Strategic Constitutional Choice in an Autocracy: The 1980 Constitution in Chile.∗

Katja Michalak† and Gerald Pech‡
preliminary version, do not quote without permission

August 27, 2009

Abstract

This paper looks into the possibility for a self-interested autocrat to select a constitution which in a dynamic game is voluntarily accepted by a succeeding democratic constitutional assembly as a blueprint for negotiations on constitutional reform. We assume that a constitution assigns property rights and has a redistributinal and a communitarian policy dimension. Strong inequality of the income distribution may pose a problem for existence of sustainable constitutions whilst a middle class opposing strong redistribution facilitates existence. We use our results to explain the different transition paths of Chile and post-communist democracies.

∗For helpful comments we wish to thank V. Marazanu, M. Markowski, Roger Wintrobe and seminar participants at ISA New York and the EPCS meeting in Athens.
†American University in Bulgaria, email: kmichalak@aubg.bg
‡American University in Bulgaria, email: gpech@aubg.bg
1 Introduction

This paper looks into the possibility for a self-interested autocrat to select a constitution which is voluntarily accepted by a succeeding democratic constitutional assembly as a blue print for negotiations on constitutional reform. We model constitutional design and reform as a dynamic game where the democratic successors can choose between accepting the autocrat’s constitution as a default outcome in their own negotiations or enter free negotiations on a new constitution. We assume that a constitution assigns property rights and has a redistributinal and a communitarian policy dimension. Strong inequality of the income distribution may pose a problem for existence of sustainable constitutions whilst a middle class opposing strong redistribution facilitates existence. We use our results to explain the different transition paths of Chile and post-communist democracies. Our results give justification to the widespread view that an unequal income distribution threatens stability and that its role in assigning property rights supported constitutional stability in the Chilean context. We argue that when the constitution leaves the assignment of property rights unresolved, bargaining in the shadow of the blue print is hampered and the attractiveness of a revolutionary process increases.

The Chilean military junta had adopted in 1980 a constitution which in the subsequent years not only governed the internal workings of the junta and imposes a constraint on its exercise of power, but would eventually set the rules by which the transition to democracy occurred. Following electoral defeat by Pinochet, the Chilean parties negotiated constitutional amendments which were adopted as part of a reformed constitution by plebiscite in 1989. The adjustments included restrictions of presidential powers, the lowering of the quorum for changing non vital parts of the constitution, admittance of parties of the left, and a modification of the relative voting power of civilians versus the military on the national security council, the constitution of 1980 remains in large parts in place today. The seminal account of these developments has been given in Barros (2002). His findings on the Chilean constitution of 1980 leave us with a number of questions, the most pressing of which pertain to the possibility for an authoritarian junta to tie its own hands and the constitution’s resilience in the transition process.

Once we accept that the Chilean junta fits Przeworski and Wallerstein’s (1988) definition of an authoritarian regime which implies that it is capable of overturning the outcomes of the institutionalized political process the following puzzle arises: A regime cannot at the same time tie itself by a constitution - set up in order to confine the political process within preestablished procedural and substantive rules - and be able to overturn any such
institution. Even if we could ascribe to the junta a wish to bind itself by an institutional device, such as in Elster (1989), such an institution cannot by definition in itself bind an authoritarian regime. The rules versus discretion literature, on the other hand, has pointed to cases where a decision maker realizes a superior outcome if she is commits to follow a rule, and rule abidence can be supported in the Nash equilibrium of a repeated game. Such a possibility was raised in connection with monetary rules (Barro/Gordon, 1983) and expropriative taxation (Chari/Kehoe, 1989). In all those cases it is the punishment through other agents which revert to an unfavorable equilibrium, which supports rule abidence. There are, however, various problems with that argument. First, announcing and abiding by the rule is not the only Nash equilibrium of the game (see Fudenberg/Tirole, 1991). Secondly, the threat of punishment may not be credible (see Stokey, 1989). Institutions can offer devices to deal with the credibility problem. Weingast (1997) argues that the English constitution introduced various red lines which served to coordinate citizens’ actions against sovereign transgressions. Neumaerker/Pech (2002) show that the availability of an institution to which a future agent of the sovereign may sign up can facilitate punishment of the transgressing sovereign. Pech (2006) shows that in a trembling hand perfect equilibrium of a transgression game all subsequent governments want to be constitutional with a probability approaching one. While these approaches offer insights as to why institutions may support punishment strategies, they do not address the question of how a sovereign could self-impose a constitution by which she can constrain herself.¹

In his theoretical discussion, Barros is sceptical about the idea that the junta as a unitary actor could actually have managed to bind itself through rules. His explanation of the binding character of the constitution is that it mainly served as a device for assigning powers within the junta - made up of the commanders of the army, the navy and the air force - and he presents impressive evidence for that. Yet, his argument does little to explain the second puzzle - the observed stability of the 1980 constitution in the transition process. Such stability could be rationalized, however, if we were able to show that the preexistence of a constitution as such will alter the choices of future political players in a substantive way. Given this possibility, an even stronger statement would be that a junta or an autocrat could strategically device a constitution in order to purposefully influence the choices of a future democratic regime. Barros himself raises the possibility that the junta might have had an eye on a civilian successor government when designing the constitution, but he does not follow up this line of argument. In making

¹See however North/Weingast (1989) and the discussion thereof in Barros (2002).
this claim, one has to take into account that as an imposed constitution, the junta’s constitution lacks legitimacy at least in a material sense. This implies that the junta’s template will only play a role if after the junta’s demise all decisive players, i.e. all that may hold veto power, find it in their best interest to negotiate a new constitutional settlement on the basis of the junta’s constitution. The alternative to doing so would be to dismiss the existing constitution and freely negotiate a new compact. The stepping down of a military dictatorship offers a unique possibility to do that and has, in fact, been the course followed in most countries which have experienced a transition from dictatorship to democracy.

This is despite the fact that there is reason to believe that the focal point character conferred to a constitution by its historical preeminence is likely to add to its future stability and its value as a commitment device: Pech (2008) argues that it is the singularity of the concept of which form a constitution may take which creates incentives for the sovereign not to transgress while a potential multiplicity of constitutional concepts reduces this stability enhancing property. In the case of Chile, with its long history of constitutionalism before the military dictatorship, there would have been the understanding that a constitution crafted according to and routed in the constitutional history was going to have an added appeal to any predecessor government. This argument points to the attractiveness of selecting a historically given constitution and adds an explanation of why the junta would have had an incentive to abide by its own rules. Yet, given the lack of legitimacy of the junta’s constitution, it does not completely answer the question of why the Chilean parties in the transition process did not choose to negotiate a completely new constitutional framework which, after all, could have been presented as the legitimate successor constitution of the previous constitution dating back to 1925.

So what are the other features of a historically given constitution which induces the political players in the transition process to abide by it and make it the basis on which to negotiate any constitutional changes rather than to completely dismiss it and engage in constitution writing. One obvious answer is that once the old constitution has been accepted by all players as the reversion outcome which prevails in the absence of a settlement, this will narrow down the scope of possible outcomes which could otherwise emerge from the constitution writing stage. Surprisingly, there does not exist, to our knowledge, a positive model of constitutional choice which is explicitly based on the uncertainty reducing property of the constitution.\(^2\)

Furthermore, to the extent that basic rights such as those to property are guaranteed by the constitutional framework of a country, it is certainly in the interest of those holding a claim to property not to risk the constitutional compact. Generally it is accepted that a middle class interested in the maintenance of property rights has some role to play in the transition to democracy. At the same time, the left-wing spectre in Chile traditionally extends to parties which favor nationalization on a major scale. Whilst the left wing parties were initially opposed to the idea of only reforming the constitution of the junta, the new constitution finally received overwhelming support in a referendum. One of the central findings of this paper is that even in the presence of conflicting redistributive objectives, the fact that an existing constitution lays down claims which form minimum standards which have to be met in the reform process, an historically given constitution crafted in a sufficiently balanced way has the potential of attaining general acceptance as a starting point for reform even if it lacks material legitimacy.

