Public Opinion and the Dynamics of Reform*

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Abstract

Why do economic reforms that are proceeding successfully often run aground? In this paper we show that there might arise circumstances where the initial success of reform might result in it running into a political impasse. We suggest that the key might lie in the effect that the reform process has on the balance of political power. In particular, if initially successful reforms change the balance of political power in such a way as to make future redistribution less likely, then public opinion may turn against reform. Thus, in some sense, an initially successful reform may well end up sowing the seeds of its own destruction.

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1 Introduction

The last couple of decades have witnessed the adoption of economic reform in many countries, with considerable popular enthusiasm and political support accompanying their adoption. However, sustaining and completing the implementation of these reform packages has turned out to be difficult. In large part this difficulty in sustaining economic reforms is due to the erosion of political support, which not only threatens the viability of the reform process, but also undermines the nascent democratic institutions in many of these countries (Rodrik (1996) and Stokes (2001)).[1] In this paper we examine the political sustainability of reform by analyzing the dynamic interaction of public opinion and the reform process. We do this by focusing on a key puzzle in the political economy of economic reform: why do economic reforms that are proceeding successfully often run aground?

Two reasons are commonly put forth to explain the emergence of public opinion opposed to continuation of economic reform in developing and transition economies. First, the 'appropriateness' of the reform package itself may be uncertain. If the policies perform poorly, then citizens may rationally infer that the reform package itself was 'inappropriate' and may accordingly prefer not only to stop the reforms but even reverse them. Of course with this explanation, it is not clear why political support for the incumbent should come down unless the initial choice of reform package was itself perceived by the citizen-worker to be a function of the government's ability. A second possibility has to do with the government's ability in successfully implementing the reform package. If the initial performance of the reform package is poor, then public opinion may turn against economic reform. This erosion in political support arises because voters blame government incompetence for the degree of economic hardship and dislocation they have to endure during the period of adjustment (see Tommasi and Velasco (1996)).

These preceding explanations on the dynamics of public opinion and the implementation of economic reform are well understood. There is little disagreement that economic reform, by causing major structural changes, typically results in unemployment, dislocation and economic hardship.

[1] According to the EBRD's *Transition Report, 1999* (pp. 104), "In the transition countries, reforms have tended to generate a political backlash in a majority of cases. In 14 of the 21 countries in the region that held competitive elections, incumbents lost control of the government in the second election".

Not only economists, but most of the general public understands this and still favors the adoption of economic reform.[2] Yet, what is puzzling is why a majority of citizen-workers change their mind about continuing with the very policies that a majority of them had supported, even though the initial impact of the reform is *favorable* (Rodrik, 1996). This is especially puzzling if one thinks of voters as being forward looking, because then the performance of the reform should presumably provide some indication of the shape of the future.

Such apparent anomalies are of more than theoretical interest. Stokes (pp. 25, 2001) summarizes the results from her survey on public support for market reforms in new democracies, with the following: "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 instance, consider the case studies on the dynamics of public opinion in Mexico over the period 1988-97 (Laredo, 2001), Fujimouri's Peru over the 90s (Stokes, 2001) and Argentina over the period 1989-1996 (Echegaray and Elordi, 2001). All these Latin American cases suggest the following – a relatively successful initial economic reform (as measured in growth in wages in GDP) was accompanied with the emergence of political opposition. Similarly, Stokes (1996) and Remmer (1991) document for a variety of mostly Latin American countries, public opinion about the reform process, and the government implementing the reform, frequently varies negatively with the performance of the reform. Stokes (1996) suggests 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" (p. 505). For example, she argues that "...Peruvians drew from the recent experience...the lesson that rising wages spelled bad news about future inflation. Politicians, academics, and the press reinforced this interpretation...." (p. 514). Finally, she 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 (not significant), and the party system was less stable when the exchange rate depreciated." (p. 515)

[2]See Stokes (2001) for evidence on this.

An examination of the experience of the transition economies provides additional evidence of the kind of anomalies that we point out. For instance, consider the Polish experience with economic reform in the past decade, which might be said to be typical of several country experiences. Przeworski (1993) in his analysis of the public support for the Balcerowicz Plan summarized his data as follows:

> "In sum, reforms enjoyed overwhelming support from the time they were announced through the first four months of their implementation. This support declined sharply after a few months but remained stable and sizable for the rest of the year. During the subsequent six months, confidence in reforms fell sharply again, and after eighteen months a clear majority of public opinion turned against them for the first time."

We now know that by 1993 the former communists were back in power. Przeworski (1993) in his analysis of the dynamics of public support over the reform process claimed 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."

