

Endogenous Parliamentarism

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Abstract

What are the factors driving the choice of the form of government? To address this question, the paper presents a theoretical model of the choice of form of government. This rational-choice model includes a constitutional as well as a political stage and is in that sense similar to the model of Robinson and Torvik (2012). The main difference between the models is the reversed order of the constitutional and political stages. While the order of Robinson and Torvik (2012) is more suitable for constitutional change, starting with the constitutional stage as a first step makes the model more suitable for situations of constitutional choice. So far, it has been argued that higher income inequality makes a parliamentary system less likely. In this article, the likelihood of a parliamentary system changes with the level of income inequality, but the direction of that change depends on institutional details such as the composition of the constitutional assembly. This result is thereafter analysed using the case study of five former Soviet republics after the breakdown of the Soviet Union.

Keywords: Constitutional Choice, Parliamentarism, Presidentialism, Political Rent, Constitutional Assembly, Soviet Union

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1 Introduction

After the uprising of the Arab Spring in Egypt, one of the first popular demands was to draft a new constitution. This process was seen as one of the keystones to ensure a stable democratic rule in Egypt. However, the actual drafting and ratifying of the constitution led to several discussions and protests. The constitutional assembly suffered from a lack of inclusion of minorities in the process. This led to a lop-sided constitution and contributed to popular uprising in 2013, followed by the military leadership taking over power and suspending the constitution. Looking at this case, it appears that the composition of the constitutional assembly is an important factor for the shape and the success of the final constitution. Furthermore, the case illustrates that popular uprisings are a perennial threat to governments. This threat can be amplified or might be caused through a constitution with a low level of legitimacy.

The questions that arise from the situation in Egypt are the following: why does a society choose a particular constitution? which factors contribute to this choice and what role do the constitutional assembly and the civil society play? It is hard to analyse constitutions as a whole since they consist of many distinct features. Therefore, it can be useful to start by looking at only one constitutional feature at a time and see whether it is possible to draw conclusions of general relevance from the analysis of this feature. One logical starting point for this research question is the form of government.

The reason for asking why a certain form of government is chosen is further motivated by the research in the field of positive constitutional economics. Many researchers have contributed to the examination of the economic effects of constitutions¹ especially since the seminal contribution by Persson and Tabellini (2003). The authors find that the form of government has economically (and statistically) significant effects on several indicators of economic performance. The central government spending in a presidential system is approximately 6% of GDP lower compared to parliamentary systems, while the welfare state is also between 2 and 3 % smaller. In light of these findings, most economists agree that constitutional features, including the form of government, can have important

¹For a detailed overview of this more recent literature see Voigt (2011)

economic effects. However, the question of why societies choose a form of government in the first place remains open and is the key motivation for this paper.

Before starting with the analysis itself, it is important to be clear on the distinction between the different forms of government. Two main forms of government can be distinguished, namely presidential and parliamentary systems. Following Lijphart (1999), three main elements which differentiate the two systems can be identified. First, while the head of government in a presidential system (president) is elected for a given period and cannot be removed from his position under normal circumstances, the head of a government in a parliamentary system (prime minister) requires the constant support of the legislative assembly due to the possibility of a vote of no confidence. Second, the election of the president is either direct (e.g. in France) or indirect (e.g. in the US) through a popular vote, whereas the election of a prime minister is through a vote in the legislative assembly. Third, there is a difference between the two systems with respect to the person in the executive. Parliamentary systems have collegial or collective executives, whereas presidential systems have non-collegial executives. This distinction refers to the power that the president or prime minister have with respect to their cabinet. While the cabinet is directly accountable to the president, the prime minister does not wield the same level of power over his cabinet and has to consult them for the most important decisions.

In the course of this paper, the main distinction between the presidential system and the parliamentary system lies in the different levels of political power which the head of government has. This distinction is in line with the three diverging elements from the definition of Lijphart (1999), but is different from the definition used in the model of Persson et al. (1997).² The additional checks and balances from the stricter horizontal separation of powers in a presidential system are not modelled here. The reason for this difference is the diverging levels of power presidents wield across the world. Many presidents in Latin America or Africa do not contribute as a check on power, but concentrate most of the political power in their office (cf. Robinson and Torvik, 2012). This view also holds true for the power of the president in Egypt, who for example was able to set an extremely short time frame for the process of constitutional drafting. From this perspective, this paper

²The definition of Persson et al. (1997) resembles an US-type of presidential system instead.

resembles the contribution by Robinson and Torvik. However, this paper differs from their contribution in the way the model is set up. These differences will be further discussed in section 3. The main influence factors for the model in this article are the level of income inequality within the society, the cost of taxation and the level of political rents that are obtainable under the different regimes. A further influential factor is the composition of the constitutional assembly, which has also shown its relevance in the example of the new Egyptian constitution.

In a more general way, the decision between the two different systems is also a matter of how much the prospective government values the ability to constrain itself. Both systems differ in the amount of political rents that are obtainable for the government. It has been argued before that a government that is strong enough to enforce property rights is also strong enough to expropriate (cf. Weingast, 1993), which has been coined the "dilemma of the strong state" by Dreher and Voigt (2011). In this article, the dilemma is rather one of taxation and abuse of tax money. A head of government that is able to raise more taxes for redistribution is at the same time also powerful enough to abuse more of that money for private benefits. Hence, the choice between the different systems resembles the question whether the politicians want to credibly constrain their extractive capacities.

To test the predictions of the model empirically, a natural experiment with many countries simultaneously choosing new constitutions would be helpful. An experiment resembling this ideal scenario is provided by the breakdown of the Soviet Union and the subsequent constitutional choice in the former Soviet republics. All successor states of the Soviet Union choose a new constitution within a few years and 14 of the 15 states opted for new constitutions.³ This unique setting provides with a nearly similar constitutional choice situation in those countries, which for all countries can be explained by the same event. Furthermore, the setting significantly reduces the endogeneity problem and allows for better comparison between the countries. To make use of this experiment, five successor states from the European part of the former Soviet Union are analysed in more detail with regard to their constitutional choice and the effect of the constitutional assembly and income inequality on the choice of form of government.

³Only Latvia reverted to the 1922 constitution after a political stalemate.

For policy recommendations, two further steps are required. First, it is helpful to understand why societies opt for a certain governmental system and which underlying factors are influencing this decision. This knowledge prevents policy makers in the context of legal transplants from implementing a form of government that does not complement the society for which it is supposed to be beneficial. Second, once the evolution and the economic effects of the form of government are better understood, normative constitutional economics can provide policy makers with recommendations on the most beneficial form of government in a given situation. This paper attempts to shed some more light on the first step.

The next section presents a short overview of the literature in the field. This is followed by the setup of the basic model. After solving the model and providing a sensitivity analysis, a case study on the constitutional choice of the former Soviet republics is conducted. A final section concludes.

2 Literature Review

Before looking at the existing economic approaches to the choice of form of government, it is informative to shortly discuss what the literature in other fields has contributed to the discussion so far. Political scientists, like economists, have so far dealt mainly with the question of the (political) effects of presidentialism and parliamentarism⁴ and not given the underlying factors for the choice of form of government a lot of attention. One exception is (Cheibub, 2007, pp.152), who argues that historical coincidences and institutional stickiness are the main reason for the initial choice and prevalence of presidentialism in Latin America. This contribution shows that path dependency might play an important role in the choice of form of government. For legal scholars, the main interest in the discussion on the choice of form of government appears to be the underlying procedural rules in process of constitutional choice and not the explanation of the outcome of this constitutional choice(cf. Klein and Sajo, 2012, who focus on process and substance of

⁴The main debate in political science has been concerned with the question of the inherent political stability of presidential and parliamentarian systems as well as their main advantages and drawbacks, see for example Linz (1990); Horowitz (1990).

constitution-making). Altogether, it can be argued that the question of what drives the choice of form of government has not been satisfyingly answered in other disciplines either.