1.1 The Chilean Transition in a Model of Autocratic Choice

In modelling the constitutional design problem, we focus on a scenario, where an autocrat representing a wealthy, right-wing clientele chooses a constitutional status quo. After the autocrat’s demise, representatives of the middle class and the working class negotiate a new constitution. Before they start doing so, they have to decide on whether or not to accept the autocrat’s constitution as the status quo before their constitutional bargaining game starts. The autocrat’s constitution is accepted as status quo, if both middle and working class approve of it. If there is a status quo it serves as the reversion outcome in a bargaining game of constitutional reform, i.e. to make sure that her offer gets accepted a proposer wants to offer the responder at least her reversion outcome. In the absence of a reversion outcome, either party to the negotiations has an equal chance of imposing her own ideal de novo constitutional design. This may be seen as a simplified version of an open bargaining process with substantial costs of delaying an agreement. Costs of delaying an agreement are likely to be particularly high if for the duration of a delay the country has to be governed on the basis of preliminary transitional arrangements.\(^4\)

---

\(^3\)See, however, Tapia (1987) who advocates the constitution in saying that it offered sufficiently many levers to uproot the dictatorship.

\(^4\)Instead of constitution writing parties may search for constitutional templates from different countries. Hungary in its transition, for example, adopted a version of the Span-
In the case of the Chilean transition the parties followed the reform bargaining model instead of the de novo design bargaining model. However, our modelling of the reform bargaining procedure does not quite capture the course by which bargaining actually unfolded following electoral defeat of Pinochet. It were mainly the representatives of centre and right-wing parties which negotiated the new constitutional settlement. Left wing parties were not admitted under the 1980 constitution and it was one of the results of the constitutional bargain to admit parties which were of the left but not antisystem. There are several answers of why we believe that the bargaining model which we propose has the power to give substantial insights on the junta’s constitutional design problem. First of all, when discussing constitutional design, history as it unfolded in its aftermath need not be at the centre of concerns at the moment when the constitution was drawn up. From the junta’s point of view, a situation where exclusively the left and the centre negotiate the new constitution would have been considered as the worst case scenario and it would therefore have been a concern when writing the constitution. Furthermore, the constitutional bargaining problem where only the middle class would need to accept the junta’s constitution could be obtained as a - rather trivial - limiting case of our model. At least the players in the transition process itself wanted, as the overwhelming support for the constitutional reform proposal in the referendum suggests, meet close to unanimous acceptance, if not for the decision on the process at least for the draft itself. Finally, by relabelling we could do the same analysis for a two player framework comprising of the right and the middle class.

Section 2 sets up the model. Section 3 states the main results of the paper. Section 3.1 introduces the free negotiations scenario of complete constitution rewriting. Section 3.2 presents the bargaining game where the autocrat can directly propose a constitution to his successors. Section 3.3 derives conditions under which the junta’s constitution is acceptable to the left and the middle class. This is extended into a dynamic setting in section 4, where the autocrat suffers for some time the constitutional constraint himself. Section 4.1. summarizes the results of the theoretical model. Section 5 reappraisals the constitutional history of Chile in the light of the theoretical findings. Section 6 derives lessons for post communist transition countries.

ish constitution. Because of the potential ubiquity of other constitutional templates the uncertainties of such a process are probably not fewer than with a de novo writing procedure. Furthermore, a party may try to impose their preferred constitution via force of power. However, a full appreciation of this argument is difficult to achieve without a complete conflict theoretic model (see Fearon, 1995, Ausubel/Crampton/Deneckere, 2000 and in the context of constitutional theory Grossman 2002).
2 The model

A constitution is a pair \((t, x)\), representing a country’s basic choices\(^5\) on redistribution - associated with \(t\) - and a social policy dimension \(x\) which might be measured along a scale such as as liberalism versus authoritarianism, secularism versus Catholicism, the relative importance of the social solidarity principle versus the free market principle - which affects the scope of future income redistribution.\(^6\) The policy space is \(T \times X = [0, 1] \times \mathbb{R}\). There are three socio-economic groups, the clientele of the junta, \(R\), the middle class, \(M\), and the working class, \(L\).\(^7\) For simplicity, we assume that all groups have the same size. Their gross income is \(w^R > w^M > w^L\). The utility function of a citizen belonging to class \(i\) is \(u^i = v^i(x) + w^ni\) where \(w^ni\) is citizen \(i\)’s net income after taxes and transfers and where \(v^i = -|x - x^i|^2\) where \(x^i, i = L, M, R\) is the bliss point of the respective group. We assume that \(x^R < x^M < x^L\).

After the transition the income distribution results from a income tax \(t \in [0, 1]\) which is levied on income available for redistribution. Any proceeds from the tax is evenly distributed among the three groups. Assigning the choice of a tax policy to the constitutional stage appears to be counterfactual at first sight, because tax policies are normally determined by simple tax laws. However, it turns out that for some bargaining scenarios such as freely bargaining the constitution, the choice reduces to selecting either a tax rate of 1 or a tax rate of zero. The appropriate way of thinking of such an extreme choice is of one which determines the economic order of a country. Such a choice is clearly on a constitutional level. Furthermore, we impose equality in transfers thereby effectively ruling out that one socio-economic class can exclusively enrich itself at the expense of some other class. In the context this might be seen as problematic because existing property rights are at least partially defined under a constitutional order with no immediate legitimacy. However, we believe it to be reasonable to assume that under democratic rule a set of minimum fairness criteria are observed. Indeed, the ideal of complete equalization of claims to wealth through its nationalization

\(^5\)What is missing from our model of the constitution are rules governing choices such as electoral rules. The main issue in Chile is the admission of parties of the left - but not antisystem - in the constitutional amendment. Effectively, saying that wealth taxes cannot be expropriatory and that a party of the left is admitted can be seen as the result of a choice of the \(M\) party. This would be the outcome of a rational choice by \(M\) if the left party is closer on policy issues.

\(^6\)Kitschelt (1996) finds that the majority of policy choices can be subsumed under a distributional/communitarian dimension.

\(^7\)We do not explicitly model the military as a player. One may think of the miliary as a factor which increases the expected cost of freely negotiating the constitution.
is typically a canvassing point of a communist party. To the extent that there are issues about unjust enrichment under the old regime, these would affect individual cases which are typically dealt with separately from the wider issue of selecting an economic order.