Somewhat surprisingly, the existing literature has no systematic analysis of these puzzling observations. This also turns out to be a big handicap for a policymaker interested in *designing* politically sustainable reforms. In order to address the lacunae in the analytical literature addressing this issue, we propose a simple framework. We begin by observing that all reforms typically have distributional consequences and result in 'winners' and 'losers'. An important aspect of our framework is that citizen-workers face individual specific uncertainty as to whether they will be 'winners' or 'losers', as in Fernandez and Rodrik (1991). Of course, governments have the ability to tax winners to compensate losers. We follow Jain and Mukand (2003) in endogenizing the government's redistributive decision. We introduce two new elements in this framework. First, we explicitly consider a dynamic reform process. Here both the implementation of the reform package, as well as the revelation of winners and losers, takes place over time - as is almost always the case. Second, we also recognize another feature that is common to most large scale reform packages, namely, the aggregate uncertainty about the intertemporal distribution of winners and losers.[3] Introduction of these elements generates a rich set of predictions about the evolution of public opinion

[3]Our finding contrasts with Dewatripont and Roland (1995) who show that in the presence of aggregate uncertainty, gradual reform is likely to be politically acceptable in a way that a one-shot implementation of the entire reform may not be. Also see Martinelli and Tommasi (1997) on this.

over the reform process. In this framework we show that even if governmental competence is not an issue with the voting public, economic reforms may run into a *political impasse*.[4]

We suggest that the key may lie in the effect that the reform process has on the balance of political power. To see this, suppose that the gradual unfolding of the reform, reveals an unexpectedly high number of winners in the initial stages of the reform. We identify two reasons why such an outcome may turn some voters against further continuation of the reform. First, this surprisingly high number of winners in the initial stages of the reform, may result in greater pessimism among the remaining population, that they will eventually turn out to be winners. If so they will vote against continuation and completion of the reform sequence. The second reason as to why a majority of public opinion may turn against continuation of the reforms is more striking: the political feasibility of implementing redistributory compensation after the entire reform package has been completed. If completion of the reform shifts the political balance of power towards the winners, then voters are less likely to vote for the continuation if the redistributive compensation at stake is large - which is more likely if there is more to redistribute, i.e. if the initial phase of the reform 'went well'. A complementary implication is that an initial worsening of economic conditions may increase rather than decrease political support for the economic reform.

It is important to note that in our framework, *partial* economic reform arises in equilibrium when the economy runs into a political impasse.[5] Our framework also suggests a natural explanation for the frequently observed phenomenon that a majority prefers to retain (and not reverse) partial reforms, even though only a minority benefits directly. 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, as in the Fernandez and Rodrik (1991) model.

The rest of the paper is organized as follows. In section 2.1 we provide an example, which illustrates the mechanics of the model in a simple way. The basic framework is presented in sections 2.2-2.3, and analyzed in section 2.4. We relegate all proofs to the Appendix and conclude with a discussion in section 3.

[4] Acemoglu and Robinson(2001, 2002) develop a framework that emphasizes how technological and institutional change may be blocked by elites, due to the adverse political effects of such a change.

[5] Dewatripont and Roland (1992) show how partial reform may result in higher social welfare, when compensatory transfers are taken into account.

2 A Model of Economic Policy Reform

The model is a somewhat simplified and expanded version of the model laid out in more detail in Jain and Mukand (2003). We simplify the political structure by having voters vote directly on reform, and on redistribution, whereas earlier we had formally modeled the electoral process in terms of the representative democracy framework of Besley and Coate (1997, 1998) and Osborne and Slivinski (1996). We extend our earlier model by considering reforms that take place in two stages, so as to examine the dynamics of public support over the process of the reform.

The essence of our model can perhaps best be conveyed by means of a simple example, which may also help to fix ideas.

2.1 An Example

Consider an economy consisting of 100 citizen workers. A two stage reform is being contemplated in which, in each of the two stages, the winners would each gain \$100, while the rest of the population would each lose \$20. In the first stage of the reform, the number of workers that will emerge as winners is uncertain. This number can be either 36 (in the 'High' outcome) or 100/3 (in the 'Low' outcome).[6] Thus, if the High outcome is realized, then the rise in national income, or the amount available for redistribution, is \$23.20 per head, calculated as the average gain of all 100 workers, among whom 36 workers gain \$100, and 64 lose \$20, each. Similarly, if the first period outcome is Low, then the amount available for redistribution is \$20 per head, calculated by noting that a third of all workers gain \$100 each, while two-thirds lose \$20 each. Regardless of the first period outcome, the losers retain a majority, so there is complete redistribution at the end of the first period. Obviously, there is more available for redistribution after a High first period outcome than after a Low one.

In the second stage, there is no aggregate uncertainty - it is common knowledge that a quarter of the losing population in the first period will emerge as winners in the second stage. Thus, if *both* stages of the reform are enacted, then the total proportion of the population that emerges as winners at the end of two periods is $\frac{1}{2}$ if the first period outcome is Low, while it is slightly higher,

[6] The probabilities associated with these outcomes do not matter, but one can assume that each first stage outcome is equally likely.

