# **Stable Constitutions in Political Transition**

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## **1** Introduction

This paper develops a spatial model where an autocrat selects a status quo constitution. This constitution may or may not be accepted by a succeeding elected constitutional assembly as a blue print for negotiations on constitutional reform. A constitution defines as legitimate a status quo point in policy space with policy dimensions redistribution and social policy. Moreover, it guarantees property rights and provides a policy rule of how the status quo point can be modified. We model constitutional design and reform as a dynamic game. As the first mover, the autocrat is free in selecting the status quo point. If accepted by the succeeding assembly, it becomes the default outcome when the assembly enters negotiations over constitutional reform which take the form of changing the status quo policy. In the absence of a prior constitution or after a rejection of the prior constitution, the assembly enters free negotiations on a new constitution.

More recently, constitutional succession has become an issue in many Arab countries where autocratic regimes were succeeded by freely elected governments. When the White House called for Husni Mubarak, then president of Egypt, to step down, the question immediately arose whether the rules of succession would apply as laid out in the Egyptian constitution or whether the constitution had to be suspended to negotiate a transition between the old regime and the opposition (see Brown 2011). After Mubarak eventually resigned, the interim military government, i.e. the

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Supreme Council of the Armed Forces, adopted a provisional constitution which contained significant amendments and aimed at paving the way to parliamentary elections.<sup>1</sup> The elected parliament set out on what proved to be a bumpy road towards negotiations over a new constitution.

Of these events, two facts stand out: On the one hand, the Mubarak constitution turned out to be not acceptable to all parties involved in the transition process. Therefore, on the face of it the Egyptian case is one of discontinuity of the existing authoritarian constitution. On the other hand, the leadership of the military, which had significant bargaining power in the transition process, was widely seen to be able to hold on to their privileges and property interests.<sup>2</sup> These two observations suggest that the Egyptian transition is an ambivalent case where the formal constitution handed down by the autocrat lacked perseverance yet the property order established under the constitution was kept in place.

Moreover, whilst this paper looks into the possibility for an autocratic regime to select a constitution which is accepted as a blue print by its successors, the Supreme Council of the Armed Forces faced a rather similar choice problem when drafting the amendments of the provisional constitution.<sup>3</sup> In principle, our framework should lend itself to analyzing constitutional choice in this slightly different context. Whilst it is still too early to judge the outcome of this constitution project, at the time of finalizing this paper it appeared as if the army was revoking its support for the constitutional reform process in the face of a legislature dominated by Islamist parties.<sup>4</sup>

Chile, as the second example which we look at, is a clear example of successful constitutional succession.<sup>5</sup> In 1980, the Chilean military junta adopted a constitution which subsequently not only governed the internal workings of the junta and imposed constraints on its exercise of power, but which set the rules by which the transition to democracy finally took place: In 1988, Pinochet stood for election, thereby sticking by the letter of the constitution. Following electoral defeat, the Chilean parties of the right and the center negotiated constitutional amendments which were adopted as part of a reformed constitution by plebiscite in 1989. The amendments included restrictions on 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. In large parts, the constitution of 1980 remains in place today.

There are clear differences but also similarities between Egypt and Chile: Chile has a long and recent history of constitutionalism. The Chilean constitution was a

<sup>&</sup>lt;sup>1</sup>For details of the process see Brown and Dunnes (2011).

<sup>&</sup>lt;sup>2</sup>Egypt's freedom, Financial Times, 20 May 2012.

<sup>&</sup>lt;sup>3</sup>Other classification schemes agree on the ambiguity of the Egyptian case: In the framework of Munck and Leff (1997) the Egyptian transition can be classified as one of defeat of the old order. Yet if one considers the military as part of this order, one could equally argue that the transition can be classified as a pact.

<sup>&</sup>lt;sup>4</sup>Egypt court orders parliament dissolved, Financial Times, 15 June 2012.

<sup>&</sup>lt;sup>5</sup>For an overview see Barros (2002) and Montes and Vial (2005).

binding constraint on the dealings of the junta (see Barros 2002). Most significantly, transition took place because the regime, after some hesitation, obeyed the letter of the constitution. In Egypt, on the other hand, the transition of power was brought about by street protests. Common to both countries is the influence exercised by parties and organizations associated with the old regime during the transition period. In Egypt this was mainly the military which served as a power broker during the revolution whilst in Chile these were the parties of the right which bargained in the shadow of power which was projected by the military.

In this paper, we see a preexisting constitution as a natural focal point in the transition process which can serve both as a reference but also as a reversion point for constitutional reform. The reform process in which a society attempts to newly arrange its social compact creates many uncertainties. The negotiating parties may end up in a game of attrition where each tries to secure concessions from the other parties involved in the process. The attempt of constitutional reform may end in open conflict if the participation constraint of one of the players is not satisfied. For those reasons, the elected successor parties which are interested in changing the constitution may yet agree on the preexisting constitution as a default outcome in order to insure against the risks otherwise involved in negotiating a new constitution.

If the autocrat expects a succeeding constitutional assembly to use a preexisting constitution in that way, it creates an avenue through which the autocrat, in writing a constitution, can influence the power play after his demise. In this paper we assume that the interest group of the property owning class can exert sufficient influence on the autocrat to make him write a constitution on their behalf.

We show, first of all, that constitutions exist which are stable in the transition process. Whether or not the autocrat strictly prefers to hand down a constitution depends on who he expects to bargain over constitutional reform. If the autocrat expects that the future constitutional assembly is dominated by parties which favor redistribution, he does not want to bind himself by the constitution. If not a single party dominates the constitutional assembly and the middle class opposes redistribution or it is expected to forge a coalition with the right dominate, stable constitutions exist which are in the interest of the autocrat. Here, our model provides a theoretical underpinning for the frequently stated idea that a middle-class which is interested in maintaining property rights is a prerequisite for constitutional stability.<sup>6</sup>

Moreover, we show that if the autocrat can hand down a constitution immediately before his demise, he may choose to write a stationary constitution, i.e. a constitution which he predicts to be accepted by a succeeding constitutional assembly without further amendment. Only if the autocrat expects that he will have to abide by the constitution himself for some time, he will compromise on the stationarity property. We also argue that, theoretically, a succeeding assembly will elect the prior constitution as default bargaining outcome, irrespective of what it says. Hereby, cases are possible where a preexisting constitution is accepted in the reform process even when it has hardly constrained the autocrat and is significantly amended in the reform process.