With regard to the existing economic literature, it is useful to discuss the contributions in some more detail. So far, only a handful of papers have explicitly tried to endogenize the constitutional choice of the form of government. The first contribution to endogenize the form of government is Aghion et al. (2004), which asks how insulated the leader in a political system should be, where insulation is used to measure unchecked power. The more insulated a political leader is, the larger is his unchecked power. While a high level of insulation allows the leader to undertake beneficial reform policies more easily, it also allows him to expropriate citizens. This dilemma is central to answer the question of how insulated a leader should be. Their main results follow if risk aversion and polarisation or fragmentation are taken into account.

In a more polarised society, the predicted effect on the level of insulation depends crucially on the level of risk aversion. If citizens are more risk averse, they prefer a lower insulation even under a veil of ignorance regarding the position of their group in society to avoid being expropriated. On the other hand, if citizens are less risk averse, the benefits of easier beneficial reforms are greater than the expropriation risk and citizens prefer a higher level of insulation *ex ante*. If one lifts the veil of ignorance and assumes that a minority group is able to write the constitution and will come into power once the constitution comes into force, this should also lead to higher insulation. This can typically be found in an autocracy, where the ruling class is setting up a constitution with the aim to further strengthen its power.

Using these results and taking the weak property rights in many developing countries into account, the authors argue that this might be one of the reasons for institutional failure in developing countries. These societies are left with the aforementioned choice of high insulation, which tempts the leader to turn into a dictator and expropriate the citizens, or low insulation, where socially beneficial reforms are easily blocked by a minority.

Nevertheless, there is a case for doubting the strength of the direct link from the form of government to the insulation of a leader. Insulation can not only be achieved through

the form of government, but also through other political institutions such as federalism or an independent judiciary. Therefore, the effects of insulation might be combining multiple constitutional features at the same time and not exclusively the form of government.

Hence, looking at the form of government from a different angle might offer valuable insights. Robinson and Torvik (2012) set up a model based on a society divided into two main groups, out of which one forms a majority. Both groups differ in their appreciation of public goods and in their ideological perspective⁵. Some citizens of these groups run exogenously motivated for office and are elected under the rules of either a presidential or a parliamentary setting. The politicians decide upon the public good provision and the political rents extracted by voting in parliament after the election. However, in a parliamentary system, the vote consists of three parts. First, the prime minister proposes a ruling coalition and in a second step, he proposes the amount and type of public goods provided. If either of these two votes in parliament is lost, the prime minister loses power and a new government needs to be formed. The third step is the distribution of political rents, which is proposed by a rent agenda setter who is randomly drawn from within the ruling coalition. If the proposal of the rent agenda setter fails to receive a majority, then the rents are distributed evenly across all politicians in parliament. Through this multi-step process, the increased power of members of the ruling coalition under a parliamentary system is modelled.

Looking at this procedure, the main result of the paper is straightforward. While the president is the residual claimant of the rents and has full agenda setting power, the prime minister can only determine the absolute amount of rents (through his public goods provision proposal), but cannot affect the distribution. Hence, a presidential system should see a lower level of public goods and a higher level of political rents.

Now, constitutional changes can be proposed by the chief of the executive after the levels of public goods and political rents are determined. Generally speaking, politicians prefer to be a member of the ruling coalition in a parliamentary system because they can extract higher personal rents. However, since it is possible that the parliamentary solution might

⁵Therefore, they get a higher utility simply from having a member of their group in power if the ideological preference is stronger.

bring a prime minister or a rent agenda setter from the other group, a strong ideological preference might tilt them to favour a presidential system. Additionally, if there is a large conflict with regards to public goods (e.g. high income inequality), politicians also prefer a presidential system.

The model presented above offers a valuable insight into the decision of parliamentary versus presidential system. Nevertheless, some weaknesses can be identified. The timing of the model starts with elections under the current system. Hence, this starting point is not feasible in the aftermath of a conflict or war, when the old constitutional rules have broken down. This drawback illustrates the need to include the constitutional choice as the first stage of the game.

3 Model

Following the discussion of the literature in the previous section, a multi-stage model of constitutional choice is set up. The model in this section draws its main inspiration from the book by Acemoglu and Robinson (2006), the article by Aghion et al. (2004) and the article by Robinson and Torvik (2012). The first contribution endogenises the choice of democracy versus dictatorship and thereby offers a tractable framework, the second contribution included a model which started with a constitutional stage and the third contribution was the first to include an explicit choice of the form of government as well as political rents in a formal way. However, all three models are by themselves not sufficient to give a complete picture of the choice of form of government. The book of Acemoglu and Robinson (2006) focusses on a different topic and the paper of Aghion et al. (2004) could measure multiple constitutional features at the same time. Despite being closest in approach to the model in this paper, the contribution of Robinson and Torvik (2012) does not model the constitutional assembly explicitly and thereby cannot capture the potential effects of differences in the composition of the constitutional assembly.

One can identify four main differences between the paper of Robinson and Torvik (2012) and this paper. First, the stage of constitutional choice is explicitly modelled in this paper. In the contribution of Robinson and Torvik, constitutional change is only possible

at a later stage of the model. This setup does not allow to analyse constitutional choice when a new constitution needs to be introduced, which is why the model in this paper chooses a different approach. Second, in the model of Robinson and Torvik, the citizens can constrain the politicians only through their vote. To allow for an explicit constraint outside of the formal political system, i.e. the threat of a violent uprising, a revolution constraint is included in this paper. Third, the political process within the two different systems is more fine-grained in the contribution of Robinson and Torvik. These elements are left aside in this paper to keep the model tractable. Fourth, the distinction between politicians and political leaders which is made by Robinson and Torvik is dropped in the model presented in this paper. Again, this is mainly for analytical simplicity in the baseline model.

Before setting up the model, a final note of caution is required. One of the main results in the paper of Robinson and Torvik (2012) has been that higher political rents can be obtained in a presidential system. In the light of the earlier discussion, a parliamentary system is thus better able to constrain the extraction of political rents. Throughout the model presented here, this result is assumed to hold to make a comparison of the results simpler. A more in-depth discussion of this assumption, as well as of other simplifying assumptions of the model, is carried out in section 5.1. Taking this assumption as given, the model can be set up.

3.1 Setup

The players in the game can be distinguished among two characteristics. First, individuals differ in terms of their income and can either be rich or poor. The incomes of the rich and the poor are $Y_r > Y_p$, respectively. Hence, total income Y can be defined as $Y_r + Y_p$. Second, each individual belongs to an exogenously determined class, namely either the political class (Z) or the citizen class (X). The difference between the two classes consists in the ability of the political class to decide on the constitution as well as run for office, while the citizen class can only contribute to the political game in the general election. The main difference between politicians in office and all other players is the ability to extract political rent. Political rent in the context of this paper can be seen as the ability to use

government budget for private benefits. These private benefits can come in the form of direct extraction of funds, but also in more indirect forms such as for example Nepotism.⁶

After the main characteristics of the players have been laid out, the policy options for the political class in this game requires some discussion. The only policy options available for the government in power are redistributive politics. This assumption excludes the provision of public goods such as defence, which might be mutually beneficial for all individuals. While redistributive taxation is clearly a situation with winners and losers, public goods provision can be seen as a Pareto improvement and thereby changing the nature of the game. However, the reason for setting up the model this way is to highlight the inherently conflictual nature of the political game between rich and poor (cf. Acemoglu and Robinson, 2006).⁷

It is hereafter assumed that the members of the political class with an initially low income Y_p , hereafter left-wing politicians, have a more favourable view on redistributive policies than the members of the political class with an initially high income Y_r , hereafter right-wing politicians. Hence, a total of four different types of players exist (Rich citizen, poor citizen, right-wing politician, and left-wing politician). It is conjectured that citizens are more numerous than the politicians (i.e. $n_X \gg n_Z$) and that there are more poor citizens than rich citizens (i.e. $n_{X,p} \gg n_{X,r}$). No such assumption is made for the political class.