52 percent, in the case that the first period outcome is High. To keep the example simple, we make the tie-breaking assumption that if half the population emerge as winners, then their views will prevail with regard to redistribution. Hence, if both stages of the reform are enacted, then there will be no redistribution after the second stage. By contrast, if the status quo is maintained, and the second stage reform is not enacted, then the first period losers retain the power to redistribute. It is easy to check that, for the first period losers (who are the pivotal decision makers at the beginning of the second period), the expected gain from continuing with the second stage reform is \$20.[7] As established above, the expected payoff from maintaining the status quo after a Low first stage is \$20, hence, after a Low first period outcome, the second stage reform continues.[8]

What if the first period reform outcome had been high? In that case, as shown above, the amount available for redistribution is \$23.20 per head, if the status quo is maintained. And as we have also seen, the expected payoff to the pivotal voters, from a continuation of the reform, is \$20. Thus, the intuition is clear: a High first period means that there are more gains to be consolidated, i.e., more is being risked if reforms continue, than if the first period outcome were Low.[9]

The key point here is that, at the end of the first stage, the losers retain their majority, regardless of whether the first stage outcome was High or Low. Hence there will be complete redistribution at the end of the first stage. If the first stage losers choose to continue with the second stage reform, then again, regardless of the first period outcome, the majority at the end of the second period will rest with the winners, and there will be no redistribution at the end of the second period. Hence, in choosing whether to continue with the second stage reform, the first period losers face a choice. They can either continue with the reform, and gamble on being winners the second time around, while running the risk of losing the power to redistribute. Or, they can choose to maintain the status quo, and consolidate their first period gains by retaining the power to redistribute. They

[7]The probability of being a winner is $\frac{1}{4}$, the total wage gains are \$200, while the corresponding probability and total losses are $\frac{3}{4}$and \$40.

[8]Again, for simplicity, we make the tie-breaking assumption that, if the payoffs from continuation of reform and from stopping the reform are equal, then reform continues.

[9]It is also straightforward to demonstrate that our example is not an artifact of our assumption that the *proportion* of winners in the second period is the same regardless of the first stage outcome. Our example would also go through if, for instance, we kept the *number* of winners in the second period constant, say at 16.66, the number of second period winners realized after a Low first period outcome.

are more likely to choose to consolidate their first period gains, by halting the second stage reform, when those gains from the first period reform are relatively large. Hence, reform runs aground after a High first stage, whereas it would continue after a Low first stage.We turn next to developing this insight in a more formal model.

2.2 The Economic Structure

We consider an economy with two sectors, denoted by M and X, whose productivity and wages depend on the amount of government expenditure (for example, on infrastructure) on each sector. Suppose that, for an equal level of government expenditure, productivity in the X sector is always higher than that in the M sector.[10] However, as a consequence of a pre-existing distortion in the pattern of government expenditure, wages across the two sectors are equal, pre-reform. We model the reform as comprising a reallocation of government expenditure away from the less productive M sector and toward the more productive X sector. This reallocation takes two periods to realize. At each stage, the reform will also change the returns to labor in the two sectors. Wages in the X sector rise, and those in the M sector fall, and there is some intersectoral labor reallocation, with workers who end up in the X sector gaining from the reform, and those who remain in the M sector losing, due to the fall in their wages. Specifically, using θ to denote the impact of the reform, (which may be a stochastic function of the extent to which government expenditure is reallocated), winners in the first stage (i.e., workers in the X sector) see their wages rise to $w + \theta w$, while losers get $w - \delta\theta w$, where w is the pre-reform wage in both sectors, and $\delta, \theta \in (0, 1)$, which ensures that even the losing sector's wage is always non-negative.[11] The proportion of M sector workers who gain from the first stage (respectively, second stage) reform is a function of θ_1 (respectively, θ_2) and is denoted by $\alpha(\theta_1)$ (respectively, $\alpha(\theta_2)$). We assume that all workers in the M sector face individual-specific uncertainty, i.e., that while all M sector workers know that a proportion $\alpha(\theta_t)$ of them will move sectors as a consequence of a state t reform, each individual worker is uncertain

[10] For simplicity, assume that quantities and prices are normalized in such a way that 'productivity' can simply be interpreted as the value of output created by a unit of labor in the respective sectors.

[11] Below, we also impose an efficiency condition to ensure that all reforms under consideration are efficient, i.e., the national output expands, and that a higher value of θ implies a bigger increase in national output, so that we can refer to θ as the 'size' of the reform, synonymous with greater efficiency gains.

about whether that proportion includes him specifically. (Fernandez and Rodrik, 1991; Jain and Mukand, 2003). Hence, $\alpha(\theta_t)$ can also be interpreted as the probability that a given M sector worker will emerge as a winner from the reform at stage $t = 1, 2$.