<sup>&</sup>lt;sup>6</sup>See e.g. Ordeshook (1997), Easterly (2001).

## 1.1 Related Literature

Looking at the selection of rules in general and the constitution in particular in terms of manipulating strategic situations to achieve desirable outcomes was advanced by Riker (1986) with his analysis of the events leading to the adoption of the American constitution.<sup>7</sup> Our paper models constitutional choice in terms of the strategic selection of a status quo point in a spatial model. This places our model in a strand of literature which derives equilibria of the political game which are predicated on previous choices such as the move of an agenda setter or the selection of institutions. Tsebelis (2002), for example, shows how institutions determine the set of veto players within a spatial policy framework and thus shape policy outcomes.<sup>8</sup> Whilst constitutional norms typically provide general rules for policy selection rather than making policy choices more directly, the selection of institutions together with the legitimization of a status quo policy has implications for policy outcomes. In the case of Chile and Egypt, one can argue that choices over political institutions were often clearly aimed at preventing or promoting particular policy outcomes.<sup>9</sup>

In our framework, a constitution provides a focal point which enables agents to coordinate on Pareto-better outcomes compared to outcomes achieved in the absence of a constitution. A different way of understanding constitutions as coordination devices-understood as "red-lines" the crossing of which agents accept as triggers for coordinated action-has been introduced by Weingast (1997). Other approaches focus on the role of constitutions as commitment devices by which a government can credibly pledge to uphold property rights (North and Weingast 1989) or an autocrat to give legally enshrined guarantees to his followers (Myerson 2008). Moreover, Grossman (2002) gives conditions under which it is possible to design constitutions with self-enforcing properties-i.e. where agents abide by constitutional processes-when facing the alternative of descending into conflict. Pech (2009) and Naqvi et al. (2012) focus on self-enforcing properties of constitutions which contain the rule of law as a mechanism. Another strand of literature looks at constitutions in terms of the properties and desirability of the voting rules it provides.<sup>10</sup> Finally, in an accompanying paper, Michalak and Pech (2012) provide a full equilibrium analysis which extends and applies the present framework to the

<sup>&</sup>lt;sup>7</sup>See also Riker (1996). Schofield (2002) elaborates on this logic and applies it to the evolution of the American constitution.

<sup>&</sup>lt;sup>8</sup>In a more general setting one may ask how the historical and/or constitutional choice of rules determines the selection of rules which at later stages emerge from the political game. See Barbera and Jackson (2004) and Lagunoff (2007).

<sup>&</sup>lt;sup>9</sup>In the case of Chile, parties of the left were not admitted under the Pinochet constitution but they were admitted under the reform constitution, provided they were not antisystem. The decision of the Supreme Council of the Armed Forces to dissolve a parliament dominated by the Muslim brotherhood was a move which interfered with the institutional set-up of post-revolutionary Egypt but was mainly aimed at preventing parliament from selecting policies which were against the interests of the military rulers.

<sup>&</sup>lt;sup>10</sup>See, for example, Gersbach (2004) and Barbera and Jackson (2006).

Chilean transition process. That paper, in more detail, focuses on the significance of middle class wealth for constitutional stability.

## 1.2 Outline of the Paper

Section 2 sets up the model. Section 2.1 presents negotiations in the absence of a prior constitution or after its rejection. Section 2.2 details bargaining on constitutional reform in the presence of a prior constitution. Section 2.3 derives optimal constitutions for the autocrat. Section 3 analyses the static constitutional choice problem of the autocrat. Section 4 extends our results to a dynamic setting. Section 5 discusses applications to different experiences of political transition and derives conclusions from our framework.

## 2 The Model

A constitution is a pair (t, x), representing a country's basic choices<sup>11</sup> on redistribution—associated with a tax rate *t*—and social policy *x* which may be measured along a scale representing liberalism versus authoritarianism, secularism versus a greater role for religion in public life or the relative importance of the social solidarity principle versus the free market principle.<sup>12</sup> The policy space  $\Im$  is  $T \times X = [0, 1] \times \Re$ .

There are three socio-economic groups, the clientele of the autocrat, R, the middle class, M, and the working class, L. We do not explicitly model the military as a player. In the Chilean case the junta emerged from within the military. Therefore, one can identify the military in the aftermath of transition as a lingering aspect of the junta and closely associate it with the autocrat's clientele. In Egypt, autocratic government and military were organizationally separate but the military leadership shared interests with the possessing class and can, for the purposes of our model, be associated with the clientele of the autocrat. In both cases we can see some harmony of interest between the military and what we modelled as the autocrat's clientele. The military is a particularly powerful player when the option of freely negotiating the constitution degenerates into conflict. In this case, we expect the cost of free negotiations to be especially high to everyone, but the more powerful the military, the more limited will the possibility of achieving redistribution in the case of conflict be.

Furthermore, we assume that the autocrat perfectly internalizes the preferences of his clientele. For this assumption to be reasonable, either the clientele must be able to offer a perfect incentive contract to the autocrat, by which it offers support

<sup>&</sup>lt;sup>11</sup>We do not discuss in this model rules governing post constitutional choices such as electoral rules. Stability properties of electoral rules are discussed, for example, in Barbera and Jackson (2004).

<sup>&</sup>lt;sup>12</sup>Kitschelt (1996) finds that the majority of policy choices can be subsumed under a distributional/communitarian dimension.

in exchange for favorable constitutional rules or, alternatively, the autocrat "sells" those advantages to his clientele in exchange for support.