3.1.1 Utility Functions

The utility of the individuals depends on the income tax rate τ , the extraction of political rents λ as well as their initial income Y_i . For simplicity, two different utility functions are introduced. The first one applies for all citizens and the subset of politicians who are

⁶This model assumes only direct extraction of government funds.

⁷Even assuming that the Pareto optimal level of public good provision is known to all players, there would still be conflict about the amount of public goods provided. This conflict is due to the fact that with proportional taxation the rich pay a larger part of the costs of public goods than the poor. Using the Kaldor-Hicks criterion to assess these different preferences, the preferred level of the poor would lead to an oversupply of the public good, while the preferred level of the rich would lead to an undersupply of the public good (Persson and Tabellini, 2000). Therefore, the poor would prefer a higher level of public good provision than the rich. Hence, the assumption that only redistributive taxation is a policy option is used to highlight the conflict about the amount of public spending. While extending the model to include public goods is feasible, it is for this reason not included in the baseline model.

currently not in the government and the second one applies for the subset of politicians who currently form the government.

$$U_X(Y, \tau, \lambda_i) = (1 - \tau)Y_i + (1 - \lambda_i)(\tau - c(\tau))\bar{Y} \quad (1)$$

Here, the first term represents the individual income after taxation, while the second term represents the lump-sum transfer made from the government budget. The height of the redistribution is negatively affected by the magnitude of political rents(λ_i) - where the superscript i indicates the two different forms of government - extracted by the government as well as the cost of taxation ($c(\tau)$).

The cost of taxation represents the increasing marginal costs of tax collection. This marginally increasing cost has been termed "leaky bucket" of taxation by Okun (1975). Following Acemoglu and Robinson (2006), this cost includes the cost of administering the tax collection as well as the costs of setting up a bureaucracy. In the remainder of this paper, the functional form of $c(\tau) = k * \tau^2$ will be adopted. In this representation, k is between 0 and 1 and measures the effectiveness of the tax system. The lower k , the more effective is the tax system.

The utility of politicians depends critically on whether or not they are in office. If they are not in office, their utility function is identical to the citizens utility function. However, if they are in office, they can profit from the opportunities of political rent extraction. This distinction is shown in the following utility function.

$$U_Z(Y, \tau, \lambda_i) = \begin{cases} U_X(Y, \tau, \lambda_i) & \text{if not in government} \\ U_X(Y, \tau, \lambda_i) + \alpha \lambda_i (\tau - c(\tau)) \bar{Y} & \text{if in government} \end{cases} \quad (2)$$

where α is assumed to be larger or equal to one and represents the expected share of the political rents for each government member.⁸ While the first two terms are identical to the

⁸Note that α is not explicitly defined here. However, assumptions about the effects of four factors on α can be made. First, it is decreasing in the ratio of government members to total population, since the total political rents would have to be shared among a larger group. Second, it is decreasing in the level of risk aversion of the politician. This effect is incorporating the fear of losing their position due to an uprising of the citizens. Third, it is decreasing as the costs of obtaining political rents increase. This effect captures

utility function presented above, the third term represents the expected political rent for each member of the government.

To express the situation where a politician is not *a priori* certain whether or not he will be in office⁹ even if his class will be the ruling class, the notion of expected share of political rents $E[\alpha]$ will be introduced. This situation is for example the case at the stage of constitutional choice due to the assumption that there are less offices in government available than the number politicians of either class.

$$U_Z(Y, \tau, \lambda_i) = U_X(Y, \tau, \lambda_i) + E[\alpha]\lambda_i(\tau - c(\tau))\bar{Y} \quad (3)$$

3.1.2 Strategy spaces

Politicians have two distinct choices in the course of events. First, they choose which form of government to establish under the constitution. Their two options are either a presidential system (*pr*) or a parliamentary system (*w*)¹⁰. The main difference between the two systems is that the president has more power at digression than the prime minister.¹¹ Therefore, in the presidential system the political rents extractable are higher.¹² Second, conditional on being in government, they can set the tax rate τ , which can take values from 0 to 1.

$$Gov \in pr, w \quad (4)$$

$$\tau \in [0, 1] \quad (5)$$

Citizens have only one distinct choice, namely the vote that they cast in the general elections. In this version of the model, the revolution constraint is exogenous to the

the necessary costs to extract political rents from the redistribution budget. Forth, it is decreasing in π , again due to the assumption that government members are risk averse.

⁹Hence, he is uncertain in which of the above mentioned cases he will end up

¹⁰The index w is chosen since the parliamentary form of government is often directly associated with British parliamentarism and the Westminster.

¹¹following Robinson and Torvik (2012)

¹²A more in-depth discussion of this assumption is carried out in section 5.1.

strategic choices of the citizens. Endogenising the revolution constraint offers possibilities for future research.

3.1.3 Timing

The timing of the different stages of the model is as follows:

1. The political class decides upon the constitution; i.e. the form of government
2. All citizens and politicians cast their vote in the general election
3. The new government constitutes itself and sets the tax rate τ
4. Citizens revolt with a given probability conditional on the chosen form of government and the tax rate set

This structure of the model is the key difference when compared to Robinson and Torvik (2012), who start their model with general elections and only subsequently introduce the option of constitutional change. By moving the stage of constitutional choice to the beginning in this model, the importance of the constitutional assembly and its composition can be highlighted. Additionally, the model in this paper is able to deal with situations which start without a constitution in place, while Robinson and Torvik (2012) need a form of government in the beginning under which the elections are held.

Furthermore, the introduction of the revolution constraint in the final stage of the model makes the constraints explicit which politicians face in office due to potential public uprisings. This addition allows for the incorporation of social norms and social capital, which are nevertheless left for future extensions of the basic model presented here. For now, the revolution constraint remains exogenous.

3.2 Solving the Model

Following the timing of the stages of the model presented above, it can be solved using backward induction. The advantage of using backward induction in this scenario is that

each decision is taking into account what will be happening at latter stages of the game. Therefore, we start with the last stage of the game, i.e. the revolution constraint.

3.2.1 Revolution Constraint

Citizens can decide whether or not to take action against the government after the outcome of the political game has been realised and the government has chosen the tax rate. If an uprising takes place, the citizens replace the political class and expropriate the political rent from them.¹³ The probability of an uprising of the citizens depends on two factors set during the constitutional and political stages, namely the tax rate set in stage 3 and the ratio of political rents extracted, which depends on the constitutional choice in stage 1.¹⁴ Additionally, the ability of the civil society to organize itself and the personal costs of risking a revolution enter the constraint through the factor β .¹⁵ From a theoretical point of view, the inclusion of both, monetary aspects and collective action, in one constraint is a reaction to the critique of Apolte (2012) on the approach to revolutions taken in Acemoglu and Robinson (2006). While Acemoglu and Robinson base their revolution constraint on income inequality, Apolte argues that inequality might be a necessary condition for a revolution, but as long as the collective action problem in society remains unsolved does not suffice for a revolution to start. Hence, combining both approaches is justified in the light of this theoretical debate.

The probability of a revolution is given by

$$\pi = \beta(\tau - \tau_*)^2 \quad (6)$$

Here, β is bound between 0 and 1 and increases if revolution is less costly to the individuals or the degree of civil organization is higher. τ_* represents the tax rate that would

¹³Note that this assumption represents a very mild kind of punishment for the elites. Furthermore, citizens treat cost of taxation in the same way as they treat the extraction of political rents. Together, these two assumptions make the revolution constraint a lower baseline case and the tax rates in the model will therefore be much higher than what we would expect to see in reality.