2.3 The Political Structure

We next describe the political structure of the model. As described earlier, the reform takes place over two periods. At the start of stage 1, workers vote on whether to launch the reform. If they vote not to launch the reform, and maintain the status quo, then all workers continue to earn their status quo wage w. However, in voting on whether to launch the reform, workers face some uncertainty about the outcome of the first stage reform. If they vote to launch the stage 1 reform, two outcomes are possible in the first period - a successful, or 'High', outcome, versus a less successful 'Low' outcome, respectively, θ_1^H and θ_1^L where obviously, $\theta_1^H > \theta_1^L$. At the end of each stage, voters can choose a tax-transfer scheme to tax or compensate a worker i with wages w_{it} with a tax of τ_{it} in period t (a negative value denotes a transfer). We impose some restrictions on this vector: workers with identical wages cannot be taxed at different rates and a regressive tax on wages is ruled out. At the start of stage 2, voters choose whether to continue with the reform, i.e., implement the second stage, or not. However, for simplicity, there is no uncertainty about the size of the reform at this stage. If the second stage reform is implemented, then a proportion $\alpha(\theta_2)$ of the workers in the M sector at the beginning of the second stage are revealed to be winners, and see their wages rise to $w + (\theta_1 + \theta_2)w$ (along with those workers who had moved to the X sector in the first stage), while those who remain in the M sector will see their wages drop (further) to $w - \delta(\theta_1 + \theta_2)w$. Each worker makes his voting decisions at each stage to maximize his net income $w_{it} - \tau_{it}$, over the two periods. There is no discounting.

For simplicity, suppose that initially, all workers are in the M sector at the start of stage 1. Consider now a sequence of reforms that has the following properties. The first stage reform, irrespective of whether it achieves a 'High' or 'Low' outcome, results in the M sector retaining its majority at the end of stage 1, i.e.,

$$\alpha(\theta_1^L) < \alpha(\theta_1^H) < \tfrac{1}{2}$$

Further, suppose that if the total reform (over both periods) is implemented, then it is large enough that, regardless of whether the first stage reform has a 'High' or 'Low' outcome, the M sector becomes a minority after the 'grand' reform. In other words, if both stages of the reform are implemented, then

$$\alpha(\theta_1^L) + \alpha(\theta_2).(1 - \alpha(\theta_1^L)) > \tfrac{1}{2}$$

$$\alpha(\theta_1^H) + \alpha(\theta_2).(1 - \alpha(\theta_1^H)) > \tfrac{1}{2}$$

It is easy to check that more winners are realized after two stages if the first stage has a high outcome, than if it has a low outcome, i.e, $\alpha(\theta_1^H) + \alpha(\theta_2).(1 - \alpha(\theta_1^H)) > \alpha(\theta_1^L) + \alpha(\theta_2).(1 - \alpha(\theta_1^L))$.

These conditions make the political structure of this model very straightforward. At the end of the first stage, since the M sector retains its majority, there will always be full redistribution, i.e., each worker's post-tax wage will be the average wage for the society. (See, for example, Dixit and Londregan (1995)). Hence, looking ahead, in considering whether to continue with the reform or not, we need only consider the expected payoffs to those workers who are still in the M sector at the beginning of stage 2. At the end of the second stage, however, the balance of political power swings toward the X sector workers, so that at the end of the second stage there is no redistribution. Hence, at the beginning of stage 2, the continuation of reforms hinges on whether the M sector workers (who are still in the majority) think that the expected gain from continuation justifies the risk associated with the loss of the power to redistribute at the end of the second stage.

2.4 Solving the Model

We need to show that there exist parameters such that (1) the stage 2 reform will be launched (will not be launched) if the first stage outcome is 'Low' ('High') - i.e., that a more successful reform may run aground, where a less successful one would win continued passage; and (2) although voters anticipate this, they still choose to launch the first stage of the reforms. Further, these parameters should also satisfy the efficiency condition, which ensures that all reforms under consideration increase the national 'pie' and a larger value of θ is synonymous with a larger increase in output. In Appendix A.1, we show that a condition that ensures this is that $\frac{\alpha(\theta)}{1-\alpha(\theta)} \geq \delta$. For simplicity, we can also set $\alpha(\theta) = \theta$. In that case, the efficiency condition is simply: $\frac{\theta}{1-\theta} \geq \delta$.

Formally, using $\overline{w}_1^H$ and $\overline{w}_1^L$ to denote the average societal income after a 'High' and 'Low' first stage outcome respectively, the two sets of conditions needed are:

(1) Stage 2 reform: we need to show that

(i) $Eu(\theta_2 \mid \theta_1^H) \leq \overline{w}_1^H$

(ii) $Eu(\theta_2 \mid \theta_1^L) \geq \overline{w}_1^L$

(2) Stage 1 reform: we need to show that

$Eu_1(\theta_1 > 0) \geq 2.w$

In other words, the expected two-period payoff from launching reforms (the subscripted 1 is to remind ourselves that the expectation is being considered at the start of stage 1) must be greater than the status quo payoff, which is the average wage in each of the two periods. Since we have assumed that all workers are M sector workers at the start of stage 1, the average wage is trivially w, the M sector wage.