For simplicity, we assume that all groups have the same size when calculating the effects of different redistributive policies. Gross incomes of representatives of each group are  $w_R > w_M > w_L$ . The utility function of a citizen belonging to class *i* is  $u_i = \alpha_i v_i(x) + w_i^n$  where  $w_i^n$  is citizen *i*'s net income after taxes and transfers and where  $v_i = -|x - x_i|^2$  captures the loss associated with realizations on the social policy scale where  $x_i$ , i = L, M, R represents the bliss point of group *i*. We assume that  $x_M < x_L$ ,  $x_R \neq x_M$  and  $x_L$  yet  $\alpha_R = 0$ . In order to uniquely assign bargaining outcomes when R and M agree on t, we assume that R's income motive is overwhelming yet for two allocations where the income realization is the same, R strictly prefers the allocation where x is closer to  $x_R$ .<sup>13</sup>

The net income distribution is obtained from taxing income available for redistribution at a tax rate  $t \in [0, 1]$ . Proceeds from the tax finance a lump sum transfer which is evenly distributed among members of the three groups.<sup>14</sup> Thereby we impose equality in transfers and rule out the possibility of one socio-economic class enriching itself at the expense of some other class. This assumption is less problematic when we construct outcomes for the case of free negotiations over the constitution: The reversion wealth level which we associate with this scenario may be thought of as the level of wealth which agents expect to be able to defend or appropriate in a situation of conflict. Yet for the case where the assembly bargains over constitutional reform, we must specify the set of admissible choices. In restricting the bargaining space to choices of t and x, we effectively assume that accepting the prior constitution as a template for negotiations implies acceptance of the property rights which were defined under that constitution. Once the property order is accepted in principal, redistribution of property can only be achieved through general rules, i.e. general taxes.<sup>15</sup>

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

$$u_i(t, x) = \alpha v_i(x) + (1 - t)w_i + t\overline{w}.$$

In all societies we know of, average income exceeds the income of the median citizen. This observation leaves the political theorist struggling for an explanation

<sup>&</sup>lt;sup>13</sup>We effectively assume that R has lexicographic preferences where the utility function—with some abuse of notation—captures the net income part only.

<sup>&</sup>lt;sup>14</sup>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 proper way of thinking of such an extreme choice is the election of the economic order of a country. Such a choice is clearly on a constitutional level.

<sup>&</sup>lt;sup>15</sup>Such acceptance does not in general rule out that individual cases of "unfair" enrichment under the old regime are tried in court but it provides assurances to the vast majority of beneficiaries of the old system that expropriative measures by the new regime will not affect their property alone but would have to simultaneously affect the property of the middle class as well.

of the fact that in democratic societies we should have majorities in favor of expropriation when we hardly observe expropriating tax policies in practice. In order to allow for the possibility of a political equilibrium with non expropriating 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 the natural resources sector,  $\gamma$  is likely to be low. We assume  $(1 - \gamma)w_R > w_M$  and define average income available for distribution as  $\overline{w} = \frac{(1 - \gamma)w_R + w_M + w_L}{3}$ . As  $\overline{w} > w_L$ , the left always favors redistribution.

## 2.1 Freely Negotiating a New Constitution

We assume that in the absence of a default constitution, the outcome of the constitutional reform process can only be predicted with some uncertainty. That is, independently of how precisely the constitutional process unfolds, from an ex ante point of view the expectations over the final outcome take the form of a lottery  $\ell = \{(x, t, \pi(x, t))\}$  with probability weights  $\pi(x, t) < 1$  for all (x, t). The continuation pay off of each player i = R, M, L when entering the constitutional reform process in the absence of a default constitution is  $Eu_i(\ell)$ . Throughout the paper we maintain that at any point a player who is dissatisfied with the outcome of the constitutional reform process can reject this outcome and revert to freely negotiating a constitution, ensuring for himself a default outcome of  $u_i^0 = E u_i(\ell)$ . Such an assumption is compatible with scenarios where the draft reform constitution requires, formally or factually, widespread support in a referendum or where the free negotiation process takes the form of open conflict and such conflict can be precipitated by any party. We define  $(x^0, t^0)$  as the expected value of x and t for this lottery. From concavity of v and linearity of u in t it follows that  $Eu_i(\ell) < u_i(x^0, t^0)$  for all i, a result which we use in the proof of Lemma 2 where we show that the set of outcomes which are generally acceptable over freely negotiating the constitution is non empty and contain, in particular, the policy point where the expected values of x and t are offered. More formally, we define the set I of outcomes which are preferred by all players to the lottery of freely negotiating x and t,  $\ell$ :

**Definition 1** *I* is the set out feasible outcomes which are weakly preferred by all players to freely negotiating the constitution with associated lottery  $\ell$ , i.e.  $I = \{x, t \mid (x, t) \succeq_i \ell \text{ and } (x, t) \in \Im\}, i = L, M, R.$ 

Note that *I* has a closed graph. In what follows, we focus on the case where  $1 > t^0 > 0$ . The case where  $t^0 = 0$  is trivial: *R* can enforce its preferred outcome in terms of income realization and the incentives for writing a constitution would be minimal. The case  $t^0 = 1$  corresponds to a situation where *L* can enforce its

preferred outcome in the transition and *R* can do nothing about it. Again, incentives for writing a constitution would be minimal. In the intermediate range, the following lemma holds:

## **Lemma 2** For $1 > t^0 > 0$ , the set I is non empty and convex.

*Proof* By concavity of v, at least the point  $x^0$ ,  $t^0$  must be in I. Because v is strictly concave, I is not vanishingly small, i.e. there is  $\varepsilon > 0$  such that L strictly prefers to get  $(x^0, t^0 - \varepsilon)$  with certainty over a lottery with expected outcome  $x^0, t^0$ . As M and R also prefer this point, it must be in I. By convexity of preferences and  $\Im$ , I is also convex.

Ignoring the trivial case  $t^0 = 0$ , the result of Lemma 2 only hinges on the assertion that expectations over the outcome from freely negotiating the constitution take the form of a lottery  $\ell$  which is common knowledge to all players. One possible way of consistently modelling a bargaining game which provides such a lottery is to assume that each party is given a chance to implement its preferred outcome with a probability  $P^{j}$ .<sup>16</sup> In the case where this opportunity arises, rationality dictates that the party imposes its preferred policy point. Thus, if L wins, the policy realization (t, x) is  $(1, x^L)$ , if M wins, the policy realization is  $(1, x^M)$  for  $w_M \le \overline{w}$  and  $(0, x^M)$  for  $w_M > \overline{w}$  and if R wins, the policy realization is  $(0, x^R)$ . Thus, for party i, expected utility from freely negotiating the constitution is

$$V_{i}^{0} = P^{R}v^{i}(x^{R}) + P^{M}v^{i}(x^{M}) + P^{L}v^{i}(x^{L}) + (1 - P^{L})w^{i} + P^{L}\overline{w}$$
  
if  $w_{M} > \overline{w}$ , (1)  

$$V_{i}^{0} = P^{R}v^{i}(x^{R}) + P^{M}v^{i}(x^{M}) + P^{L}v^{i}(x^{L}) + P^{R}w^{i} + (1 - P^{R})\overline{w}$$
  
if  $w_{M} \leq \overline{w}$ , for  $i = L, M, R$ . (2)

We can modify pay offs by admitting a conflict cost  $K_i$  which is incurred if free negotiations take the form of open conflict. Without changing any of the results of this paper we may extend the model to cover the case where players form a prioricoalitions before entering conflict. For example, L and M may form a coalition against R and expect to realize a point on their contract curve if they win. Note that our model does not attempt to explain conflict but instead uses a conflict scenario to rationalize a settlement in the shadow of conflict.