Inserting our assumption on feasible tax policies into the utility function for group $i$ and denoting average income for distribution $\overline{w}$, we obtain

$$u^i(t, x) = v(x) + (1 - t)w^i + t\overline{w}.$$ 

In all developed economies, average income - like average income - exceeds the income of the median citizen. This observation leaves the political theorist struggling for an explanation of the fact that in democratic societies we should have majorities in favor of expropriation, but we never observe expropriatory tax policies in practice. In order to allow for the possibility of an equilibrium with non expropriatory taxation for empirically relevant income distributions we make the assumption that only a share $(1 - \gamma)$ of $w^R$ is actually available for redistribution. If $w^R$ consists mainly of productive capital, agency problems involved in its nationalization are likely to reduce its value. In practice, $\gamma$ is likely to depend on the kind of industry in which the capital is deployed. If the capital is mostly invested in natural resources industry, $\gamma$ is likely to be low.$^8$ We assume $(1 - \gamma)w^R > w^M$ and define average income available for distribution as $\overline{w} = \frac{(1-\gamma)w^R + w^M + w^L}{3}$. We assume that $\overline{w} > w^L$, thereby ignoring the case where the left is happy with a income tax of zero. For convenience, we define for $L$ and $M$ their income gaps relative to average available income as $\Delta^M = w^M - \overline{w} \leq 0$ and $\Delta^L = w^L - \overline{w} < 0$.

3 Sustainable Constitutions

3.1 Freely negotiating a new constitution

Throughout the paper we assume that bargaining takes the simple closed-loop form of a proposal maker making a take-it-or-leave-it offer to the other party. For the case where there is no alternative constitution, we specify that the reversion pay off of the responder is $-\infty$, so any proposal with positive utility is accepted. If $L$ proposes a freely negotiated constitution, the tax-policy realization is

$^8$Selling to foreign investors is an alternative option. Here, expropriation is likely to result in a discount on the selling value because investors will infer a propensity to expropriate in the future. The recent Russian experience suggests, that the factor "natural resources industry" still has a similar effect on $\gamma$, but other explanations might play a role (see Pech, 2008).
If $M$ proposes to $L$, the tax-policy realization is

$$(t^{FM}, x^{FM}) = (1, x^M) \text{ if } \overline{w} > w^M,$$

and

$$(t^{FM}, x^{FM}) = (0, x^M) \text{ if } \overline{w} \leq w^M.$$

Here we break indifference in favor of the lower tax rate. If $M$ is selected as proposal maker with a probability of $P^F$ and $L$ with a probability of $1 - P^F$, expected utility from freely negotiating the constitution is

$$U^M|_F = P^F[v(x^M) + w^M] + (1 - P^F)[v(x^L) + \overline{w}] \text{ if } \overline{w} > w^M, \quad (1)$$

$$U^M|_F = P^F v(x^M) + (1 - P^F)v(x^L) + \overline{w} \text{ otherwise.}$$

Under free negotiations, one of the two extreme points ($x^L$ or $x^M$) on the contract curve of $L$ and $M$ are realized. It is this property of the model together with risk aversion on the side of the agents which ensures that for sufficiently egalitarian income distributions constitutions exist which are unanimously strictly preferred to entering free negotiations.

### 3.2 Negotiating a constitution in the presence of $c^J$.

Say, a constitution $c^J$ has been adopted by the junta which specifies a tax/policy combination $(t^J, x^J)$. Also say that this constitution has been accepted in principle by all veto players to guide the transition to a new constitutional order. If this is so, then the junta’s constitution, $c^J$, binds the proposals which the negotiators in the constitutional assembly can make: In the case where they fail to agree on a new constitution, the fall back constitution is the one adopted by the junta. If $M$ proposes she chooses $c^{PM}$:

$$(t^{PM}, x^{PM}) = \arg\max \left[ u^M(t, x) \text{ s.t. } u^L(t^J, x^J) \right], \quad (2)$$

and $L$, if she proposes, chooses $c^{PL}$:

$$(t^{PL}, x^{PL}) = \arg\max \left[ u^L(t, x) \text{ s.t. } u^M(t^J, x^J) \right]. \quad (3)$$
3.2.1 Case \( w^M < \overline{w} \)

In this case \( M \)'s income gap, \( \Delta^M = w^M - \overline{w} < 0 \) and \( M \) prefers full equalization of income, as does \( L \). Neither \( L \) nor \( M \) can gain by proposing something other than \( t = 1 \). The policy proposals by \( M \) and \( L \) are

\[
(1, x^{PM}) \text{ with } x^{PM} = \max(x^L - \sqrt{(x^L - x^J)^2 - (1 - t^J)\Delta^L}; x^M), \tag{4}
\]

\[
(1, x^{PL}) \text{ with } x^{PL} = \min(x^M + \sqrt{(x^J - x^M)^2 - (1 - t^J)\Delta^M}; x^L). \tag{5}
\]

\( L \) and \( M \) agree on the desired tax policy of \( t = 1 \). In \((t, x)\)-space, the contract curve \( C \) comprising of all jointly Pareto-efficient points coincides with the line connecting \((1, x^M)\) and \((1, x^L)\).

The greater the income gap of an economic class, the less attractive is \( c^J \) and the less binding the constraint on the proposer is. For \( t^J < 1 \), the junta’s constitution has an added burden for \( L \) because the disadvantage of not having her optimal tax policy is greater for \( L \) than for \( M \). Therefore, it is always easier for the junta to find a policy \( x^J \) such that \( M \) wants to raise the resulting constitution \( c^J \) as an objection against a proposal by \( L \).

3.2.2 Case \( w^M \geq \overline{w} \)

In this case, there is conflict between \( L \) and \( M \) over the choice of a income distribution with \( M \) preferring the default income distribution of the reversion constitution. For \( 0 \leq t \leq 1 \) the constrained optimization problem can be written as

\[
\mathcal{L} = v^M(x) + (1 - t)w^M + t\overline{w} + \lambda^M(u(t^J, x^J) - v^L(x) - (1 - t)w^L + t\overline{w} + s^M)
\]

with \( s^M \geq 0 \). Writing \( \frac{\partial v^M}{\partial x} = \mu(x^{PM}) \leq 0 \), the first order condition for this problem yields \( \lambda^M = \frac{\Delta^M}{\Delta^L} < 0 \) for \( s^M = 0 \) and \( \lambda^M = 0 \) else. In the former case,

\[
\mu(x^{PM}) = \lambda^M. \tag{6}
\]

The tax rate is the residual defined by
\[ t_{PM} = \frac{v^L(x^J) - v^L(x^{PM})}{(-1)\Delta L} + t^J \]  

(7)

At \( x^M \), \( \mu(x^{PM}) = 0 \) and at \( x_L \), \( \mu(x^{PM}) \to -\infty \). By continuity of \( \mu \), a solution \( x^* \) satisfying the first order conditions exists with \( x^* \in [x^M, x^L] \). \( x^* \) is the policy which would maximize the joint pay off for \( L \) and \( M \) if transfers between \( M \) and \( L \) through the tax system were unconstrained: \( \frac{\Delta M}{\Delta L} \) is the rate at which \( M \)’s income is converted into \( L \)’s income as the tax rate increases. Note that a transfer rate of greater than \(-1\) signifies an involuntary contribution of \( R \).\(^9\) If the ratio is \(-1/2\), it costs half a unit of \( M \)’s income to increase \( L \)’s income by one unit.