The paradox that successful reforms run aground where less successful ones win continued passage is sharpened by the observation that, in our model, there is a positive correlation between the efficiency benefits from the first period reform and those from the second period reform. Formally, relegating the proof to Appendix A.2, note that $Eu(\theta_2 \mid \theta_1^H) > Eu(\theta_2 \mid \theta_1^L)$ for all efficient reforms, i.e., the expected benefit (to the workers still in the M sector at the start of stage 2) of continuing the reform are greater after a High stage 1 reform, than after a Low stage 1 reform. Further, this is true for society as a whole too. Hence, there is a positive correlation between the benefits of the two reforms - i.e., if the first stage is High, then the benefits of continuation are higher than if the first stage is Low, both for those left behind in the M sector at the end of the first stage, and for society as a whole.

We turn next to analyzing the conditions for each of the stages set out above.

(1) Conditions for stage 2 reform:

(i) $Eu(\theta_2 \mid \theta_1^H) \leq \overline{w}_1^H$

(ii) $Eu(\theta_2 \mid \theta_1^L) \geq \overline{w}_1^L$

In Appendix A.3, we show that there exist parameters for which conditions (i) and (ii) both hold. Here, we just provide an intuitive outline of the steps required to show that. Conditions (i) and (ii) boil down to a requirement that:

$$\{\alpha(\theta_1^H) - \alpha(\theta_2)\}.(1+\delta)\theta_1^H w \geq [\alpha(\theta_2) - (1-\alpha(\theta_2)).\delta]\theta_2 w \geq \{\alpha(\theta_1^L) - \alpha(\theta_2)\}.(1+\delta)\theta_1^L w$$

Now, note that the expression in the middle is positive, by the efficiency condition. The expression on the right can be made as small as needed, and even negative, by assuming that $\alpha(\theta_1^L) \leq \alpha(\theta_2)$. And the expression on the left can be made as large as necessary by making $\alpha(\theta_1^H)$ much larger than $\alpha(\theta_2)$ (subject, of course, to $\alpha(\theta_1^H) < 1/2$).

(2) Condition for stage 1 reform:

$Eu_1(\theta_1 > 0) \geq 2.w$

Intuitively, this condition must be true - each worker (and at the start of period 1, they are all in the M sector) is faced with a reform that could result in the national pie expanding once, or possibly twice. Since they are risk-neutral, the efficiency condition alone should be sufficient to guarantee that they vote for the reform to go forward, knowing that it can always be stopped after the first period. Essentially, if the first stage reform is carried out, there are four possible states: $(\theta_1^H, \theta_2), (\theta_1^L, \theta_2), (\theta_1^H, 0)$, and $(\theta_1^L, 0)$, corresponding to whether the first stage outcome is High/Low, and whether reform is implemented or not in the second stage. As we have described above, intuitively, there are only two possible political equilibria. In one, the first stage outcome is 'High' and the reform is halted after the first stage, but the (larger) national income is redistributed evenly. In the other,.the first stage outcome is 'Low' and the second stage reform is implemented, but that only happens if the first period losers expect to gain from the second stage. In either case, in expected terms, the worker is better off than with the status quo, hence he will vote to launch the first stage reform.

3 Conclusion

In this paper, we have shown that, in some sense, the initial success of a reform might sow the seeds of its own destruction: the success of reform in the first period (in terms of changing wages

and reallocating workers) ensures that the reform process runs into a political impasse and remains incomplete. So we might have a situation where a majority would support the reform sequence if it could feasibly be implemented in one shot, but it may not be implemented sequentially. Observe that the dynamics of public opinion in our example mirror many of the experiences with reform in Latin America, and at least for a while, that of the Polish case - support for continuation of the reform collapses after the completion of the initial phase of reforms, even though that phase of the reforms has been successful.[12]

The essential contribution of this research is two-fold. First, it shows that, *pace* Przeworski (1993), the often-puzzling dynamics of public opinion over the course of large-scale economic reform is not due to some kind of myopia or irrationality on the part of voters, but rather a result of a very rational calculus. Nor, *pace* Stokes (1996), can these puzzling dynamics be attributed to a belief among voters that there is a negative correlation in the performance of the two stages of the reform. On the contrary, one would expect a successful initial reform to cause voters to favorably update their beliefs about both the reform itself, and about the government implementing the reform.Thus, forward-looking voters should expect, if anything, a positive correlation in the stages of the reform, as is implicit in our model. Even then, as this paper shows, rational forward-looking voters might turn against reforms that are proceeding successfully. Second, equally importantly, this research emphasizes the importance of reform design in ensuring the political sustainability of the reform. In particular, we argue that it may not be enough to look at the overall proportions of winners and losers to make an assessment of likely political constraints that may be faced by policymakers. Rather, the intertemporal order of revelation of winners and losers creates political constituencies, sometimes in unexpected ways.[13] There is no particular reason to believe that winners and losers are revealed in identical proportions in each period, and as Blanchard (1997)

[12]It should be pointed out that there is no unanimity among observers on whether, and to what extent, the first phase of Polish reform was successful. More generally, several recent papers have argued that the success or failure of reforms in Eastern Europe has the 'expected' effect on public opinion - e.g., greater support for reforms that are proceeding successfully (see, for example, Fidrmuc (2000a, 2000b), Hayo (2001, 2003) and Kim and Pirttila (2003)). Our use of this case study is intended only as an example to illustrate our point that perfectly rational voters may block continuation of apparently successful reforms.