¹⁴Since the tax rate is driven, among others, by the political rents, only the tax rate enters directly into the revolution constraint.

¹⁵The lower the degree of civil organization and/or the higher the personal costs of a revolution, the lower is β

maximize the poor citizens' utility function. The use of the functional form presented above represents the marginally increasing probability of a revolution if the differences in preferred tax rates grow.

After introducing the revolution constraint, the analysis can progress by looking at the choice of tax rate.

3.2.2 Choice of Tax Rate

To analyse the choice of the tax rate, one needs to look at the utility of the politician in office with respect to the tax rate. The utility function of the politician in office, using the results of the last section and including the revolution constraint, is as follows:

$$U_Z = (1 - \tau)Y_i + (1 - \lambda_i)(\tau - c(\tau))\bar{Y} + (1 - \pi(\tau))\alpha\lambda_i(\tau - c(\tau))\bar{Y} \quad (7)$$

For the purpose of this article, the relevant questions with regard to the tax rate are whether the level of initial income¹⁶ or the choice of form of government (in this model represented by the rate of political rent extraction) have an effect on the chosen tax rate and if so which sign these effects have. This kind of questions can be answered using monotone comparative statics (Milgrom and Shannon, 1994). Monotone comparative statics allow to see whether a change in one of the parameters of interest (rate of political rent extraction and income) has an effect on the choice variable (the tax rate).

For the two parameters here, the two hypotheses would be (1) that a higher level of initial income of the politician in office reduces the chosen tax rate and (2) that a higher rate of political rent extraction reduces the tax rate. The reasoning behind the second hypothesis is that citizens will gain less from redistribution if a larger part is used for political rent extraction. In this case, they are more likely to start a revolution at a given realised tax rate (since their preferred tax rate decreases if the gains from redistribution decrease). If this reasoning is correct, an utility maximizing politician might reduce the tax rate to balance the gains from higher political rents and the risks of a revolution.

¹⁶While keeping the average income constant

To formally check whether these hypotheses hold true using monotone comparative statistics, the following conditions need to hold:

$$(a) \frac{\partial^2(-U_Z)}{\partial\tau\partial Y_i} > 0 \quad \text{and} \quad (b) \frac{\partial^2(-U_Z)}{\partial\tau\partial\lambda} > 0 \quad (8)$$

Solving this equations using (7) leads to

$$(a) \frac{\partial^2(-U_Z)}{\partial\tau\partial Y_i} = 1 \quad (9)$$

$$(b) \frac{\partial^2(-U_Z)}{\partial\tau\partial\lambda} = (1 - 2k\tau)\bar{Y}[1 - \alpha(1 - \pi)] + \alpha\bar{Y}[(\tau - k\tau^2)\frac{\partial\pi}{\partial\tau}] \quad (10)$$

While (a) is always holding and thereby confirming the earlier stated hypotheses, (b) requires further analysis.

The first part of the right-hand side of (b) is positive if $1 - 2k\tau$ and $1 - \alpha(1 - \pi)$ are both positive or both negative. First, for $1 - 2k\tau$, a very high tax rate would be require to let the expression get negative. However, since this would also assume a very high cost of taxation, these tax rates are not chosen by the politicians and hence it can be assumed that $(1 - 2k\tau) > 0$.¹⁷ Second, for $1 - \alpha(1 - \pi)$, this expression is only positive if $\frac{1}{1-\pi} > \alpha$. This condition holds in two scenarios. The first scenario is an environment where the probability of an uprising is low, but α is also low. This low α can be due to a high level of risk aversion of the politicians or a high cost involved in extracting political rents. The second scenario combines a high α with a high *ex ante* probability of an uprising. In both of these scenarios, politicians would react to a larger rate of rent extractions with a reduction in tax rates. Whether the assumption $\frac{1}{1-\pi} > \alpha$ holds in practice is an empirical question, which offers scope for future research. For the remainder of this analysis, it will be assumed that this assumption holds.

¹⁷Even if the sole aim of the politicians would be tax revenue maximization, they would choose $\tau = \frac{1}{2k}$. This is the extreme case and it can safely be assumed that $\tau < \frac{1}{2k}$.

Hence, the following two conclusions with regard to the tax rate under the given assumptions can be drawn:

1. τ will be higher if a left-wing politician is in office, *ceteris paribus*
2. τ will be higher under parliamentarism, *ceteris paribus*

3.2.3 Election of Government

Taking into account the results of the last section, it is now possible to analyse the voting behaviour in the election of the government. In the model with only two classes of citizens, the median voter will always be a poor citizen (Recall the assumption that there are more poor than rich citizens).¹⁸ Other than the rich citizens, poor citizens are in favour of a positive tax rate as long as their benefits from redistribution are larger than their share of the burden of taxation. The maximization problem for the poor citizens is as follows:

$$vote = \begin{cases} \text{right-wing if } U_x(\tau_r) > U_x(\tau_l) \\ \text{left-wing if } U_x(\tau_r) < U_x(\tau_l) \end{cases} \quad (11)$$

Here, τ_r represents the tax rate a right-wing politician would choose and τ_l the tax rate a left-wing candidate would choose. To express this situation more formally, the utility functions as spelled out above can be employed. Hence, the poor citizens choose the right-wing politician if

$$(1 - \tau_r)Y_p + (1 - \lambda_i)(\tau_r - c(\tau_r))\bar{Y} > (1 - \tau_l)Y_p + (1 - \lambda_i)(\tau_l - c(\tau_l))\bar{Y} \quad (12)$$

Simplifying equation (12) and using $(1 - \theta) := \frac{Y_p}{\bar{Y}}$, one arrives at

$$\frac{2(1 - \theta)}{1 - \lambda_i} - 1 > \frac{k\tau_l^2 - k\tau_r^2}{\tau_l - \tau_r} \quad (13)$$

¹⁸A situation with asymmetric political power, where the median voter will be a rich citizen, is analysed in the appendix.

Since the right-hand side of the equation is always positive, the left-wing politician is always preferred if the left-hand side is smaller than zero. Rewriting this formula, one can see that as long as $2\theta - \lambda_i > 1$, the left-wing politician is always preferred. The interpretation of this relation is as follows: since a higher level of income inequality¹⁹ fuels the conflict with regard to redistribution, a poor citizen is more likely to favour a higher tax rate and, hence, the left-wing politician. However, since the tax revenue is also used for political rent extraction, a higher level of political rents makes redistributive taxation less attractive for the poor citizens and they are more likely to favour a lower tax rate and, hence, a right-wing politician.

Assuming that $\lambda_i > 2\theta - 1$ holds, an increase in income inequality makes the choice of a left-wing politician more likely, whereas an increase in the rent extraction rate or a larger difference between chosen tax rates of the politicians makes a right-wing politician more likely to be elected.

3.2.4 Choice of Form of Government

After having solved the subsequent stages, it is now possible to look at the constitutional stage and derive which form of government is chosen by the politicians. Two cases can be distinguished, namely one where the right-wing politicians have the majority in the constitutional assembly and another where the left-wing politicians have the majority. Since it is possible, as seen in the last section, that poor voters might prefer the right-wing politicians, it is necessary to look at both possible outcomes for each case, namely the dominant fraction in the constitutional assembly anticipating to be in government or not.