\( \mu \) is the rate at which \( M \)’s utility from consuming \( x \) increases per unit of utility decrease by \( L \). In an optimum, \( M \)’s gain has to be equal to \( M \)’s cost of compensating \( L \) at an admissible tax rate \( t \in [0, 1] \).\(^10\)

The problem of selecting a proposal is similar for \( L \). Using \( \mu(x^{PL}) = \frac{\partial v^L}{\partial x} < 0 \) and \( \lambda^L = \frac{\Delta L}{\Delta M} < 0 \) it is straightforward, that the solution of the optimization problem for \( L \) is characterized by

\[ \mu(x^{PL}) = \lambda^L, \]  

(8)

\[ t^{PL} = \frac{v^M(x^{PL}) - v^M(x^J)}{\Delta M} + t^J. \]  

(9)

(7) and (9) specify for some proposal \( x \) the tax rate \( t \) which leaves the responder as well off as under the reversion constitution. More generally, we can define \( t^i(x, \pi) = \frac{|v^i(x) - \pi^i|}{|\Delta|} \) as the tax rate which guarantees \( i \) a pay off of \( \pi^i \) when \( x \) is the policy choice and \( \frac{dt^i}{dx} = \frac{|v^i|}{|\Delta|} \), \( i = M, L \), \( x \in [x^M, x^L] \), as the marginal willingness to trade a reduction of the tax rate for an increase in \( x \). There is a unique policy \( x^* \) which satisfies (6) or (8) and, if the condition for an interior solution is met, the tax policy is adjusted to ensure its acceptability.

\(^9\)One can show that the ratio is greater than \(-1\) if \( \frac{w^L + w^M}{2} < (w^M - w^L) \), i.e. if \( M \)’s wealth exceeds \( L \)’s wealth by more than average wealth, where the latter is calculated looking at \( M \) and \( L \) only. To demonstrate this point, note that \( \frac{\Delta M}{\Delta L} \) can be written as \( \frac{w^M + (w^M - w^L)}{w^M - (w^M - w^L)} \).\(^10\) If \( \frac{\Delta M}{\Delta L} = -1 \), we obtain the familiar policy choice rule of selecting \( x \) half way between the bliss points, see e.g. Baron/Diermeier (2002).
to the responder. At \( x^* \) the slopes of the graphs of \( t^i(x, \bar{w}) \), \( i = L, M \), coincide independently of the reversion pay off \( \bar{w} \). In the case \( w^M \geq \bar{w} \), \( M \) prefers the tax policy \( t = 0 \). \( L \), on the other hand, prefers a tax policy of \( t = 1 \). Due to this disagreement on income redistribution, the contract curve \( C \) of jointly Pareto-efficient points now coincides with a vertical line through the efficient point \( x^* \). \( M \) and \( L \) now want to set \( x \) so as to maximize their joint surplus and redistribute this surplus using the tax system. We can define the contract curve \( C = \{ t, x | 0 \leq t \leq 1, x = x^* \} \) as the location of jointly Pareto-optimal points.

### 3.3 The autocrat’s choice problem in the static model

#### 3.3.1 \( w^M \geq \bar{w} \)

Define the set of directly implementable constitutions \( I \), i.e. constitutions which are preferred to the lottery of free negotiations provided that they are set in stone and not amended in the post constitutional bargaining process.

**Definition 1** Let \( I \) be the set of implementable secure pay offs when the lottery is \( \{ t, x, p(t, x) \} = (0, x^M, 0.5; x^L, 1, 0.5) \), i.e. \( I := \{ t, x | (x, t) \succeq_i (0, x^M, 0.5; x^L, 1, 0.5), i = L, M \} \).

By convexity of preferences, \( I \) is also convex. Next we define the set of constitutions for which points on the contract curve \( C \) and on the \( t = 0 \)-line represent credible bargaining outcomes. Let the correspondence \( \Gamma(t, x) \) assign to any \( c^J = (t, x) \) a pair of bargaining outcomes \( \{(t^{PL}, x^{PL}), (t^{PM}, x^{PM})\} \).

**Definition 2** Let \( D \) be the dominion of the contract curve \( C \), defined as \( D = \{ (t, x) | (t', x') \neq (t, x) \text{ and } (t', x') \in \Gamma(t, x) \text{ implies } (t', x') \in C \} \) and similarly define \( F \) as the dominion of the \( t = 0 \)-line: \( F = \{ (t, x) | (t', x') \neq (t, x) \text{ and } (t', x') \in \Gamma(t, x) \text{ implies } t' = 0 \} \).

For all constitutions in \( (t^J, x^J) \) in \( D \), there exists a pair of outcomes on the contract curve which are bargaining outcomes if \( L \) or \( M \) is the proposal maker. So we can imagine the set \( D \) as the set of all fall back constitutions from which bargaining leads \( L \) and \( M \) to outcomes on the contract curve. We find that \( D = \{ t, x \} | x \neq x^*, (t, x) \succeq_L (0, x^*) \wedge (t, x) \succeq_M (1, x^*) \} \). This can be seen as follows: \( L \) prefers all points on the contract curve \( C \) to \( (0, x^*) \). Therefore, if \( (t, x) \) is at least as good for \( L \) as \( (0, x^*) \), \( M \) as a proposer must offer \( L \) a better point than her worst point on the contract curve. Vice versa, \( M \) prefers all points on the contract curve to \( (1, x^*) \). So in order to beat \( (t, x) \), \( L \) must offer \( M \) a better point than the worst point on the contract curve.
Figure 1: Constitutions and bargaining outcomes when $w^M \geq \overline{w}$

$F$ comprises all constitutions which for $M$ are better than any constitution on $C$. Similarly, we can show that $F = \{t, x|t > 0, (t, x) \succeq_M (0, x^*)\}$ from which agents negotiate away to points on the $t = 0$-line. The intermediate range is $E$ (see figure 1).\footnote{In $E$ if $(t^I, x^I) \prec_L (0, x^*)$ and $(t^J, x^J) \preceq_M (0, x^*)$, then $(t^{PL}, x^{PL}) \in C$ and $(t^{PM}, x^{PM})$ satisfies $t^{PL} = 0$ and $x^{PL} < x^*$. The latter can be seen by noting that on the left-hand side of $x^*$, $M$’s indifference curves are flatter than the constraint imposed by $L$’s indifference curve and $M$’s utility is decreasing in $x$ and $t$.}

Lemma 3 defines stationary constitutions, i.e. constitutions which are not amended in the democratic process.

**Lemma 3** Constitutions satisfy $(t, x) \in \Gamma(t, x)$ if and only if $(t, x)$ are located on the contract curve $C$ or the boundaries on $t$.

**Proof.** See appendix \footnote{In $E$ if $(t^I, x^I) \prec_L (0, x^*)$ and $(t^J, x^J) \preceq_M (0, x^*)$, then $(t^{PL}, x^{PL}) \in C$ and $(t^{PM}, x^{PM})$ satisfies $t^{PL} = 0$ and $x^{PL} < x^*$. The latter can be seen by noting that on the left-hand side of $x^*$, $M$’s indifference curves are flatter than the constraint imposed by $L$’s indifference curve and $M$’s utility is decreasing in $x$ and $t$.}

Whilst through bargaining, $L$ and $M$ can improve on any $(t, x) \in D$, due to risk neutrality and efficient bargaining, constitutions located on $C$ dominate constitutions in $D$ only in a very weak sense:

**Lemma 4** For each $(t^I, x^I) \in D$ and induced bargaining outcome $\Gamma(t^I, x^I)$ there exists $(t^J, x^J) \in C$ with with the same utility. And for almost all policy realizations $(t^J, x^J) \in C$ there exist constitutions $(t^I, x^I) \in D$ which yield the same utility for all players.
Proof. See appendix

Unlike constitutions \((t, x) \in D\), each constitution \((t, x) \in F\) is dominated by a stationary constitution on the \(t = 0\) line. The range \(E\) is ambiguous, here constitutions \((t, x) \in E\) might be dominated, but they might also dominate.