## 2.2 Negotiating a Constitution in the Presence of c

Suppose a constitution c specifying a tax/policy combination (t, x) has been handed down by the autocrat. Moreover, suppose that a pre-determined set of players negotiates over constitutional reform or de-novo design of the constitution. This set of

<sup>&</sup>lt;sup>16</sup>For other specifications, see Michalak and Pech (2012).

bargainers is determined exogenously to the model. In what follows we focus on the case where two parties bargain. Sections 3.1 and 3.2 discuss in greater detail special applications of the two party bargaining game. Section 3.3 gives an overview of the remaining cases. The different cases where one party is in a position to impose the constitution or all three parties bargain over constitutional reform are straightforward extensions of the two-party bargaining model.<sup>17</sup>

Once the pre-determined bargainers accept c rather than reverting to freely negotiating the constitution, c serves as the default outcome which prevails if the bargainers are unable to find an agreement on the reform constitutional draft. Recall, however, that any group in society still has the option to revert at any time to the non cooperative outcome.

We think of the bargaining procedure as taking the simplest form of a two player random proposer game where the proposer makes a take-it-or-leave-it offer to the other player. Let  $\Gamma_{ij}(c)$  be a correspondence which assigns to each choice of cas possible outcomes for the bargaining game between i and j, the equilibrium proposals submitted by i as a proposer,  $P_{i\rightarrow j}$ , and submitted by j as a proposer,  $P_{j\rightarrow i}$ . Naturally,  $i, j \in \{R, M, L\}$  and  $i \neq j$ . Note that  $P_{i\rightarrow j}$  and  $P_{j\rightarrow i}$  might be set valued although they turn out to be singular in our application. All our results hold under the assumption that the ex ante probability of making a proposal is strictly positive for each player in a coalition which is a mild assumption as it only requires to exclude the case where agents are predicted to have no bargaining power at all when they enter the coalition which bargains over constitutional reform.

If  $c \in I$ ,  $u_j(c)$  is the default utility which player j realizes when a proposal is rejected. Hence, each player i, when making a reform proposal to j, chooses for  $P_{i \rightarrow j}$  a pair  $(x, t) \in I$  which maximizes  $u_i(x, t)$  subject to  $u_j(x, t) \ge u_j(c)$ . If  $c \notin I$ , rejecting a proposal results in implementing an outcome c which will ultimately be vetoed by at least one player. Hence, a rejection of a proposal when the default constitution is  $c \notin I$  results in every agent realizing his or her continuation pay off from descending into conflict,  $V^0$ . By this device, players who stand to benefit from bargaining in the constitutional reform process have incentives to accept even constitutions outside of I. Yet, as the following lemma shows, in the static model with two players bargaining, the autocrat will choose a constitution in I whenever he has a strict preference over constitutions in I.

**Lemma 3** If there are two bargainers and the autocrat uniquely prefers a constitution  $c^* \in I$ , this constitution is strictly preferred over any constitution not in I.

*Proof* By construction of  $\Gamma(c)$ , any  $c \in I$  is strictly preferred to the default outcome at least by the players involved in constitutional bargaining. If  $c \notin I$ , a proposal can-

<sup>&</sup>lt;sup>17</sup>We do not explicitly model elections but rather assume that the representatives of each group can secure support of their clientele. Relative strength of representation and voting rule in the assembly determine the set of effective coalitions in the assembly. Moreover, given the set of effective coalitions—which is non empty because the grand coalition always is effective—there is a clear prediction which coalition forms, independently of the default constitution. See Michalak and Pech (2012) for endogenous coalition formation.

not be rejected against *c* without precipitating conflict. With  $c \notin I$ ,  $\Gamma_{ij}(c)$  assigns *i*'s and *j*'s ideal points in *I*. For *i* and *j* a lottery on  $\Gamma_{ij}(c)$  with non zero weights must strictly dominate the alternative of realizing the default outcome from conflict with certainty and rationality commands that they accept *c*. Note that by construction of  $\Gamma_{ij}(c)$ ,  $c \notin I$  does not constrain the proposer other than by requiring him or her to choose a proposal in *I*. Yet it constrains the responder in rejecting a proposal. If there uniquely exists a constitution  $c^* \in I$  which is preferred by the autocrat when the choice of *c* is restricted to be in *I*, the autocrat must wish to constrain at least one proposer to select not the proposers.<sup>18</sup> Hence, a constitution which does not constrain proposals, i.e. any constitution not in *I*, is strictly dominated by the constitution  $c^* \in I$  which does.

This lemma extends to the case where only one party dominates the reform process. The dominant party strictly prefers the constitution over its default outcome and the other parties at least weakly prefer a constitution over their default outcome. It also extends to the case of unanimity where all c in I are at least weakly preferred by all parties over the default outcome. In the remainder of the paper we consider I as the choice set of the autocrat and obtain unique optimal choices in the cases of Propositions 5 and 6. Using the lemma, we can conclude that these constitutions are also strictly preferred over constitutions which are not in I.<sup>19</sup> Proposition 7 considers a case where L dominates the constitutional assembly and no optimal constitutional choice exists in I. In this case, the autocrat may choose a constitution  $c \notin I$ . Yet for this case we find that the autocrat always ends up with his default outcome, hence the autocrat is not only indifferent with respect to which constitution to write but he is also indifferent between writing and not writing a constitution.