Case 1: right-wing politicians have the majority in the constitutional assembly

If the right-wing politicians know that they will be in government under a presidential and a parliamentary system, they choose the political system that offers the higher pay-off to the government. This decision is conditional on the tax rates which are optimal for

¹⁹Note that when talking about the level of income inequality, this always refers to pre-taxation and pre-redistribution income inequality

the politicians under each respective system. Hence, a presidential system will be chosen if the following condition holds.

$$\theta > \frac{(1 - \lambda_w)(\tau_w - k\tau_w^2) + (1 - \pi(\tau_w))E[\alpha]\lambda_w - (1 - \lambda_{pr})(\tau_{pr} - k\tau_{pr}^2) - (1 - \pi(\tau_{pr}))E[\alpha]\lambda_{pr}}{2(\tau_w - \tau_{pr})} \quad (14)$$

While the full formal solution is provided in the appendix, the interpretation of the results will be conducted here. For this decision, the comparison is between the level of income inequality on the left-hand side of the equation and the differences in gains from redistribution and political rent extraction between the two forms of government, weighted by the tax rate differences, on the right-hand side. If the gains are larger under a presidential system, then the presidential system is always preferred. This effect relies on the result that the tax rate is lower under a presidential system and thus the right-hand side would always have a negative sign. However, if the gains are higher under a parliamentary system, then a trade-off exists between the larger gains under this system and the larger costs in terms of taxation. Only if the difference in gains, weighted by the difference in tax rates, is larger than the level of income inequality, a parliamentary system will be chosen.

This leads to the question how the differences in tax rates affect this condition. At this point, it is useful to mention that politicians are assumed have no means to commit credibly to a different tax rate than the one that maximises their utility, given the form of government. Through backward induction, the values of the chosen tax rates under both systems are thus known at the stage of constitutional choice. If the difference between τ_w and τ_{pr} increases *ceteris paribus*, the risk of a popular uprising as well as the amount of political rents obtainable in a parliamentary system increase. A parliamentary system is more attractive with a small difference in anticipated tax rates since the gain in political rents does not increase the likelihood of an uprising heavily. However, if the politicians know that the differences in tax rates will be large, then they need to take into account that the larger gains in political rents also lead to a large increase in the likelihood of an uprising. Since the costs of taxation are furthermore increasing as the tax rates increase,

this trade-off becomes more unfavourable with a larger difference in tax rates. Altogether, a larger difference in tax rates makes a presidential system more likely.

If the left-wing politicians are anticipated to end up in government under a presidential and a parliamentary system, then the right-wing politicians have the same utility functions as rich citizens. In this case, they choose the governmental system which delivers the higher utility for them as citizens. The following condition needs to hold for a presidential system to be chosen.

$$\theta > \frac{(1 - \lambda_w)(\tau_w - k\tau_w^2) - (1 - \lambda_{pr})(\tau_{pr} - k\tau_{pr}^2)}{2(\tau_w - \tau_{pr})} \quad (15)$$

Again, the full formal solution is provided in the appendix. The interpretation is similar to the case presented above, but note that the politicians do not care about political rents if they know that they will not end up in government. Thus, the right-hand side is composed of the difference in gains from redistribution, which are again weighted by the difference in tax rates. An increase in the level of income inequality makes the portion of the tax burden that is provided for by the rich citizens larger. This effect makes a presidential system more likely, since the rich citizens now face a larger cost in a parliamentary system.

If the difference between τ_w and τ_{pr} increases *ceteris paribus*, the redistributive budget in a parliamentary system increases. However, due to the marginally increasing cost of taxation, the marginal increase of the redistributive budget is declining. Since the rich citizens have no interest in redistribution in this model in the first place (recall that they would favour a tax rate of zero), they are generally unlikely to favour higher taxes. The only situation in which the rich politicians, knowing that they will not end up in office, would prefer a parliamentary system could arise if the difference in tax rates between the two systems is relatively small. In this case, the higher cost in terms of political rents in a presidential system would outweigh the benefit of having lower taxes for the rich citizens. To sum up, a larger difference in tax rates is again increasing the likelihood of a presidential system being chosen.

Case 2: left-wing politicians have the majority in the constitutional assembly

If the left-wing politicians anticipate that they will be in government under presidential and parliamentary systems, then the left-wing politicians choose the system with the higher political pay-off to the government. This choice leads to a presidential system if the following condition holds.

$$(1-\theta) > \frac{(1-\lambda_w)(\tau_w - k\tau_w^2) + (1-\pi(\tau_w))E[\alpha]\lambda_w - (1-\lambda_{pr})(\tau_{pr} - k\tau_{pr}^2) - (1-\pi(\tau_{pr}))E[\alpha]\lambda_{pr}}{2(\tau_w - \tau_{pr})} \quad (16)$$

The right-hand side of this equation is identical to equation (15) and thus the interpretation also remains the same. The key difference is that the impact of income inequality changes the sign.

However, when right-wing politicians are in government under presidential and parliamentary systems, then the left-wing politicians know that they will never be in power and hence they prefer the system where the tax rate realised by the right-wing politicians is closer to their preferred tax rate. If they are not in government, their utility functions are like those of the poor citizens and they choose the governmental system which delivers the higher utility for them. One has to compare the utility under a parliamentary system with the utility under a presidential system. The decision takes the same form as discussed in case 1, except that changes in income inequality have the opposite effect here.²⁰ Hence, a presidential will be chosen if the following condition holds.

$$(1-\theta) > \frac{(1-\lambda_w)(\tau_w - k\tau_w^2) - (1-\lambda_{pr})(\tau_{pr} - k\tau_{pr}^2)}{2(\tau_w - \tau_{pr})} \quad (17)$$

Again, only the left-hand side changed compared to the situation where right-wing politicians have the majority and know that they will not end up in government. These result are the key difference to the results of Robinson and Torvik (2012) and show how the composition of the constitutional assembly affects the choice of form of government.

²⁰The full formal representation can be found in the appendix.

4 Sensitivity analysis

After solving the model in the last section, additional insights can be gained if parameters of the models are tested for sensitivity. A change in income inequality is a good starting point for this discussion.

4.1 Income Inequality

Since the revolution constraint is not directly affected by initial income levels, it will therefore not react directly to a change in income inequality. An increase in inequality leads however to a higher preferred tax rate of the poor citizens. This effect makes a revolution more likely if a left-wing politician is in office and prefers an even higher increase in the tax rate or if a right-wing politician is in office and his preferred tax rate was previously lower than the preferred tax rate of the poor citizens. In other cases, a revolution becomes less likely through an increase in income inequality.

If income inequality increases, taxation becomes more attractive for the poor and less attractive for the rich (due to the part of the tax burden they are sharing). Hence, left-wing politicians will then prefer an even higher tax rate under both systems, while the right-wing politicians favour lower tax rates, *ceteris paribus*.

An increase in income inequality makes equation (13) less likely to hold and thereby reduces the probability of a poor citizen voting for the right-wing politician. This intuitively makes sense, since an increase in income inequality makes redistribution more attractive for the poor citizen, which is something better provided by the left-wing politician.

In the constitutional stage, an increase in income inequality leads to a higher chance for a presidential system in case of a constitutional assembly that is dominated by right-wing politicians. However, the change in income inequality leads to a lower chance of a presidential system if left-wing politicians have the majority there. This result is in contrast to the results of Robinson and Torvik (2012), who find that an increase in income inequality always makes a presidential system more likely.

Overall, an increase in income inequality has effects across all stages and most impor-

tantly directly affects the choice of form of government. However, the sign of the effect on the form of government depends on the composition of the constitutional assembly. Hence, changes in the composition will be analysed in the next subsection.

4.2 Composition of Constitutional Assembly

The composition of the constitutional assembly has a crucial influence on the form of government that is chosen. However, instead of looking at marginal changes it makes sense to analyse only changes from a left-wing majority within the constitutional assembly to a right-wing majority and *vice versa*. Therefore only the constitutional stage will be affected directly. However, the tax rate will be affected indirectly.