Lemma 5 For each \((t^{J'}, x^{J'}) \in F\) there exist a constitution \((t^J, x^J)\) such that \((t^J, x^J) \in \Gamma(t^{J'}, x^{J'})\) which is acceptable for \(L\) and \(M\) if \((t^{J'}, x^{J'})\) is acceptable and better for the autocrat. For constitutions \((t, x) \in E\) there may or may not exist a dominating stationary constitution. If the salience of the distributional issue for \(R\) is sufficiently strong and the difference of policy preferences from \(M\) is not too great, a dominating stationary constitution exists for all \((t, x) \in E\).

Proof. See appendix

The conditions on salience in the lemma are fulfilled if \(R\)’s indifference curve is flatter at any \(x > x^M\) than \(M\)’s indifference curve. The absolute slope of the former is \(\frac{2(x-x^R)}{\gamma \Delta R}\) whilst the absolute slope of the latter is \(\frac{2(x-x^M)}{\Delta M}\). Assuming that this is the case, allows us to derive closed-form policy results. Therefore, we focus on this case and only shortly comment on the reverse case for each result.

Proposition 6 Say, the salience of the distributional issue for \(R\) is sufficiently strong and the difference of policy preferences from \(M\) is not too great. In that case the autocrat’s constitutional choice problem can be reduced to finding the best outcome in the set \(M = I \cap \Gamma\). In the case where the best constitution \((t^J^*, x^J^*) \in C\), all constitutions in \(C\) which by lemma 4 yield the same pay off may be picked as well.

By lemma 4 and 5 it suffices to look at constitutions which satisfy \((t, x) \in \Gamma(t, x)\) to identify sustainable pay offs. Because these are not only stationary constitutions but also give rise to an identical proposal for both bargaining parties, their pay off is directly comparable to the secure pay offs \((t, x)\) as used to define \(I\). \(I\) is non empty, in particular, \((t = 0.5, x^*) \in I\) because it Pareto-dominates for \(m\) and \(M\) the lottery in the free-negotiation bargaining scenario. Because \((t = 0.5, x^*)\) is also on \(C\) and, by lemma 3, \((t = 0.5, x^*) \in \Gamma(t = 0.5, x^*), I \cap \Gamma\) is non empty. Because \((t = 0.5, x^*)\) also dominates the free-negotiation scenario for \(R\), the junta has a clear incentive to hand down a constitution.

When we weaken the condition on salience and policy differential, nothing changes as far as constitutions in area \(m\) and \(D\) are concerned. However, there may now exist constitution in \(E\) which are acceptable to \(M\) and \(L\) but for which we cannot find a corresponding stationary constitution.
3.3.2 The case $w^M < \overline{w}$

In the case where $w^M < \overline{w}$ the ideal point of $M$ is $(1, x^M)$. The ideal point of $L$ remains $(1, x^L)$. The contract curve, in that case, is the $t = 1$ line connecting the ideal points. Applying definition 2, we can now characterize the dominion of the contract curve, $C$, as $D = \{(t, x) | t < 1, (t, x) \succeq_L (1, x^M) \land (t, x) \succeq_M (1, x^L)\}$. The boundary line through $M$ in figure 2 comprises of the points which are at least as good for $L$ as a constitution $(1, x^M)$. The fact that it is flatter than the corresponding line for $M$ stems from the fact that $L$ is poorer and, therefore, less willing to compromise on tax than is $M$. We can now ignore the other areas in figure 2 because constitutional templates outside of $D$ are never acceptable for at least one of the players. The proof of the following lemma follows the proof of the same property for constitutions in range $F$ in lemma 5:

**Lemma 7** In the case $w^M < \overline{w}$, constitutions $(t, x) \in \Gamma(t, x)$ are strictly preferred by $L, M$ and $R$ to constitutions in $D$.

Because constitutions off the contract line now induce lotteries on $x$, Pareto-better constitutions exist on the contract line. It suffices, therefore, to focus on constitutional templates on the contract curve.

**Proposition 8** If $R$’s salience of the policy is non zero, the set of sustainable constitutions is non empty.
Proof. See appendix □

The problem now is that if $R$ only cares about minimizing taxes, the fact that the only renegotiation proof tax rate $t = 1$ is the same as under the free bargaining scenario. Therefore, such an autocrat lacks incentives to write a constitution.

4 A model of intertemporal constitutional choice

The previous section has introduced a static model of constitutional choice where the autocrat can choose the constitution for his successors without incurring any cost such as being bound by the constitution himself. In practice, it is likely to be a condition for a constitution to be considered as a template that it actually has been adhered to for some time before the regime’s demise. In addition, the autocrat may not know the precise date of his demise and, therefore, will want to write and implement the constitution at a time when the probability that he will be in post for another day is still greater than zero. On the other hand, the consequences of successfully handing down a constitution might be felt for a long time. Therefore, we think it is reasonable to assume that the autocrat will attach non zero weights to the cost which he incurs by not realizing his preferred policy outcome $(0, x^R)$ during the time when he has to abide by the constitution himself and to the gains which he has during the time when his successors deliver policy outcomes preferred by him. We assume, that depending on the expected length of time in both states and the discount rate of the autocrat, these weights assume the values $(1 - \delta)$ and $\delta$. We take the weights to be endogenous even if $(1 - \delta)$ depends positively on his time in office which might be dependent on the constitutional choice of the autocrat. The problem of the autocrat is now to choose among the sustainable constitutions the one which gives him the highest total benefit

$$V^R|c_J = (1 - \delta)u^R(t^J, x^J) + \delta U^R(\Gamma(t^J, x^J))$$ for sustainable $(t^J, x^J)$

He wants to do so is if the total pay off is greater than

$$V^R|F = (1 - \delta)u^R(0, x^R) + \delta U^R|F.$$

Because the cost in terms of choosing $(t^J, x^J) \neq (0, x^R)$ are finite, the following lemma is immediate from our discussion of the case $w^M \geq \underline{w}$.
**Lemma 9** For sufficiently great weight of the future, in the case $w^M \geq \overline{w}$, there is always a constitution which the autocrat wants to hand down.

Furthermore, we can show that in the case where the autocrat cares sufficiently about income distribution and not too much about policy, he wants to implement a stationary constitution.

**Proposition 10** In the case $w^M \geq \overline{w}$, if the salience of the income issue in the autocrat’s constitution is sufficiently strong and the policy difference compared to $M$ sufficiently small, $J$ wants to hand down a constitution where he chooses a constitution $(t^J, x^J)$ such that $(t^J, x^J) \in \Gamma(t^J, x^J)$.

In the case of the proposition the autocrat strictly prefers choosing a stationary constitution. So proposition 8 removes the ambiguity of constitutional choice in proposition 6. The testable prediction of this proposition is that autocrats strongly interested in keeping the distribution of income in place will try to hand down constitutions which are not amended by their democratic successors. Because the Pinochet constitution was amended, we would conclude that for the writers of the constitution the policy issue was sufficiently important relative to the income issue.

In the case where the condition of the proposition is violated, the autocrat now tends to select a constitution in the interior of $D$ rather than on $C$. This is so because there are now constitutions in $D$ which are equivalent in their period 2 pay off but better in terms of period 1 pay offs. The proof follows the same argument as the proof in proposition 10. Rather tautologically, an autocrat chooses a constitution which will later be amended in order to increase his overall welfare.

**Proposition 11** In the case $w^M < \overline{w}$, the autocrat chooses a constitution in $D$.

Whenever the salience of the distributional issue is greater than zero, the autocrat is willing to trade some uncertainty on $x$ for a smaller tax rate.

**Example 12** Suppose that $x^L = 0$, $x^R = 1$ and $|\Delta^L| = 1$ and let $\hat{\delta}$ be the smallest $\delta$ such that sustainable constitutions exist in the case where $\Delta^M \geq 0$. There are $\delta \geq \hat{\delta}$ for which a sustainable constitution does not exist if $\Delta^M < 0$.