[13]For another example, see Wei (1997).

documents for Eastern Europe, reform entailed substantial sectoral reallocation, whose impact over time was far from uniform. In these circumstances, as a number of recent papers have argued, public opinion matters a great deal (see, for example, the references in Roland (2000), and Hayo (2003)).

More generally, we believe that a political economy approach to policy questions surrounding economic reform appears to be a rich area for future research, both in terms of providing explanations for what appears to be irrational or myopic behavior by economic agents, but also in narrowing the interdisciplinary gap between the economics and the politics of policy reform.

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Appendix

Efficiency condition

This condition requires that $\frac{\alpha(\theta)}{1-\alpha(\theta)} \geq \delta$, or equivalently, that $\alpha(\theta) \geq \frac{\delta}{1-\delta}$.

Derivation: Efficiency requires that:

$\alpha(\theta).(w + \theta w) + (1 - \alpha(\theta)).(w - \delta\theta w) \geq w$ (**E.1**)

$\iff \alpha(\theta).\theta w - (1 - \alpha(\theta)).\delta\theta w \geq 0$

$\iff \alpha(\theta) \geq (1 - \alpha(\theta)).\delta$

$\iff \frac{\alpha(\theta)}{1-\alpha(\theta)} \geq \delta \iff \alpha(\theta) \geq \frac{\delta}{1-\delta}$

When we assume that $\alpha(\theta) = \theta$, then this condition becomes:

$\frac{\theta}{1-\theta} \geq \delta$, i.e., that $\theta \geq \frac{\delta}{1-\delta}$

It is also easy to check that the left-hand side expression in (E.1) above is increasing in θ. In other words, the efficiency benefits of a reform are increasing in θ.

Second stage benefits are larger after a High first stage

$Eu(\theta_2 \mid \theta_1^H) > Eu(\theta_2 \mid \theta_1^L)$ for all efficient reforms, i.e., the expected benefit (to the workers still in the M sector at the start of stage 2) is higher after a 'successful' first stage.

Proof:

$Eu(\theta_2 \mid \theta_1^H) = \alpha(\theta_2).[w + (\theta_1^H + \theta_2)w] + (1 - \alpha(\theta_2)).[w - \delta(\theta_1^H + \theta_2)w]$

and similarly for $Eu(\theta_2 \mid \theta_1^L)$. Intuitively, this must be true: essentially, we are comparing the benefits of a reform of size $\theta_1^H + \theta_2$ with a reform of size $\theta_1^L + \theta_2$, so simple efficiency should guarantee that the High reform has a higher overall payoff than the Low one. Check:

$Eu(\theta_2 \mid \theta_1^H) > Eu(\theta_2 \mid \theta_1^L)$

$\Leftrightarrow \alpha(\theta_2).[w + (\theta_1^H + \theta_2)w] + (1 - \alpha(\theta_2)).[w - \delta(\theta_1^H + \theta_2)w] > \alpha(\theta_2).[w + (\theta_1^L + \theta_2)w] + (1 - \alpha(\theta_2)).[w - \delta(\theta_1^L + \theta_2)w]$

$\Leftrightarrow \alpha(\theta_2).[(\theta_1^H - \theta_1^L)w] > (1 - \alpha(\theta_2)).[\delta(\theta_1^H + \theta_2)w - \delta(\theta_1^L + \theta_2)w]$

$\Leftrightarrow \alpha(\theta_2).[(\theta_1^H - \theta_1^L)w] > (1 - \alpha(\theta_2)).[\delta(\theta_1^H - \theta_1^L)w]$

$\Leftrightarrow \alpha(\theta_2) > (1 - \alpha(\theta_2)).\delta$

$\Leftrightarrow \frac{\alpha(\theta_2)}{(1-\alpha(\theta_2))} > \delta$

which is just the efficiency condition. Intuitively, this can also be seen as follows: For the workers who emerge as winners in stage 2, the wage gain is much larger after a stage 1 of θ_1^H than after θ_1^L (their wage jumps from $w - \delta\theta_1^H w$ to $w + (\theta_1^H + \theta_2)w$, rather than from $w - \delta\theta_1^L w$ to $w + (\theta_1^L + \theta_2)w$).