## 2.3 Optimal Constitutions

The way the bargaining game is set up, given *c* the two bargainers have incentives to realize a point on their contract curve or, if this violates  $(x, t) \in I$  to realize a point on the boundary of *I*. The following proposition characterizes (strictly) optimal constitutions of the static game as stationary constitutions, i.e. constitutions which are not amended in the bargaining process:

**Proposition 4** When the autocrat can directly propose a constitution without incurring a cost, for any constitution c which is not stationary, i.e. for which  $\Gamma(c) \neq c$ , there exists a stationary constitution which is at least as good for the autocrat as c.

<sup>&</sup>lt;sup>18</sup>Recall that  $x_R \neq x_M$ , so even if *M* and *R* bargain and agree on *t*, they still disagree over *x*.

<sup>&</sup>lt;sup>19</sup>In the case of Proposition 6 where *L* bargains with an *M* party in favor of redistribution the autocrat has a unique preference of  $c \in I$  but the preference is only in terms of policy realization and, hence, of a second order magnitude.

*Proof* Define the Pareto-set  $B_{ij}(c)$  for the bargainers *i* and *j* given the default constitution *c*. First suppose that  $B_{ij}(c) \subset I$ . In that case, proposals coincide with points on the contract curve, i.e.  $P_{i \to j}$  maximizes  $u_i$  given  $u_j(c)$  and  $P_{j \to i}$  maximizes  $u_j$  given  $u_i(c)$ . If one proposal *P* includes a lower value of *t* than the other, the autocrat is better off by selecting this proposal *P* instead of *c*. Setting c = P guarantees that each proposer has to propose *c* when this is the default outcome. If the proposals  $P_{i \to j}$  and  $P_{j \to i}$  include the same value of *t*, the autocrat is as well off if he selects either  $P_{i \to j}$  or  $P_{j \to i}$  instead of *c*.

Next suppose that  $B_{ij}(c) \cap I \subsetneq B_{ij}(c)$ . In that case, the constraint that the proposal has to be in I may be binding. Yet a proposal P maximizes the proposer's utility given that it is in  $B_{ij}(c) \cap I$ . Note that  $B_{ij}(c) \cap I$  is convex. When L or M is proposal maker, preferences of the proposal maker are strictly convex and the optimal proposal is uniquely defined. If this point is selected as default, the constitution is stationary. If R makes a proposal the binding segment of the boundary of I is strictly convex unless it coincides with the t = 0-line.<sup>20</sup> In either case, R has a unique proposal which, if selected as default results in a stationary constitution<sup>21</sup> and we are left with three possibilities: a) In point P constraint  $B_{ij}(c)$  is binding and I is not. In that case, with P the proposer realizes the highest utility in I. If the autocrat selects c = P, either proposer must propose point c when it is the default outcome. c) Both constraints are binding. This case coincides with case b).

This proposition allows us to focus on stationary constitutions when looking for optimal constitutions for the autocrat when discussing the static constitutional choice problem. In the dynamic constitutional choice problem, the autocrat incurs a cost when committing to a constitution and, as shown in the proof of Proposition 9, Proposition 4 does not apply.

## **3** Static Constitutional Choice

In this section we derive the optimal constitutional choice for the autocrat if he believes that his demise is imminent. As we know from Lemma 3, any default constitution c will be accepted by the bargainers. Yet only if the constitution is in the set I, will it actually impact on the successor's decision other than by requiring them to propose amendments only in I. Hence we are going to focus on the autocrat's constitutional choice as the problem of picking a constitution from within the set I.

<sup>&</sup>lt;sup>20</sup>To see that *R*'s proposal is unique when the t = 0 line is binding, recall that by our assumption that *R*'s preferences are lexicographic, *R*'s preferred point on the t = 0-line is uniquely determined. Hence, the optimal constitutional choice coincides with this point.

<sup>&</sup>lt;sup>21</sup>To see that the point  $c = (0, x^R)$  is stationary when selected as default in the case where t = 0 is the constraint on *R*'s proposal, observe that *R* as a responder will reject any proposal which does not coincide with *c*.

Finally, from Proposition 4 we know that we can focus on stationary constitutions, i.e. constitutions which the predecessors accept with no amendment.

## 3.1 M and L Negotiate on Constitutional Reform

Suppose it is known that after transition M and L negotiate over constitutional reform and suppose in particular that this is known to the autocrat when he writes the status quo constitution. From the perspective of the autocrat's clientele, the case where R is excluded as negotiator represents a worst case scenario. So it is not implausible that, when writing the constitution, the autocrat focuses on that scenario in order to provide insurance against its consequences.

During the Egyptian revolution it was widely expected that it was ultimately up to the street protesters and the Muslim brotherhood to negotiate the future constitutional compact. If we identify the Muslim brotherhood with its welfare goals as the L party and the street protesters with their middle class ambitions as the M party,<sup>22</sup> we can explore the possible impact which the choices of an initial agenda setter—be it Mubarak or the military—would have had on the outcomes which the other two groups could have obtained.

#### 3.1.1 Case $w_M > \overline{w}$

Initially we suppose that the lower boundary of the set *I* intersects the vertical part of the contract curve between *L* and *M*. That the contract curve is a vertical line for 0 < t < 1 is demonstrated in the appendix. In that case, the autocrat wants to choose  $c^*$  such that  $c^*$  coincides with the intersection of the lower boundary of *I* and the contract curve in Fig. 1. To see the latter point, suppose that the autocrat picks a constitution at a point such as *z* which also is on the boundary of *I* and corresponds to a lower tax *t*. As the boundary of *I* coincides with  $l^0$ , *M* must realize a lower indifference curve  $m_z$ . If *L* proposes, she will propose a higher tax at the point where the contract curve intersects with  $m_z$ . This comes with a higher tax rate. If *M* proposes, she will propose the point where  $l^0$  intersects with the contract curve. Here the tax rate is the same as with  $c^*$ . Hence, as long as *L* proposes with positive probability, it is better to select  $c^*$  in the point where  $l^0$  intersects with the contract curve.

We can exclude the case where the lower boundary of *I* intersects with the upper horizontal part of the contract curve (i.e. where t = 1) because this would imply  $t^0 = 1$ . So consider the case where the lower boundary of *I* intersects with the lower horizontal part of the contract curve (i.e. where t = 0). In that case, the autocrat may select any point on the horizontal part of the contract curve and he will choose to

<sup>&</sup>lt;sup>22</sup>See Sect. 5 for a more detailed discussion of these claims.



select  $x \in [x^M, x^L]$  as close as possible to  $x^R$ . The two negotiators will necessarily propose the default outcome *c* to each other. Naturally, also in the case where the optimal constitution involves  $t^* = 0$ , writing the constitution offers positive monetary value to the autocrat because  $t^0 > 0$ .