**Proof.** See appendix.

This example demonstrates, that there are cases where a sustainable constitution exists only when the middle class is against redistribution. It further
suggests that an unequal income distribution disadvantaging $L$ is a particular problem and may thwart the constitutional project when the middle class is also interested in redistribution. In the latter case, if the autocrat proposes a constitution which is sufficiently mild on redistribution to make it acceptable for him, it may not serve $L$ as a sufficiently strong bargaining chip to be desirable as a fall back constitution. Note that the autocrat cannot do anything about the tax in period 2. The trade off involves the tax in period 1, where the less the autocrat compromises on tax, the greater the variation of post-constitutional pay offs is which are induced by the constitution.

The following example demonstrates, that the reverse case cannot be excluded, i.e. sustainable constitution may exist when $\Delta^M < 0$ yet no sustainable constitution exists when $\Delta^M \geq 0$.

**Example 13** Suppose that $x^M = x^R = 0$, $x^L = 1$ and $|\Delta^L| \to 0$ and let $\hat{\delta}$ be the smallest $\delta$ such that sustainable constitutions exist in the case where $\Delta^M \geq 0$. There are $\delta \geq \hat{\delta}$ for which a sustainable constitution does not exist if $\Delta^M \geq 0$.

**Proof.** See appendix.

This example also suggests, that a precondition for this case to arise is a small salience of the distributional issue. In the case where $\Delta^M \geq 0$, the best that the autocrat can do is to propose the efficient policy value $x^*$ whilst in the case of $\Delta^M < 0$, the autocrat may take a more aggressive policy stance. He is only willing to do so, however, if $t$ ceases to be a concern at all.

## 4.1 Results of the theoretical model and further avenues of research

Our analysis has identified two potential problems which are connected with a middle class interested in redistribution. First, the negative result of proposition 8 is that an autocrat exclusively interested in preserving the income distribution will lack incentives for writing a constitution. The second, closely related, is the fact that when the autocrat considers a compromise on tax in order to insure future compromises on policy, the constitutional template may become uninteresting as an objection for $L$. We tend to consider the scope of the reverse effect demonstrated in example 13 rather as a technical peculiarity than a serious policy point because it requires that the distributional issue nearly vanishes.

A necessary extension of the present research would be to enrich the intertemporal model by allowing for a dynamic effect of redistribution, i.e. we would like to move from a model where income is taxed to a model,
where wealth is redistributed either by a wealth tax, by an income tax or by other government policies which affect the distribution of wealth. Here, the natural question would arise of the cost which an autocrat would be willing to incur in order to ensure the redistribution of wealth towards the middle class, which would ensure acceptability of a constitutional template.

5 Reappraising the 1980 Constitution of Chile

The historic developments in Chile which unfolded following the adoption of 1980 constitution do to a certain extent support the predictions of the theoretical model. Most importantly, the case shows that constitutions drawn up by a junta will under the right circumstances be adopted by the democratic parties which succeed the regime. In the case of Chile, the negotiations on constitutional reform were mainly conducted between centre and right wing parties, after the right wing parties realized that refusing to get involved would enable the centre and left-wing parties to campaign on the issue of constitutional reform. In terms of the distributional inequalities in Chile in 1989, it is save to say that the distributional issue must have had some salience for the left-wing parties. On the other hand, the only institutional commitment to more redistribution in the constitution came in the form of accepting left-wing parties into the political arena, a measure which would have increased expectations of income redistribution in the future. Whilst it is difficult to appreciate those expectations at the time of the plebiscite approving of the constitutional reforms, during the 1990s and the new millennium Chile became what many called a neo-liberal success story with strong growth but also a worsening Ghini coefficient (see European Commission, 2007). Even though relative income indicators deteriorated, there was at the same time some success in lifting people out of poverty. What the fact that such developments are actually feasible in a democratic country also makes clear, is that the middle classes saw it in their best interest to support a policy of low taxes instead of a strong increase in redistribution. So whilst one might argue that the Chilean case gives evidence that the left-wing parties may not necessarily be able to press for a lot of redistribution in the process of constitutional reform, one certainly can say that the antagonism between middle class and lower income classes regarding distributional policies could certainly be observed in Chile during the last two decades. It is in the light of our theoretical model that we are able to say that such antagonism in the presence of a strong salience of the distributional issue for the lower income classes must have contributed to the widespread acceptability of constitutional reform over constitutional de novo design.
6 Lessons for Post Communist Transitions

It is natural to ask what lessons can be learned from the Chilean experience for other countries undergoing transformations from autocratic regimes to democratic governance. Here, the greatest bulk of past experience and future challenges comes from countries which still are or formerly were governed by communist regimes. Assuming that our model accounts of the incentives of an autocrat to engage in writing up a sustainable constitution, we can ask ourselves how for such countries their actual situation or the situation at the time of their transition translates itself into our model environment.

Our attention has to be directed at two facts: First of all, past experience shows that post communist countries typically resorted to de novo design of their constitution - despite the preexistence of at least some formal constitutional template from communist times. Secondly, countries which have as of yet not undertaken the transformation from the communist social and economic model such as Belarus have nonetheless engaged in some form of constitutional reform over the last decade. In the case of Belarus, much of constitutional reform was directed at consolidating the power of the president.

Because the Belarussian case shares many similarities with the state of constitutional affairs in other countries at the beginning of their transition process of 1989, we are focusing our discussion on this case. Naturally, the main difference between the communist model and the Chilean model is that the former does not assign property rights at the private level. Instead, factual ownership is granted to the nomenklatura in exchange for support of the regime. There are two questions which arise. The first is how such an ownership structure affects the demand for reform in the first place. Whilst this question has to do with ex ante incentives for reform and is, strictly speaking, outside of our model, we would nonetheless like to see how an answer to this question can be squared with our model. This would serve as a welcome reality check. The second, more innate question to this paper, is how the absence of an assignment of property rights in the junta’s constitution affects the sustainability of this constitution once transition does take place.

We first turn to the second question. Suppose, that the junta has written a constitution \( c^J = \{x^J, \emptyset \} \) where \( \emptyset \) refers to the ownership structure (recall that in our previous specification of the junta’s constitution, \( t^J = 0 \) implicitly referred to a choice of ownership structure by the junta). It is well known that the absence of property rights creates huge welfare losses. The uncertainty

\[ \text{We are greatful to Vazhim Marazanu for contributing much information to our discussion of the features of the Belarusian system.} \]
thus created is further amplified by endgame problems in contract enfor-
cement and the likely outcome is a total breakdown of exchange relations (see
Ulen/Cooper, 2007, p. 238-239). Therefore, when parties negotiate a constitu-
tional settlement in the shade of an unspecific constitution, there clearly
are incentives to come up with a de novo assignment of property rights. But
as such experiences as the Russian transformation shows, things are likely to
be much more complicated than that. First of all, it is quite likely that the
parties negotiating the constitution are much more homogenous with respect
to their preferred policy point $x^L$ or $x^M$ than with respect to their personal
income. For example, the $L$ party will often be led by members of the old
omenkklatura which still holds the defacto ownership of the country’s assets
whilst being politically committed to socially ”leftist” policies. Whilst the
leaders of the $L$ and $M$ party might be able to privately agree on sharing
newly created property rights in exchange for policy compromise - resulting
in a fully efficient solution - such a deal would be seen as corrupt and re-
sult in a loss of credibility. On the other hand, it runs against the private
interest of leaders, say, of an $L$ party to agree on the creation of a widely
shared ownership for their constituency if this is a policy which results in
factual expropriation of their private factual ownership. For this reason, we
maintain that it is extremely difficult for a bargaining process based on a
constitutional template to arrive at an understanding on the assignment of
property rights. In that case, however, the issue of missing property rights is
bound to persist with all the efficiency cost involved. The political situation
in Russia during the 1990’s is a good example of the paralyzing effects on
economic life of such political failure.