A change from a left-wing to a right-wing majority in the constitutional assembly changes the sign of the effect of income inequality. While in case of a left-wing majority a low level of inequality made a presidential system more likely, under a right-wing majority the opposite holds. Hence, if $\theta > 0.5$, a presidential system becomes more likely through this change in the composition of the constitutional assembly. However, if $\theta < 0.5$, a presidential system becomes less likely through the change.

In case of a change from right-wing to left-wing majority, the exact opposite holds true. Hence, if this change happens with high inequality, a presidential system becomes less likely and if the change happens with low inequality, a presidential system becomes more likely.

For the tax rate, the change in the composition of the constitutional assembly has an effect if the chosen form of government changes accordingly. Effectively, taxes will increase in case of a change from presidential to parliamentary system and decrease in case of a change from parliamentary to presidential form of government. This result makes use of the analysis of the tax rate under different forms of government in section 3.2.

5 Discussion

After going through the sensitivity analysis, the discussion of the main assumptions of the model as well as relating the model predictions to available empirical literature are relevant to judge the previous results.

5.1 Assumptions

The assumptions which are most relevant to the results of the model are those with respect to political rents under different forms of government, those with respect to the relationship between α and π and those with respect to the voting rules in the constitutional assembly.

First, the assumption that political rents are higher in a presidential system is in conflict to the findings of Persson et al. (1997, 2000), who conclude that the highest rents are in parliamentary systems. These authors attribute their result to the higher degree of separation of powers in a presidential system. This element is not part of the model in this paper. Nevertheless, it can be argued that for several countries with very strong presidents in Eastern Europe, Africa or Latin America the presidential system does not deliver an additional check and balance, but rather unchecked power to the president. A further argument in favour of the explanation of a vote of no confidence threat in a parliamentary system can be found in Carlson (1999), who argues that this threat increases the bargaining power of the members of the parliament towards their leader and thereby provides a check to power only available in parliamentary systems. To test this assumption, corruption (in form of the Corruption Perceptions Index) has also been used in previous studies on the economic effects of constitutional features (cf. Persson and Tabellini, 2003; Blume et al., 2009) as an indicator of political rents. While those studies found indeterminate effects of the form of government, Treisman (2007) found in a recent study that presidential systems are more prone to corruption, thereby lending further support to the assumption.

Second, the assumption ($\frac{1}{1-\pi} > \alpha$) with regard to the ratio of the part of the political rent that each politician can extract to the likelihood of a revolution is a strong one and requires some empirical testing. However, one of the main reasons for a low α seem to

apply in developing countries. The outside options for politicians are less interesting than the outside options for politicians in developed countries. This difference leads to a larger degree of risk aversion. Furthermore, it seems uncertain how large the costs of extracting political rents from the redistributive budget in developing countries are. On the one hand, the less efficient bureaucracy points at large costs, while on the other hand the lack of efficient control mechanisms would point at low costs. Future empirical research might mitigate this problem and clarify whether the assumption is a valid one.

Third, for the stage of constitutional choice, it is simply assumed that the majority of the politicians can decide the outcome. This seemingly opposes the unanimity criterion, which has often been proposed for constitutional choice (cf. Buchanan and Tullock, 1962). Nevertheless, in the light of the literature on constitutions as conventions (cf. Hardin, 1989; Ordeshook, 1992), this simple majority voting can be justified, as long as the outside option (of not agreeing on a constitution) is the worst case scenario for all involved politicians. In this case, the game at the constitutional stage resembles a coordination game and all players are better off if an agreement is reached. Furthermore, constitutional assemblies in real situations often use simple majority rules as well. One example of this is Belarus in the adoption of their constitution (Center for the Study of Constitutionalism in Eastern Europe, 1994a)

5.2 Modelling Approach

It is important to discuss the general advantages and drawbacks of the rational choice modelling approach employed in this paper. Several assumptions, as for example limiting the policy vector to only redistributive politics or the distribution of income which consists only of two different levels of income, are clearly not realistic. These assumptions nevertheless serve a purpose, namely highlighting the conflict as well as the strategic considerations in the choice of form of government. These assumptions can be justified, as long as the gains in form of analytical tractability outweigh the losses from a less detailed model. Whether this condition holds true can only empirically be tested, for example by using case studies.

In the case of this model, an introduction of public goods as another policy option would only change the level of the conflict between the rich and the poor, but not eliminate their conflicting preferences. This conflict occurs since the rich have to pay a higher share of the public good provision and thereby would prefer a lower level of public goods as the poor. One could even assume that this basic level of public goods is provided from the government budget. Even in this case, the poor citizens would like to see more spending (in form of public goods or redistribution), while the rich citizens would like to pay no more taxes than necessary to provide their preferred level of public goods. This conflict of interests is in principle identical to the one presented in the model with only redistributive taxation. Therefore, the assumptions of the model with regard to the policy vector should not change the results in this perspective.

Furthermore, it might be questioned whether the members of the constitutional assembly would really be motivated by their economic benefits from the constitution coming into power. The assumption that they indeed do so has some empirical support from the drafting of the US constitution. Starting with the seminal analysis of Beard (1913) and further econometric support from McGuire and Ohsfeldt (1984), it has been shown that the members of the constitutional assembly in the US voted in favour of proposals that benefited their economic interests. This example supports the assumption of a constitutional assembly where the members are mainly motivated by their own benefits and therefore a rational choice approach is useful to analyse this situation.

After discussing the model assumptions as well as the modelling approach in some more detail, the next step would be to test the model predictions in light of the existing empirical literature.

5.3 Model Predictions in Light of Related Literature

The model has been used to derive four testable predictions. First, tax rates are higher if a left-wing government is in office. Second, tax rates are higher under a parliamentarian system as long as $\frac{1}{1-\pi} > \alpha$ holds. Third, under certain conditions poor voters might elect the right-wing candidate. Fourth, the effect of income inequality on the choice of govern-

ment depends on the composition of the constitutional assembly. These four predictions will be discussed in the presented order.

The first prediction of the model goes in line with the intuition about tax policy differences between left-wing and right-wing politicians. It appears straightforward that left-wing politicians prefer more redistribution and therefore need to raise higher taxes to finance these redistributive policies. Huber and Stanig (2009) use data from 23 democratic societies to test whether there is a relationship between left-right scale and redistribution preferences. They find that left-wing politicians have a higher preference for redistribution than right-wing politicians. Since redistribution preference is equivalent to a preference for higher tax rates, this result supports the predictions of the model. This evidence is also in line with the empirical evidence from the United States from 1960-2000 (Reed, 2006).

The second prediction also relates to the tax rate chosen, but this time with regard to the effect of the form of government. Opposed to the political orientation, the literature does not provide conclusive evidence on the question. While Persson and Tabellini (2003) find that government spending is higher in parliamentary systems, this finding could not be replicated in the extended replication study of Blume et al. (2009). One possible reason for the insignificant finding could lie in the assumption $\frac{1}{1-\pi} > \alpha$. When this assumption does not hold, the effect of the form of government on the tax rate changes sign. It is possible that the two effects cancel each other out across the large sample. Further empirical evidence from local government spending in the US (Coate and Knight, 2011) is supporting the hypothesis that the tax rate is higher under a presidential system.²¹

Taking into account the support for a higher tax rate under a left-wing government, the third prediction that poor citizens might favour a right-wing candidate seems puzzling. This prediction can be explained by the effect of political rents, which drive a wedge between the preferred tax rate of a poor citizen and that of a left-wing politician. However, the question whether there is some empirical evidence for this prediction remains. Recall that the prediction relied on two contributing factors, namely a lower level of income inequality and a lower difference in tax rates between left- and right-wing politicians.

²¹The authors distinguish between a mayor-council and a council-manager government at local level, which they also link to the debate of presidential vs. parliamentary systems.