**Proposition 5** In the static model with L and M as bargainers and  $w_M > \overline{w}$ , the autocrat strictly prefers handing down a constitution. The monetary value of handing down a constitution is strictly positive.

*Proof* See discussion above.

#### 3.1.2 Case $w_M \leq \overline{w}$

Next suppose that M has less than average effective wealth and, therefore, agrees with L on the ideal tax rate of t = 1. In that case which is illustrated in Fig. 2, negotiations between L and M will result in the maximum level of redistribution which does not violate R's participation constraint, i.e. the tax rate is  $t = t^0$ , independently of the status quo constitution. To R, who lexicographically prefers wealth, the monetary value of writing a constitution is zero yet he would still like to write a constitution in order to satisfy his policy preference with ideal point  $x^R$ . If writing a constitution is costly in terms of wealth, the autocrat prefers not to write a constitution.

**Proposition 6** In the static model with L and M as bargainers and  $w_M \leq \overline{w}$ , a constitution affects only policy but does not affect post transition wealth. Hence the monetary value of writing a constitution to the autocrat is zero.

Proof See discussion above.



## 3.2 R and M Negotiate on Constitutional Reform

In this section we assume that R and M are predicted to negotiate on constitutional reform. This was effectively the bargaining set up in the Chilean transition with the PN of the right and the moderate concertación negotiating transition. The "Pinochet" constitution had banned left-wing parties from political participation and their admission was one element of constitutional reform which emerged from the negotiations. It is, therefore, possible to argue that the authors of the "Pinochet" constitution had believed that any successor government was not going to include parties of the left.

## 3.2.1 Case $w_M > \overline{w}$

In this case there is harmony between M and R on their redistributive goals. Yet L's participation constraint has to be satisfied. Without further constraints, M would choose her ideal point in I which is not the point with the lowest tax rate but a point on the contract curve with L. By strategically choosing the status quo constitution  $c^*$  to coincide with point in I where t is minimal, R can ensure a better outcome for himself: If M proposes against  $c^*$ , she has to offer  $t \le t^*$  to R, so it must propose  $c^*$  itself. And if R proposes, he wants to propose  $c^*$  as well. Therefore, equilibrium  $c^*$  is a stationary constitution.

It is easy to see in Fig. 3 that a point such as z is not an optimal choice for a status quo constitution: When R proposes he needs to offer M the point z again because there the tax rate is lowest given that M must obtain  $m_z$  and L must obtain  $l^0$ . When M proposes, she needs to offer the point z as well. Thus, z is also a stationary constitution but it is not optimal for the autocrat.

Note that if *L*'s power to enforce outcomes in the conflict scenario is weak, *I* may include the t = 0 axis. In that case, *R* and *M* will always agree on a tax rate of zero. The monetary value of writing a constitution is strictly positive, as the reversion outcome in the absence of a constitution involves  $t^0 > 0$ .



#### 3.2.2 Case $w_M \leq \overline{w}$

Finally consider the case where *M* has below average effective wealth and negotiates with *R*. In that case, it is straightforward that *R* selects the status quo constitution  $c^*$  by choosing the point in *I* where the tax rate gets minimal. This case is illustrated in Fig. 4. Again, it is easy to check that this constitution is stationary. Moreover, the constitution has monetary value to the autocrat because *I* is not vanishing by Lemma 2 and, hence,  $t^* < t^0$ .

## 3.3 Other Cases

For the case of negotiations between R and L, the choice of a constitution follows the same pattern as in the case of negotiations between R and M: If the middle class has more than average effective wealth,  $c^*$  is chosen in the point in Iwhere the tax rate gets minimal (see Fig. 3). If M has less than effective average wealth,  $c^*$  is again chosen in the point in I where the tax rate gets minimal (see Fig. 4).

The same holds if a proposal in the constitutional bargaining game needs approval of all three players. In that case, any selection of  $c \in I$  leaves no proposer

with another possibility than proposing c. Hence, the autocrat selects his preferred point in I, as in the case where R and M negotiate with each other.

To complete our exposition, suppose that one party is sufficient to carry through constitutional reform. Majority rule may put one party in such a position even when the other parties can prevent her from realizing her ideal point in the conflict scenario. If the preexistence of a constitution c is necessary to prevent descent into conflict, such a constitution would at least be weakly acceptable as a template to all players and it would be strictly preferred by the player who stands to gain from the reform process. Moreover, if the dominant party selects a reform constitution within the constitutional process, it will propose its preferred point in I. The question for the autocrat of whether to write a constitution now reduces to whether the dominant party will select  $t < t^0$  in the constitutional process. This is obviously the case when either M is predicted to be dominant and fulfills  $w_M < \overline{w}$  or when R is dominant. Hence, in those cases writing a constitution creates positive monetary value for the autocrat. On the other hand, if L is predicted to be dominant, it offers M and R their reversion value which puts them in no better place than with open conflict. Hence, incentives for writing a constitution would completely vanish. The same applies to the case where M with  $w_M > \overline{w}$  is dominant. The following proposition summarizes our results:

**Proposition 7** With negotiations between M and R or between L and R or with all three players, writing a constitution always has positive monetary value for the autocrat. If there is one dominant party in the constitutional reform process, writing a constitution only has positive monetary value for the autocrat in the cases where R is dominant or an M party opposed to redistribution is dominant. If L or an M party in favor of redistribution is predicted to be dominant, the autocrat is indifferent between writing and not writing 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 default 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 acceptable 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 his 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 for which he has to abide by the constitution himself and to the gains his constituency realizes during the time when his successors deliver a preferred policy outcome. 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  $\delta$ . Even though  $(1 - \delta)$ , which increases with the time in office, may itself depend on the choice of the autocrat's constitution, we ignore the possibility of such endogeneity. If the autocrat hands down a constitution, he choose the constitution (t, x) which gives him the highest total benefit, i.e. he maximizes

$$V_R(t,x) = (1-\delta)u_R(t,x) + \delta u_R(\Gamma(t,x)).$$

If he does not hand down a constitution, his total pay off is

$$V_R(\emptyset) = (1 - \delta)u^R(0, x_R) + \delta u_R^0$$

By selecting a constitution  $c' \notin I$  which is not binding during his term in office, the autocrat can realize the same pay off as with no constitution in the initial period and a pay off  $u_R(\Gamma(c')) \ge u_R^0$  in the second period. The latter relationship follows because the successors want to choose a reform constitution  $(t, x) \in I$ .<sup>23</sup>