The alternative ”negotiating based on a template”, therefore, is likely to
be extremely costly. What about the alternative of imposing a constitutional
order in a non-coopertative process?

In that case, any party may be in a position of implementing their ideal
constitution. Revolutionary times accomodate substantial shifts in the own-
ership structure of a country’s assets. There is likely to be considerable
uncertainty about who the eventual winners of the reform process are going
to be. Whilst the uncertainty created with respect to the distribution of
property rights and the final policy position imposed may be substantial, it
is likely to be outweighed by the efficiency loss of not being able to agree on
an assignment of property rights after the revolution. From this argument,
the answer to the second question is that in the case where the autocrat’s
constitution does not assign private property rights, it is unlikely to be used
as a template in the reform process.

Turning to our first question, how does this argument fit in with the
viability of a reform process from an ex ante perspective? From the regime’s
point of view, creating sufficiently widespread stakes in the regime must be seen as a strategy to secure its survival. If, on the other hand, the de facto ownership is skewed towards its nomenklatura before the start of reform, this will increase the demand for reform. Say, the reform process with no secure ownership results in a fair lottery into which enter all the assets of the country and into which every citizen has the same stakes. Such a reform would give everybody the same expected income and create an ex ante majority in favor of reform (see on this argument Fernandez/Rodrik, 1991). In fact, such an idea of the probability distribution generated by the reform process is not likely to be entertained by many citizens. Past experience has shown, that it is mainly the nomenklatura who as the facto owners will have a better chance of securing some share of the countries assets during the turnover compared to an ordinary citizens. If, however, the efficiency loss created by a state run economy is sufficiently high, a larger number of citizens will see the potential gain from reform and demand for reform will increase accordingly. In that case, perfectly rational citizens will press for reform even when they expect that the reform process itself creates an unequal ownership structure.

What emerges from this discussion is that a constitution crafted under an authoritarian regime is more likely to be sustainable when it assigns property rights. In that case, bargaining in the shade of a constitutional template will induce agents to reach political compromise. The prospect of attaining compromise under a bargaining institution, will persuade agents to accept the inherited constitution as a template. If, on the other hand, the constitution leaves the property rights issue unresolved, agents will find it more difficult to agree on an assignment of property rights. In that case, some spontaneous allocation of property rights offers the better chance of early establishing institutions which are conducive of prosperity. Accordingly, such a constitution crafted by an authoritarian regime will lack sustainability under democratic governance.

References


7 Appendix

7.1 Proof of lemma 3

First, note that \((t, x) \in \Gamma(t, x)\) only if \((t^{PL}, x^{PL}) = (t^{PM}, x^{PM})\). Suppose that not and say that \(L\) proposes \((t, x) = (t^*, x^*)\) which maximizes \(u^L(t, x)\) s.t. \(u^M \geq u^M(t^*, x^*)\). But then \(M\) maximizes \(u^M(t, x)\) s.t. \(u^L \geq u(t^*, x^*)\). Because \((t^*, x^*)\) are (constrained) maximal values for \(L\) and because this maximum is unique, \((t, x) \neq (t^*, x^*)\) implies that either \(u^M(t, x) < u^M(t^*, x^*)\) or \(u^L(t, x) < u^L(t^*, x^*)\), contradicting it is a constrained maximum for \(M\).

Secondly, \((t^{PM}, x^{PM}) = (t^{PL}, x^{PL})\) if and only if \((t^J, x^J) = (t^{PM}, x^{PM}) = (t^{PL}, x^{PL})\): Let \((t^*, x^*)\) be the constrained optimal values. By duality we have

\[
(t^*, x^*) = \arg\max \left\{ U^L(t, x) \text{ s.t. } U^M \geq U^M(t^J, x^J), 1 \geq t \geq 0 \right\} \quad \text{ (10)}
\]

\[
= \arg\min \left\{ U^M(t, x) \text{ s.t. } U^L \leq U^L(t^J, x^J), 1 \geq t \geq 0 \right\}. \quad \text{ (11)}
\]

By the property of maximum \(U^L(t^*, x^*) \geq U^L(t^J, x^J)\) and \(U^M(t^*, x^*) \geq U^M(t^J, x^J)\) by the first constraint. Therefore, \((t^J, x^J)\) satisfies the condition for a minimum when \((t^*, x^*)\) does. Thus, supposing \((t^J, x^J) \neq (t^*, x^*)\) contradicts convexity of preferences.
Finally, \((t^J, x^J) = (t^{PM}, x^{PM}) = (t^{PL}, x^{PL})\) implies Pareto-optimality of \((t^*, x^*)\) which is satisfied only on the contract curve and the upper and lower constraint on \(t\). \(\square\)

7.2 Proof of lemma 4

For \((t^J, x^J) \in D\), the realized lottery is \(\{(x^*, t^{PL}, 0.5); (x^*, t^{PM}, 0.5)\}\). Let \((t^{J^*}, x^{J^*}) = (0.5(t^{PL} + t^{PM}), x^*)\). Then the lotteries generated by \((t^J, x^J)\) and \((t^{J^*}, x^{J^*})\) have the same utility for all risk neutral players. By construction of \(D\) and \(\Gamma\), there exists a (pair of) bargaining outcomes for each \((t^J, x^J) \in D\).

For the second claim, we need to be able to construct for each \((t^J, x^J) \in C\) a policy lottery such that \(0.5(t^{PL} + t^{PM}) = t^J\). This is possible for every point except the boundaries \(t^J = 0\) and \(t^J = 1\), hence it is possible for almost all policy realizations.

7.3 Proof of lemma 5

First, suppose the autocrat chooses \((t^J, x^J)\) which generates the political lottery \(\{(t, x, p(t, x))\}\) with \(x^{PM} \neq x^{PL}\) and the expected policy values \(E_x P = x', E_t P = t'\). By convexity of preferences, \((x', t') \succ_i \{(t, x, p(t, x)), i = L, M, R\}. Therefore, for any \((t^J, x^J)\) associated with a lottery \(x^{PL} \neq x^{PM}\) with expected values \((E_t P, E_x P)\); if there exists \((E_t P, E_x P) \in \Gamma(t^P, x^P)\), \(L\) and \(M\) prefer the outcome and the autocrat prefers to set \((t^J, x^J)\). Furthermore, if \((t^{PM}, x^{PM}) = (t^{PL}, x^{PL})\) is optimal, the autocrat chooses \((t^J, x^J)\) which satisfy \((t^J, x^J) \in \Gamma(t^J, x^J)\). Consider points in \(F\). Say, there is \((t^J, x^J)\) such that \((t^{PL}, x^{PL})\) and \((t^{PM}, x^{PM})\) satisfy \(t^{PL} = t^{PM} = 0\) and \(x^{PL} < x^*, x^{PM} < x^*\). Let \(x^{J^*} = 0.5(x^{PL} + x^{PM})\) and \(t^{J^*} = 0\). In that case, \(x^{PL} = x^{PM} = x^{J^*}\) and \(t^{PL} = t^{PM} = t^{J^*}\). By convexity, \(L, M\) and \(R\) prefer the lottery based on \((t^J, x^J)\) to the lottery based on \((t^J, x^J)\).