This claim - that second stage benefits are larger after a High first stage than after a Low first stage - is true for society as a whole too. For society as a whole, the proof is a little more complicated - the claim is that:$\alpha(\theta_1^H)[\theta_2 w] + (1 - \alpha(\theta_1^H)).[\alpha(\theta_2).\{(\theta_1^H + \theta_2)w + \delta\theta_1^H w\} + (1 - \alpha(\theta_2)).\{-\delta\theta_2 w\}] >$

$\alpha(\theta_1^L)[\theta_2 w] + (1 - \alpha(\theta_1^L)).[\alpha(\theta_2).\{(\theta_1^L + \theta_2)w + \delta\theta_1^L w\} + (1 - \alpha(\theta_2)).\{-\delta\theta_2 w\}]$

Note that the term in the second square bracket is greater on the LHS than on the RHS. Use A to denote it, assuming that it's equal on both sides.

$\Leftrightarrow (\alpha(\theta_1^H) - \alpha(\theta_1^L))[\theta_2 w] > (1 - \alpha(\theta_1^L)).[A] - (1 - \alpha(\theta_1^H)).[A]$

$\Leftrightarrow (\alpha(\theta_1^H) - \alpha(\theta_1^L))[\theta_2 w] > (\alpha(\theta_1^H) - \alpha(\theta_1^L))[A]$

Hence, if we can show that $\theta_2 w > A$, then that is sufficient.

$\theta_2 w > A$

$\Leftrightarrow \theta_2 w > \alpha(\theta_2).\{(\theta_1^H + \theta_2)w + \delta\theta_1^H w\} + (1 - \alpha(\theta_2)).\{-\delta\theta_2 w\}$

$\Leftrightarrow \theta_2 w - \alpha(\theta_2).\theta_2 w > \alpha(\theta_2).\{\theta_1^H w + \delta\theta_1^H w\} + (1 - \alpha(\theta_2)).\{-\delta\theta_2 w\}$

$\Leftrightarrow (1 - \alpha(\theta_2)).\theta_2 w + (1 - \alpha(\theta_2)).\{\delta\theta_2 w\} > \alpha(\theta_2).\{\theta_1^H w + \delta\theta_1^H w\}$

$\Leftrightarrow (1 - \alpha(\theta_2)).[\theta_2 w + \delta\theta_2 w] > \alpha(\theta_2).\theta_1^H w[1 + \delta]$

$\Leftrightarrow (1 - \alpha(\theta_2)).\theta_2 w[1 + \delta] > \alpha(\theta_2).\theta_1^H w[1 + \delta]$

$\Leftrightarrow (1 - \alpha(\theta_2)).\theta_2 > \alpha(\theta_2).\theta_1^H$

$\Leftrightarrow \frac{\theta_2}{\theta_1^H} > \frac{\alpha(\theta_2)}{(1-\alpha(\theta_2))}$

Now, if we assume that $\alpha(\theta) = \theta$, then this boils down to:

$\Leftrightarrow \frac{\alpha(\theta_2)}{\alpha(\theta_1^H)} > \frac{\alpha(\theta_2)}{(1-\alpha(\theta_2))}$

$\Leftrightarrow (1 - \alpha(\theta_2)) > \alpha(\theta_1^H)$

Now, since we have assumed that all reforms θ are such that $\alpha(\theta) < 1/2$, therefore the LHS must be greater than RHS. Thus, we have proved that there is a positive correlation between the benefits of the two reforms - i.e., if the first stage is High, then the benefits of continuation are higher than if the first stage is Low, both for those left behind in the M sector at the end of the first stage, and for society as a whole.

Conditions for stage 2 reform

(i) $Eu(\theta_2 \mid \theta_1^H) \leq \overline{w}_1^H$

(ii) $Eu(\theta_2 \mid \theta_1^L) \geq \overline{w}_1^L$

Now, $\overline{w}_1^H = \alpha(\theta_1^H).[w + \theta_1^H w] + (1 - \alpha(\theta_1^H)).[w - \delta\theta_1^H w]$

So condition (i) requires that:

$\alpha(\theta_2).[w+(\theta_1^H+\theta_2)w]+(1-\alpha(\theta_2)).[w-\delta(\theta_1^H+\theta_2)w] \leq \alpha(\theta_1^H).[w+\theta_1^H w]+(1-\alpha(\theta_1^H)).[w-\delta\theta_1^H w]$

$\Leftrightarrow \alpha(\theta_2).[w+\theta_1^H w]+(1-\alpha(\theta_2)).[w-\delta\theta_1^H w]+\alpha(\theta_2).\theta_2 w-(1-\alpha(\theta_2)).\delta\theta_2 w \leq \alpha(\theta_1^H).[w+\theta_1^H w]+(1-\alpha(\theta_1^H)).[w-\delta\theta_1^H w]$

$\Leftrightarrow \alpha(\theta_2).\theta_2 w-(1-\alpha(\theta_2)).\delta\theta_2 w \leq \{\alpha(\theta_1^H)-\alpha(\theta_2)\}.[w+\theta_1^H w]+\{(1-\alpha(\theta_1^H))-(1-\alpha(\theta_2))\}.[w-\delta\theta_1^H w]$

