + \delta_0) - (1 - \alpha_2)\delta_1\}] > 0 \\ \text{i.e. if } \tilde{\alpha} &> \frac{(1 - \alpha_2)\delta_1 - \alpha_2(1 + \delta_0)}{\tau[a + (1 - \alpha_2)\delta_1 - \alpha_2(1 + \delta_0)]} = \frac{\alpha^*}{\tau} \end{aligned} \quad (8)$$

Note that condition (8) only has bite when  $(1 - \alpha_2)\delta_1 > \alpha_2(1 + \delta_0)$  i.e. under assumption 1'. In this case, as  $\tau$  increases, the cutoff for continuation falls and thus better state-capacity makes the continuation of reforms more likely.

On the other hand if the winners are anticipated to be in a majority at the end of stage two, the payoff to a first-stage loser from choosing continuation is:

$$V_{\text{winners maj}}(1; \tau) = \alpha_2 w(1 + \theta) + (1 - \alpha_2)w(1 - (\delta_0 + \delta_1)\theta)$$

Here, the second-period tax regime is chosen by a government from the  $M$ -sector. Thus there is no redistribution at that stage. In this case, there will be gains from continuation of the reforms in period  $T = 1$  (versus letting them run aground) if:

$$\begin{aligned} V_{\text{winners maj}}(1; \tau) - V(0; \tau) &= w\theta[\alpha_2(1 + \delta_0) - (1 - \alpha_2)\delta_1 - \tau\tilde{\alpha}(1 + \delta_0)] > 0 \\ \text{i.e. if } \frac{\alpha_2(1 + \delta_0) - (1 - \alpha_2)\delta_1}{\tau(1 + \delta_0)} &> \tilde{\alpha} \end{aligned} \quad (9)$$

Again, note that condition (9) only has bite when  $\alpha_2(1 + \delta_0) > (1 - \alpha_2)\delta_1$  i.e. under assumption 1. In this case, as state capacity  $\tau$  rises, continuation of reforms becomes *less* likely.

#### PROOF OF COROLLARY 1:

Consider an individual's ex-ante expected two-period gain from initiating the reform, anticipating the continuation decisions and tax-rates at  $T = 1$  and  $T = 2$ . The expected gain for period  $T = 1$  is given by:

$$\begin{aligned} &E[\tilde{\alpha}\{(1 - \tau)\theta w + \tau(\tilde{\alpha}\theta w - (1 - \tilde{\alpha})\delta_0\theta w)\} \\ &+ (1 - \tilde{\alpha})\{-(1 - \tau)\delta_0\theta w + \tau(\tilde{\alpha}\theta w - (1 - \tilde{\alpha})\delta_0\theta w)\}] \\ &= E[\tilde{\alpha}\theta w - (1 - \tilde{\alpha})\delta_0\theta w] \end{aligned}$$

It is thus independent of the state capacity parameter  $\tau$ .

Again from an ex-ante individual perspective, the period  $T = 2$  gains under assumption 1' are

given by :

$$\begin{aligned}
& \tilde{\alpha}(1+a)\theta w + (1-\tilde{\alpha})\{\alpha_2\theta w - (1-\alpha_2)(\delta_0 + \delta_1)\theta w\} \quad \text{if } \tilde{\alpha} > \frac{1}{2} \\
& (1-\tau)\{\tilde{\alpha}(1+a)\theta w + (1-\tilde{\alpha})(\alpha_2\theta w - (1-\alpha_2)(\delta_0 + \delta_1)\theta w)\} \\
& + \tau\{\tilde{\alpha}(1+a)\theta w + (1-\tilde{\alpha})(\alpha_2\theta w - (1-\alpha_2)(\delta_0 + \delta_1)\theta w)\} \quad \text{if } \tilde{\alpha} \in [\frac{\alpha^*}{\tau}, \frac{\frac{1}{2} - \alpha_2}{1 - \alpha_2}] \\
& \tilde{\alpha}\theta w - (1-\tilde{\alpha})\delta_0\theta w \quad \text{otherwise}
\end{aligned}$$

In the first case, the winners are in a majority and set the tax-rate  $t = 0$ ; thus the gains are independent of state capacity. In the third case, reforms are not continued, and thus the gains are the same as in period  $T = 1$ , which we have shown before is independent of  $\tau$ . In the second case, when  $\tilde{\alpha} \in [\frac{\alpha^*}{\tau}, \frac{\frac{1}{2} - \alpha_2}{1 - \alpha_2}]$ , the expression simplifies to:

$$\tilde{\alpha}(1+a)\theta w + (1-\tilde{\alpha})(\alpha_2\theta w - (1-\alpha_2)(\delta_0 + \delta_1)\theta w))$$

which is again independent of  $\tau$ .