Only range \(E\) is ambiguous: Consider the case with \((t^J, x^J) \in E\) where \((t^{PL}, x^{PL})\) satisfies \(t^{PL} > 0\) and \(x^{PL} = x^*, \,(t^{PM}, x^{PM})\) satisfies \(t^{PM} = 0\), \(x^{PM} < x^*\). Because the autocrat’s utility decreases in \(x\) and \(t\), there are points like \((t^{J^*}, x^{J^*}) = (0, x^*)\) with \(x^* < x^*\) which are preferred by the autocrat. The only reason for not selecting \((t^{J^*}, x^{J^*}) = (0, x^*)\) is that it violates \(L\)’s participation constraint. Therefore, let \((L, x^*)\) be associated with the smallest tax rate on \(C\) which satisfies \(L\)’s participation constraint. Clearly such \(L\) must exist with a value of possibly zero and, if \(\{(t^{PL}, x^{PL}, 0.5); (t^{PM}, x^{PM}, 0.5)\}\) satisfied the participation constraint, \(L < 0.5(t^{PL} + t^{PM})\). Because \(R\) prefers \(L\) over the lottery but prefers the lottery on \(x\) over \(x^*\), there is a maximum salience of the policy issue, such that the autocrat prefers the point on \(C\).

For a greater salience, \((t^J, x^J) \in E\) is chosen. In particular, if \(R\)’s indifference
curve is flatter through $t$ is flatter than $M$’s indifference curve, $R$ prefers $(t, x^*)$.

### 7.4 Proof of proposition 8

The set $M = I \cap \Gamma$ is non empty: by convexity of prerences, $(1, x')$ with $x' = 0.5(x^M + x^L)$ is (weakly) preferred by everyone to freely negotiating a constitution with the lottery $\{(1, x^M, 0.5); (1, x^L, 0.5)\}$, so $I$ is non empty. $(1, x')$ is also on $\Gamma$, so $M$ is non empty.

### 7.5 Proof of proposition 10

Suppose the autocrat picks the constitution $(t^{J'}, x^{J'})$ in $D$ with $\{(t^{PL}, x^*)$, $(t^{PM}, x^*)\} \in \Gamma(t^{J'}, x^{J'})$. Then the constitution $(t^{J''}, x^{J''})$ is $(0.5(t^{PL} + t^{PM}), x^*)$ offers the same pay off in the static game. In the dynamic game, by selecting $(t^{J'}, x^{J'}) \in D$ the autocrat realizes $u^J(t^{J'}, x^{J'})$ in period 1 and $u^J(t^{J''}, x^{J''})$ in period 2, which is the security pay off of the lottery. If he picks $(t^{J''}, x^{J''})$, he realizes $u^J(t^{J''}, x^{J''})$ in both periods. We can show that $u^J(t^{J'}, x^{J'}) < u^J(t^{J''}, x^{J''})$. Define as $u^{M'}$ $M$’s indifference curve through $(t^{J'}, x^{J'})$ and as $u^{M''}$ $M$’s indifference curve through $(t^{J''}, x^{J''})$. By construction of $L$’s proposal, $u^{M''}$ must go through $(t^{PL}, x^*)$. Clearly, $u^{M''} > u^{M'}$. Now let $u^{J''}$ be $J$’s indifference curve through $(t^{J''}, x^{J''})$ and let $u^{J'}$ be $J$’s indifference curve through $(t^{J'}, x^{J'})$. $u^{J''}$ intersects with $u^{J'}$ in $(t^{J''}, x^{J''})$. For $u^{J''} > u^{J'}$ it is a sufficient condition that the indifference curve of $u^{J''}$ is flatter than $u^{M'}$ everywhere. This occurs if the salience of the income issue is sufficiently strong and the policy difference to $M$ is sufficiently small for $J$.

### 7.6 Example 12

If sustainable constitutions exist for $\Delta M \geq 0$, at least the constitution $(t = 0.5, x^*)$ is sustainable where $x^*$ satisfies $\frac{x^*-x^M}{x^L-x^M} = \frac{\Delta M}{|\Delta L|+|\Delta M|} \leq \frac{1}{2}$. For small $|\Delta M|$ and large $|\Delta L|$, $x^*$ is close to $x^M$ which results in a relatively small cost of implementing the constitution for $R$. In order to give a pessimistic estimate on how great $\delta$ has to be, suppose, therefore, that $(t = 0.5, x = 0.5(x^M + x^L)$ is the constitution which has to be supported. $\delta$ is, therefore, defined by $(1 - \delta)\Delta R = \frac{\delta}{2}(x^M - x^L) - \frac{(x^M - x^L)^2}{2}$. For $x^L = 1, x^M = 0$ and $\Delta R = 1$ this gives $\delta = 2/3$. So suppose the autocrat selects again $(t = 0.5, x = 0.5)$. Now there exists $\Delta$ sufficiently great such that $L$ does not want to raise this constitution with $t = 0.5$. Therefore, the autocrat must raise taxes in the constitution.
With this fall back constitution and $\Delta^L = -1$, $\Delta^M = -\varepsilon$, $L$’s default pay off is $-\left(\frac{1}{2}\right)^2 + \frac{1}{2} |\Delta^L| = -\frac{1}{4}$ and $M$’s default pay off is $-\left(\frac{1}{2}\right)^2 = -\frac{1}{4}$. When $L$ proposes against the default, she gets $-\left(\frac{1}{2}\right)^2 + |\Delta^L| = -\frac{3}{4}$. Expected pay off under the constitution is $\frac{1}{2}$. With free bargaining, she gets $\frac{1}{2}[-1^2 + |\Delta^L|] + \frac{1}{2} |\Delta^L| = \frac{1}{2}$. So the constitution gets rejected.

### 7.7 Example 13

Note that $|M^L| \leq |\Delta^L|$. Therefore, we know that $x^* \leq \frac{1}{2}$ still holds. $U^L|F = U^M|F = -\frac{1}{2}$. Consider $\Delta^M < 0$. Constitution $(t^J, x^J) = (0, 1 - \frac{\sqrt{2}}{2})$ gives $U^L|c^J = -\frac{1}{2}$. Utility under the constitution for $R$ is $-(\frac{3}{2} - \sqrt{2}) - \delta \gamma \Delta^R$. Noting that $|\Delta^L| \to 0$, $|\gamma \Delta^R| \to 0$ follows. Utility without the constitution is $-\delta(\frac{1}{2})$, so $\delta > 3 - 2\sqrt{2} \approx 0.18$ is the condition for the autocrat wanting to impose a constitution.

Consider $\Delta^M > 0$. Now $\Delta^M \leq \frac{1}{2} \Delta^L$ because we had assumed that $\Delta^M \leq \gamma \Delta^R$ and $\Delta^M + \gamma \Delta^R = |\Delta^L|$ by definition. Therefore, we get $x^* \leq \frac{1}{3}$. By proposition 7, $J$ wants to propose a constitution $(t, x^*)$ and every such constitution gets accepted. Supposing $x^* = \frac{1}{3}$ utility under the constitution for $R$ is $-(\frac{1}{2})$ and utility without the constitution is $-\delta(\frac{1}{2})$. For $\delta = 3 - 2\sqrt{2}$ we get $V^R(c^J) = -\frac{1}{2} < \frac{3}{2} - \sqrt{2} \approx 0.09$, so the constitution is not accepted.