In all cases, where the monetary value from writing a constitution in the static model is strictly positive, there must exist a constitution which the autocrat strictly prefers writing if the weight of the future is sufficiently great:

**Proposition 8** If the weight of the future,  $\delta$ , in the autocrat's objective function is sufficiently great, there is a binding constitution which the autocrat strictly prefers to hand down in all cases where there is a positive monetary value to writing the constitution in the static model.

*Proof* The autocrat can always choose to hand down the statically optimal constitution. For that constitution, the cost of commitment  $u_R(x^*, t^*) - u_R(0, x_R)$  is finite and the benefit of commitment is strictly positive, i.e.  $u_R(x^*, t^*) - u_R(\Gamma(c' \notin I)) > 0$  if, as we have claimed, there is a positive monetary value to writing the constitution.

In all cases where there is no positive monetary value to writing a constitution the autocrat would only consider writing a constitution which is non binding during his term of office. This scenario comprises the cases where  $w_M \leq \overline{w}$  and L is dominant or bargains with M bargain and the case where L or an M party in favor of redistribution is dominant in the succeeding assembly.

Finally, even when choosing a binding constitution, the autocrat may not necessarily want to choose the stationary, statically optimal constitution. At least in those case where the statically optimal constitution does not involve choosing the point in I where t gets minimal, i.e. in the case where L is expected to negotiate with an M party opposed to redistribution, the autocrat faces a trade off between loosening the constraint during his term in office and creating stronger incentives for a low tax regime after his demise:

 $<sup>^{23}</sup>$ See the proof of Lemma 3.

**Proposition 9** In the case where L negotiates with M and  $w_M > \overline{w}$  there exists a critical weight  $\delta^*$  such that if  $\delta$  falls below that weight, the autocrat compromises on the statically optimal constitution.

*Proof* Let  $p^M$  be the probability that M proposes in the bargaining process. If the autocrat chooses the statically optimal constitution  $c^*$ , M proposes  $c^*$  and Lproposes  $c^*$ . Now suppose that the autocrat chooses a constitution with a slightly smaller tax rate such as z in Fig. 1. In that case, M continues to propose  $c^*$ , so the autocrat gets  $t^*$  with a weight of  $p^M \delta$ . If L proposes, she proposes t'|(t', x') in the intersection of  $m_z$  and the contract curve.  $t' > t^*$ , hence the outcome is worse for Rand it is weighted with  $(1 - p^M)\delta$ . However,  $t^z < t^*$ , hence by choosing z, the autocrat realizes a better outcome with a weight  $(1 - \delta)$ . Hence, for  $\delta \to 0$ ,  $c^*$  results in a higher value of  $V_R$  and for  $\delta \to 1$ , z results in a higher value of  $V_R$ .

Obviously, for very small  $\delta$ , the autocrat may not want to hand down a constitution. Therefore, the critical weight  $\delta^*$  only becomes relevant if the distance between  $t^0$  and the statically optimal constitution  $c^*$  is sufficiently large to induce the autocrat to write a constitution given  $\delta^*$ . The following proposition generalizes this insight on the desirability of writing a constitution:

**Proposition 10** *The greater the power of* R *in the transition scenario and, hence, the smaller*  $t^0$ *, the less value writing a constitution has.* 

*Proof* In all cases where there is a monetary value of writing the constitution, the dynamically optimal constitutional choice *c* is independent of  $t^0$ . Hence, *R*'s benefit of writing a constitution,  $u_R(\Gamma(c)) - u_R(t^0)$  is increasing in  $t^0$ , i.e. the smaller  $t^0$ , the smaller the benefit. Finally,  $u_R(\Gamma(c)) \le u_R(t^0)$ , hence the benefit must vanish as  $t^0 \to 0$ .

# **5** Application to Different Experiences of Political Transition

From our analysis two hypotheses emerge.

- If an autocrat expects that his own clientele will have influence on a succeeding constitutional assembly, he generally has incentives to write a constitution, although those incentives vanish if he expects that parties opposing redistribution will be able to impose their preferred policy without the left being able to object.
- 2. If an autocrat expects that his own clientele will have no influence on a succeeding constitutional assembly, he only has strong incentives to write a constitution if he expects that the middle class prefers a low redistribution policy.

In the case of the Chilean constitutional project, it seems plausible that the conditions for constitution writing in hypothesis 1—negotiations between the right and the middle class under a sufficiently strong perceived threat by the left—have been met or were believed to be met by the autocrat. That the left would not in a formal sense be involved in negotiations over a successor constitution was plausible from the point of view of the old regime because it did its utmost to keep it outside the political process. As it turned out, a substantial part of the left also objected to accept the constitution as a vehicle towards political reform.<sup>24</sup> If one accepts that one rationale of the Pinochet regime for embarking on the constitutional project was to build a bulwark against communism, as suggested by Montes and Vial (2005), the possibility of a left-wing threat must have been on the mind of the authors of the constitution. Protest movements such as the one led by copper miners in 1983 (see Collier and Sater 1996) and the so-called "protesta" movement which involved members of privileged, middle and working class (see O'Donnell and Schmitter 1986) must have reminded the junta of such a lingering threat.

An interesting question which remains is which the influence of middle class wealth has been in the case of Chile's successful constitutional transition. The moderation which the parties of the concertación showed in the transition process suggests that redistribution was not on the mind of the middle class which it represented. In an accompanying paper we discuss the relationship between middle class wealth and stable transition in the Chilean case in greater depth (Michalak and Pech 2012).