$\Leftrightarrow \alpha(\theta_2).\theta_2 w - (1-\alpha(\theta_2)).\delta\theta_2 w \leq \{\alpha(\theta_1^H) - \alpha(\theta_2)\}.[w + \theta_1^H w] - \{\alpha(\theta_1^H) - \alpha(\theta_2)\}.[w - \delta\theta_1^H w]$

$\Leftrightarrow \alpha(\theta_2).\theta_2 w - (1-\alpha(\theta_2)).\delta\theta_2 w \leq \{\alpha(\theta_1^H) - \alpha(\theta_2)\}.[\theta_1^H w + \delta\theta_1^H w]$

$\Leftrightarrow [\alpha(\theta_2) - (1-\alpha(\theta_2)).\delta]\theta_2 w \leq \{\alpha(\theta_1^H) - \alpha(\theta_2)\}.(1+\delta)\theta_1^H w$

Similarly, condition (ii) requires that:

$[\alpha(\theta_2) - (1-\alpha(\theta_2)).\delta]\theta_2 w \geq \{\alpha(\theta_1^L) - \alpha(\theta_2)\}.(1+\delta)\theta_1^L w$

In both the inequalities above, the LHS can be interpreted as the expected in increase in per capita income due to the second stage reform alone. Note that it is the same expression in both

conditions, since it is independent of the first stage outcome. In other words, combining both conditions, we need parameters such that:

$$\{\alpha(\theta_1^H) - \alpha(\theta_2)\}.(1+\delta)\theta_1^H w \geq [\alpha(\theta_2) - (1-\alpha(\theta_2)).\delta]\theta_2 w \geq \{\alpha(\theta_1^L) - \alpha(\theta_2)\}.(1+\delta)\theta_1^L w$$

Now, note that the expression in the middle is positive, by the efficiency condition. The expression on the right can be made as small as needed, and even negative, by assuming that $\alpha(\theta_1^L) \leq \alpha(\theta_2)$. And the expression on the left can be made as large as necessary by making $\alpha(\theta_1^H)$ much larger than $\alpha(\theta_2)$ (subject, of course, to $\alpha(\theta_1^H) < 1/2$).

For example, set $\alpha(\theta) = \theta$. Set $\alpha(\theta_1^L) = \alpha(\theta_2) = 1/3$. Then the expression on the right is 0. The efficiency condition required to ensure that the expression in the middle is positive is: $\delta \leq \frac{\alpha(\theta_2)}{1-\alpha(\theta_2)} \Leftrightarrow \delta \leq \frac{1/3}{2/3} \Leftrightarrow \delta \leq \frac{1}{2}$. Assume it is equal to 1/4. Then the middle expression becomes $[\frac{1}{3} - \frac{2}{3}.\frac{1}{4}]\frac{1}{3}w = [\frac{1}{3} - \frac{1}{6}]\frac{1}{3}w = \frac{1}{18}w$. And the left expression is $\{\theta_1^H - \frac{1}{3}\}.(1+\frac{1}{4})\theta_1^H w = \{\theta_1^H - \frac{1}{3}\}\frac{5}{4}\theta_1^H w$. For this to be greater than the expression in the middle, (and keeping in mind that $\theta_1^L < \theta_1^H < 1/2$, i.e., $1/3 < \theta_1^H < 1/2$), we need that:

$\{\theta_1^H - \frac{1}{3}\}\frac{5}{4}\theta_1^H w \geq \frac{1}{18}w$
$\Leftrightarrow \{\theta_1^H - \frac{1}{3}\}\theta_1^H \geq \frac{4}{90}$
$\Leftrightarrow (\theta_1^H)^2 - \frac{1}{3}\theta_1^H - \frac{4}{90} \geq 0$

Solve the quadratic equation, and get roots of $\frac{\frac{1}{3} \pm \sqrt{\frac{1}{9} - 4*1*(-4/90)}}{2} = \frac{\frac{1}{3} \pm \sqrt{\frac{1}{9} + \frac{16}{90}}}{2} = \frac{1}{6} \pm \sqrt{\frac{26}{360}} = \frac{1}{6} \pm .2687$. One root is negative, and the other one is about .43. This is an upward opening parabola, so values between the two roots are below the x-axis. So check with an example: set $\theta_1^H > .43$. Specifically, let $\theta_1^H = .45 = 9/20$. Then $\{\theta_1^H - \frac{1}{3}\}\frac{5}{4}\theta_1^H w = \{\frac{9}{20} - \frac{1}{3}\}\frac{5}{4}\frac{9}{20}w = \frac{7}{60}.\frac{9}{16}w = \frac{21}{320}w$, which is slightly over $\frac{1}{16}w$, which is slightly over the RHS of $\frac{1}{18}w$.