These two factors, among others, have been tested by Huber and Stanig (2009). The authors found that a lower polarization between political parties on taxation issues was contributing to a higher likelihood of a right-wing candidate being elected. However, the same study could not identify a statistically significant effect of income inequality on the preference for left- or right-wing politicians. The lack of a significant effect could be due to the interplay of income inequality, tax rates and political rents in equation (13). If the political rents are low enough or tax differences high enough, the citizen might prefer the left-wing politician even for relatively low levels of income inequality. The study of Huber and Stanig (2009) does not control for the interaction of these effects.

Finally, the prediction on the interplay of constitutional assemblies and income inequality is a more difficult case for testing. So far, the empirical literature mainly focussed on the direct effect of income inequality on the choice of form of government. Looking at Hayo and Voigt (2013), it can be seen that their panel analysis of constitutional change finds no statistically significant effect of income inequality as measured by the Gini coefficient.²² While this finding is providing evidence against the predictions of Robinson and Torvik (2012), it can be read in two ways with regard to the predictions of the model presented above. First, income inequality might have no effect whatsoever and therefore the predictions of the model are not in line with the empirical findings. Second, the effects of income inequality might level out due to the different signs based on different constitutional assemblies and the empirical result might therefore suffer from omitted variable bias. Distinguishing these two possibilities would be required to present a clear judgement of the model prediction. One way to address this topic is making use of a natural experiment to study these effects in more detail.

6 A Closer Look At the Former Soviet Union

The case of the breakdown of the Soviet Union has been previously described in the terms of a natural experiment on a grand scale (Elster, 1993). Not a single of the 15 successor

²²It has to be noted that the authors analyze constitutional change, which could underlie different dynamics compared to a model of constitutional choice. This limitation has to be taken into account when interpreting the results

states of the Soviet Union has kept its constitution after the fall of the Iron Curtain and nearly all countries have adopted completely new constitutions.²³ This setting rules out the possible differences between constitutional change and constitutional choice and allows for a clearer analysis of the contributing elements to constitutional choice. Furthermore, due to the cultural influences of communism during the existence of the Soviet Union, the problem of strong cultural differences between countries is less severe in this case. Before starting with the case study itself, it is useful to take a step back and ask the questions whether the new constitutions in the former Soviet Union did have economic effects and whether the form of government lasts for a long time or is frequently changed.

The first question, whether the constitutional rules had any effect on the economic progress in the transition countries of Eastern Europe, has been studied by Metelska-Szaniawska (2009). She analyses whether the concentration of government as laid out in the constitution, the existence of human rights as well as central bank independence are correlated with economic reforms and finds that economic reforms are significantly correlated to these constitutional variables. With regard to the focus of this article on the form of government, it has to be noted that Metelska-Szaniawska (2009) uses an index of concentration of government from Henisz (2000, 2002, 2006) as part of her empirical test of the economic effect of constitutions. This index from Henisz focuses on veto players in a political system and hence on a different aspect of the form of government than employed in the formal model in this article. Therefore, the study does not provide evidence whether the form of government in the sense of the model presented above had economic effects after the breakdown of the Soviet Union. However, the results provide general evidence in favour of the hypothesis that constitutions have had significant economic effects in the former Soviet republics.

Another question is the longevity of the form of government. If they are subject to frequent change, it would appear doubtful that they could have a lasting effect. However, as discussed by Armingeon and Careja (2008), the form of government is sticky in the former Soviet Union. This evidence provides support for the assumption that the choice of form of government is the relevant object for the analysis. Altogether, the special situation

²³Only Latvia has reversed back to their 1922 constitution instead of drafting a new constitutional text.

in the Soviet Union after the breakdown offers a good base for a case study.

To make use of this good case and test the predictions from the model, three kinds of information are required. First, information on the income inequality within the countries preceding the constitutional choice. Second, the political orientation of the majority of the constitutional assembly needs to be known. Finally, information on the chosen form of government is required.

Information on the level of income inequality in 1988 within each republic of the Soviet Union is made available by Alexeev and Gaddy (1993). Using information from before the breakdown of the Soviet Union ensures that the initial income inequality at the start of the constitutional choice is taken into account. This approach is used since the constitutional assemblies were often formed immediately after the breakdown of the Soviet Union and hence it is likely that income inequality was still similar to 1988 levels. The data provided by Alexeev and Gaddy (1993) does only take into account official income and the black market income has been a considerable factor at the times of the Soviet Union. However, taking into account unofficial income sources does not affect the differences between republics²⁴ and for one case analysed in Alexeev and Gaddy (1993) change the Gini coefficient by only 6 percentage points. Hence, using the official data should not bias the analysis.

For the political orientation, the data situation is not as clear-cut. The required orientation has been constructed from the available information on the party affiliation of the members of the constitutional assemblies in the different countries. Using this affiliation, the data from the Comparative Manifesto Project (Klingemann et al., 2006) can be used to indicate the political orientation of these parties at the time of the first post-constitutional election. The problem of putting members of the former Soviet Communist Party on the left-right scale is discussed in more details at the end of this section. Furthermore, sources with regard to the composition of the constitutional assembly are not always readily available. For the countries in the European part of the former Soviet Union, detailed information is provided by the frequently updated constitution watch of the East European Constitutional Review.

²⁴Assuming that the black market was equally prevalent across the Soviet Union.

Finally, the chosen form of government is taken from Metelska-Szaniawska (2009). The main problem in this assessment is how to deal with mixed forms of government, as for example found in Russia or Ukraine. In these cases, the situation within the country needs to be assessed in light of the definition of the main distinctions between the forms of government in this article. In neither country can the president be put out of office by a vote of no confidence. It can be therefore argued that the presidents of Russia and Ukraine are the residual claimants of political rents in those countries and those two countries rather fall under the definition of a presidential system used in this article.

After the required datasets have been discussed, the focus of the analysis can now be shifted to the procedures in different successor states of the Soviet Union. The short case studies will also give an overview of the pre-Soviet constitutional history. This overview can be used to control for historical path dependencies in the post-Soviet choice of form of government. The order in which the countries are discussed is based on Ludwikowski (1996).

6.1 Background on the Breakdown of the Soviet Union

The reign of Michail Gorbachev as General Secretary of the Communist Party of the Soviet Union was a time of drastic change in the Soviet Union. The policies of *Perestroika* and *Glasnost* aimed at increasing economic and political freedoms, but also ultimately led to the disintegration of the Soviet Union. While Gorbachev supported a new Union treaty with increased freedoms for the Soviet republics, the economic crisis in 1990 and 1991 led to a struggle between the independence movements in the republics and the hardliners in the Communist Party which aimed to maintain the central control over the Soviet Union. This conflict culminated in an attempted coup by several conservative hardliners within the Communist Party from 19th to 21st August 1991. Failure of this attempt improved the position of the independence movements across the Soviet Union and led to the declaration of independence by all republics except Russia and Kazakhstan. Ultimately, the Soviet Union ceased to exist in December 1991. The new political situation led to demand for new constitutions in all former Soviet Republics, which will be analysed country by country.