It is more difficult to see to which case the Egyptian transition corresponds. The Muslim brotherhood, with its social welfare goals probably best fits the description of leftist in the context of our model. On the other hand, the often secular groups which started the street protests voiced aspirations which are more compatible with a middle-class mind set with an emphasis on improvement of opportunities rather than the redistribution of existing wealth. Moreover, Egypt's Gini coefficient is lower than Chile's and the wooing of the presidential candidate of the right for the voters of this "middle class" further supports the view that Egypt best fits the case of a country with a middle class opposed to redistribution. This would give the autocrat strong incentives to write a constitution provided that he expects that the constitutional reform process takes the form of multiparty bargaining. If, on the other hand, the expectation is that the Muslim brotherhood plays a dominant role in the constitutional reform process, there is no value at all to writing a constitution.

Therefore, the prediction of our model critically depends on the prior about the bargaining strength of the different players in negotiating constitutional reform. In the case where the Muslim brotherhood is expected to be dominant, we predict that no constitution will be handed down. In the case where multiparty bargaining is expected to take place, we predict a constitution will be handed down which might be significantly amended in the bargaining process. Moreover, there are reasons why the monetary value of constitution writing may be low even when the expectation is multiparty bargaining: The autocrat may predict the military to be a strong player with significant power to enforce a high default outcome in any transition process or he may predict a long time horizon of his rule. In these cases he would have been reluctant to chose a constitution which binds his own actions. Finally, it is unclear

<sup>&</sup>lt;sup>24</sup>For a dissenting view see Tapia (1987).

how to interpret the fact that the constitution was formally revoked even by those players who would have stood to benefit to the extent that they expected to have a share in future bargaining over reform. An orthodox interpretation of this fact would be to say that non compliant constitutional practice during the autocracy turned out to be a bar to acceptability. However, our model suggests a second interpretation which is more in line with the observation that the property order established under the constitution was kept in place. This observation would correspond to the case of stable constitutional transition but with major amendments.

We lack observations where constitutional succession was tried in the face of a middle class supporting redistribution. On the other hand, our model predicts that such cases would be rare to observe. What our model highlights, though, is the importance of established property rights as an element of constitutional arrangements which the autocrat wants to protect. This may shed a light on the failure of stable constitutional transition in the case of former communist countries. This was not completely for the lack of trying because at least in the case of Poland we observe a transition through pact between the old and incoming power (see Munck and Leff 1997). However, in the case where a new constitution has to legitimize an emerging property order, the stakes are quite different from the cases discussed in this paper. Indeed, it will be more important for emerging property owners—often members of the former nomenclature—to secure their share in the emerging property rights before they can think about securing those property rights within a constitutional compact.

# 6 Further Discussion

The main lesson which emerges from the model and the preceding discussion is that handing down a constitutional compact offers benefits to the autocrat's clientele in almost all cases where multiparty bargaining is expected during the transition process: If a constitution is accepted by its successors, it provides insurance against being excluded from transition bargaining as long as the middle class is opposed to redistribution and improves the bargaining position of the clientele relative to representatives of other classes. There is no such benefit if during transition one party is able to impose its preferred outcome. This suggests that there are economic and political conditions which facilitate successful constitutional transition. If the middle class is sufficiently wealthy to oppose redistribution, it serves as a natural proxy for the autocrat's clientele during the transition process. Furthermore, only if society is sufficiently heterogeneous such that there are different groups with diverging interests which find it necessary to reach compromise in the transition process is there a role to play for any inherited constitutional template. The latter point suggests that transitions such as in Poland or in South Africa where Solidarnocz and the ANC emerged as main players were less open to be manipulated by autocratic constitutional choice than the transitions discussed in this paper.

# Appendix

In this appendix we show that in the case where L and M bargain and  $w_M > \overline{w}$ the contract curve is vertical for 0 < t < 1. For convenience, we define the income gap of each group relative to average available income as  $\Delta_M = w_M - \overline{w} \leq 0$ ,  $\Delta_L = w_L - \overline{w} < 0$  and  $\Delta_R = (1 - \gamma)w_R - w > 0$ . For 0 < t < 1, M's proposal  $P^{M \to L} = (t', x')$  given  $c = (t^*, x^*)$  solves the con-

For 0 < t < 1, *M*'s proposal  $P^{M \to L} = (t', x')$  given  $c = (t^*, x^*)$  solves the constrained optimization problem

$$\max\left[v_M(x) + (1-t)w_M + t\overline{w}\right] \quad \text{s.t. } v_L(x) + (1-t)w_L - t\overline{w} \ge u(t^*, x^*).$$

Writing  $\mu(x') = \frac{\frac{\partial v_M(x')}{\partial x}}{\frac{\partial v_L(x')}{\partial x}} \le 0$ , the first order conditions for an interior solution of this problem, x' satisfies

$$\mu(x') = \frac{\Delta_M}{\Delta_L} \tag{3}$$

and the tax rate is determined as the residual satisfying

$$t' = \frac{v_L(x^*) - v_L(x')}{(-1)\Delta_L} + t^*.$$
(4)

At  $x^M$ ,  $\mu(x^{M \to L}) = 0$  and at  $x^L$ ,  $\mu(x^{M \to L}) \to -\infty$ . By continuity of  $\mu$ , a solution x' satisfying the first order conditions uniquely exists with  $x' \in [x^M, x^L)$ . As  $\frac{\partial v_M(x')}{\partial x} = -2|x' - x_M|$  and  $\frac{\partial v_L(x')}{\partial x} = 2|x' - x_L|$ , x' only depends on the ratio  $\frac{\Delta_M}{\Delta_L}$ . By construction, x' is the policy level which is Pareto-optimal for L and M. Call this policy realization  $x^e$ . It is easy to show that L, when proposing to M selects the same policy  $x^e$ .

The optimal proposal can be interpreted as follows:  $x^e$  is the policy which would maximize the joint pay off for *L* and *M* given that transfers between *M* and *L* can only be achieved through the linear tax system:  $\frac{\Delta M}{\Delta L}$  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.<sup>25</sup> 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  $t \in (0, 1)$ .<sup>26</sup>

<sup>&</sup>lt;sup>25</sup>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  $\frac{w^M + (w^M - w^L) - w^R}{w^L - (w^M - w^L) - w^R}$ .

<sup>&</sup>lt;sup>26</sup>If  $\Delta^M / \Delta^L = -1$ , we obtain the familiar policy choice rule of selecting *x* half way between the bliss points, see e.g. Baron and Diermeier (2001).

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