Similarly, it can be shown that under assumption 1 as well, the ex-ante expected gains at  $T = 2$  are independent of the state capacity parameter  $\tau$  in each case.

Combining these two gains, the decision on whether or not to launch the reform depends on whether the overall payoff:

$$(1+\beta)(\bar{\alpha}\theta w - (1-\bar{\alpha})\delta_0\theta w) + \beta \int_{\tilde{\alpha} \in I_c(\tau) \cup (\frac{1}{2}, 1]} \{\tilde{\alpha}aw\theta + (1-\tilde{\alpha})[\alpha_2(1+\delta_0)w\theta - (1-\alpha_2)\delta_1w\theta]\} dF(\tilde{\alpha}) \geq K$$

where  $I_c(\tau)$  denotes the range of  $\tilde{\alpha}$  over which reforms are continued when the state capacity is  $\tau$ . From proposition 2, this range contracts with an increase in  $\tau$  under Assumption 1 and expands under Assumption 1'. Hence the overall gain from reform falls due to a rise in  $\tau$  under Assumption 1 and makes the initiation of reform less likely. The opposite holds under Assumption 1'.

### Derivation of $S(\tilde{\alpha})$ and the bound on $\varepsilon$ for Proposition 3:

The pure tax benefit to a first-stage loser from choosing a ‘loser’ government versus a ‘winner’ is given by:

$$\tilde{\alpha}w(1+\theta) + (1-\tilde{\alpha})w(1-\delta_0\theta) - w(1-\delta_0\theta) = \tilde{\alpha}w\theta(1-\delta_0)$$

On the difference in continuation strategies for the two types, we will need to consider a few cases. Under assumption 1', when  $\tilde{\alpha} \in [\alpha^*, \frac{\frac{1}{2} - \alpha_2}{1 - \alpha_2}]$ , both types will continue and thus there is no difference in this case. Similarly if  $\tilde{\alpha} < \alpha^*$ , neither type will continue and so there is no difference.

If however  $\tilde{\alpha} > \frac{1-\alpha_2}{1-\alpha_2}$ , a ‘loser’ will not allow reforms to continue beyond the first-stage, while a ‘winner’ will prefer to do so. Calculating the gains in these cases gives  $S(\tilde{\alpha})$  below. Under assumption 1',  $S(\tilde{\alpha}) =$

$$\begin{aligned} & \tilde{\alpha}w\theta(1-\delta_0) \text{ if } \tilde{\alpha} \leq \frac{\frac{1}{2}-\alpha_2}{1-\alpha_2} \\ & \tilde{\alpha}w\theta(1-\delta_0) + \beta\{\tilde{\alpha}w(1+\theta) + (1-\tilde{\alpha})w(1-\delta_0\theta) - \alpha_2w(1+\theta) + (1-\alpha_2)w(1-(\delta_0+\delta_1)\theta)\} \text{ if } \tilde{\alpha} > \frac{\frac{1}{2}-\alpha_2}{1-\alpha_2} \end{aligned}$$

From the above expressions, we can clearly see that  $S(\tilde{\alpha})$  is increasing in  $\tilde{\alpha}$ . A similar derivation under assumption 1 also shows that  $S(\tilde{\alpha})$  increases with  $\tilde{\alpha}$ .

The lower bound  $\alpha^{cc}$  on  $\tilde{\alpha}$  is given by equation (7), from which:  $\alpha^{cc} = \frac{1-n_Xr^{-1}(R)}{2-r^{-1}(R)}$ . On the other hand, the upper bound  $\alpha^c$  on  $\tilde{\alpha}$  is given by (6), from which:  $\alpha^c = S^{-1}([G_X(X, 1; 1) - G_X(X, 0; 1)]\frac{\varepsilon c_1}{\varepsilon c_1 + (1-\varepsilon)c_0})$ . Thus the condition for Proposition 3 boils down to  $\alpha^{cc} < \alpha^c$  i.e.

$$S\left[\frac{1-n_Xr^{-1}(R)}{2-r^{-1}(R)}\right] < [G_X(X, 1; 1) - G_X(X, 0; 1)]\frac{\varepsilon c_1}{\varepsilon c_1 + (1-\varepsilon)c_0}$$

Note that the right-hand side of this inequality is increasing in  $\varepsilon$ . Thus for  $\varepsilon$  higher than a cutoff-value  $\underline{\varepsilon}$ , the interval  $[\alpha^{cc}, \alpha^c]$  in Proposition 3 is non-empty.