6.2 Russia

Despite its status as a powerful empire in the late 19th and early 20th century, Tsarist Russia did not have a particularly strong constitutional tradition (cf. Ludwikowski, 1996, p.16). The emperor was the supreme power and no proper checks and balances were in place. Following the Russian Revolution of 1917, the communist regime established a *de jure* modern and democratic constitution. *De facto*, this constitution was not enforced and has been described as a "sham" constitution by (Breslin, 2009, p.26). Hence, there was no predecessor in terms of a democratic constitution when the Russian Soviet Republic began the debates on a new constitution long before the dissection of the Soviet Union, namely in the middle of 1990 (Ludwikowski, 1996, p.57). At this time, the Russian Congress of People's Deputies (RCPD) first delegated the drafting of a new constitution to the Constitutional Commission. However, the struggle between RCPD, Constitutional Commission and the president of the Russian Soviet Republic, Boris Yeltsin, prolonged the process of drafting a new constitution significantly. The debates went on until 1993, when the RCPD (which was dominated at this point by conservative politicians) supported a draft with reduced powers of the president and strong power of the parliament, while president Yeltsin supported a draft in which the presidential powers remain strong. The conflict ended when Yeltsin dissolved the parliament and maintained, supported by the military, control in the following showdown with the parliament (Center for the Study of Constitutionalism in Eastern Europe, 1994b). Observers claimed that Yeltsin would probably have lost the struggle, taking reference to his declining public support, if the parliamentary opposition would not have stormed the White House in Moscow, thereby helping the president to justify military intervention. (Center for the Study of Constitutionalism in Eastern Europe, 1994b) This solution presents a special case in this analysis, since the decisive factor for the choice of form of government was the action taken by president Yeltsin and hence independent of the composition of the constitutional assembly.

6.3 Lithuania

As a part of the Polish-Lithuanian Commonwealth, Lithuania saw its first constitution as early as 1791. However, after the Polish partition of 1795, Lithuania became a part of the Russian Empire until 1918. The main predecessor in terms of constitutional history is the constitution of 1922, which installed a parliamentary system in Lithuania. This system did also last for only four years, until a *coup d'état* installed an authoritarian regime. While a historical influence of the previous parliamentary system cannot be ruled out, the period of this form of government was rather brief and surrounded by turmoil. Following the first signs of change in the Soviet Union, Lithuania had an early start into the constitutional debate. After the landslide victory of the independence movement Sajudis in the elections for the Supreme Soviet of Lithuania in 1990, the Baltic republic was among the first to declare independence from the Soviet Union. After a year of bloody struggle, the country was recognized by most countries in the aftermath of the failed Soviet August coup of 1991. The drafting of the constitution started in 1991 and was led as well by Sajudis, since the constitutional assembly was drafted from the parliament (Center for the Study of Constitutionalism in Eastern Europe, 1992a). This party can be described as politically right on a left-right scale (Klingemann et al., 2006). During the constitutional drafting, the question of the form of government was in the centre of a heated debate. The final version installed a mixed system, which nevertheless left most of the executive competencies with the prime minister. Since the prime minister could be put out of office through a vote of no confidence, the system can be classified as parliamentary in the sense of this article.

6.4 Estonia

The constitutional history of Estonia started in 1920 with its first constitution, which included many elements of a parliamentary form of government. However, the second (1934) and third (1938) constitution installed a strong presidential office and departed from the dominance of parliament. This period of frequent change does not provide strong evidence for a path dependency for either form of government. Estonia declared independence around the same time as Lithuania and was also fully recognised in August 1991.

Thereafter, a constitutional assembly of 60 members was created. 30 of its members were drawn from the former Supreme Soviet of Estonia, while the other 30 members came from the Congress of Estonia, which was a freely elected interim parliament (Center for the Study of Constitutionalism in Eastern Europe, 1992a). The major party in the Supreme Soviet was the Popular Front, which can be classified as a quite centrist party. Since the Estonian National Independence Party, which dominated the Congress of Estonia, locates on the political right, the general political tendencies of the constitutional assembly can be classified as being on the right. This conclusion is further supported by the success of the draft proposed by the Estonian National Independence Party in the constitutional assembly (Center for the Study of Constitutionalism in Eastern Europe (1992b)). The final constitution allowed for a one-time popular election of the president, who would thereafter be elected by the parliament. This long-term solution indicates the supremacy of the parliament and hence Estonia can be classified as a parliamentary system.

6.5 Ukraine

Previous to the years in the Soviet Union, the Ukraine did not have any noteworthy constitutional tradition. This lack can be explained with the high level of influence that Tsarist Russia was able to exert despite the official independence of the Ukraine. Hence, the Soviet constitutions were the first experiences of the Ukraine with a *de jure* constitutional regime. This rules out any historical path dependencies for the choice of form of government. After the parliament declared independence in August 1991, Ukraine held a plebiscite on the question of independence in December 1991 and the voters supported it with more than 90% of the votes. Even before the declaration of independence, a constitutional commission had been created in 1990. The commission consisted of about half of its members from the Democratic Bloc and the other half from the Communist Party (Center for the Study of Constitutionalism in Eastern Europe, 1992a). The centre-left Democratic Bloc succeeded with their preference for a presidential regime in the drafting process (Center for the Study of Constitutionalism in Eastern Europe, 1992b). However, this draft did not survive the deliberation process with public involvement. The struggle about the constitution did last until 1994 a new constitutional drafting committee was commissioned. Those committee

had 38 members, out of which 15 were selected by the president and 15 by the parliament as well as 7 members from the judiciary and 1 member from the Crimean Parliament (Center for the Study of Constitutionalism in Eastern Europe, 1995). This composition makes it very difficult to assess the actual left-right positioning of the assembly, which is further complicated by the incentives of the members selected by the president. Therefore, the first constitutional assembly as well as the result of the first draft will be used for the analysis of the model results.²⁵

6.6 Belarus

Similar to the Ukraine, Belarus made its first experiences with a constitutional regime during the Soviet time. Again, historical path dependencies can be therefore ruled out as an influence on the choice of the form of government. Belarus furthermore represents a special case in this discussion, since it was among the few countries that preferred staying with the Soviet Union up to the very end. The Constitutional Committee was led by the Chief of the Legal Department of the Cabinet of Ministers in 1992 and thereby belonged to the old communist elite. However, since most of the politicians left the Communist Party in 1991 and acted as independents, it remains unclear how their political orientation should be seen. An indication of this can be given by the political actions after the first elections of Alexander Lukashenko, the president of Belarus in 1995, who attempted to install price controls to limit the inflation (Center for the Study of Constitutionalism in Eastern Europe, 1995). This policy supports the assumption that the political orientation of the Committee can also be seen as left, at least when it comes to economic policies. The constitution, voted through by the parliament and adopted in 1993 has been described as installing a strong presidency (cf. Center for the Study of Constitutionalism in Eastern Europe, 1993).

6.7 Analysis

²⁵A closer look at the public deliberation process as well as on the incentives if the veil of ignorance is lifted completely provide interesting opportunities for model extensions and future research.

Country	Gini Coefficient (1988)	Pol. orientation of const. assembly	Form of government
Russia	0.264	Right	Presidential
Lithuania	0.244	Right	Parliamentarian
Estonia	0.278	Right	Parliamentarian
Ukraine	0.248	Left	Presidential
Belarus	0.242	Left	Presidential

Table 1: Income inequality, composition of constitutional assembly and form of government

Before looking at the overview of results in table 1, it is helpful to analyse whether historical influences dominated the choice of form of government. The long-lasting effects of historical influences has recently been shown by Becker et al. (2011). They analysed the effect of being a part of the Habsburg Empire in the past on present day trust in bureaucratic quality in Eastern Europe. Following this line of reasoning, past events might unfold an effect over decades or, as in this case, even centuries. However, for the case of the choice of form of government, it is less likely that it was driven by historical path dependency. Most countries discussed above either have different constitutions previous to the Soviet time (e.g. Estonia) or no constitutional tradition at all (e.g. Belarus and Ukraine). Therefore, it seems unlikely that the choice is path dependent on choices from the pre-Soviet times.

Another contribution in favour of path dependency has argued that the survival of elites from communist times in positions of power during the transition was the decisive factor in the choice of form of government (Easter, 1997). This argument would support the basic hypotheses that the composition of the constitutional assembly matters (i.e. whether or not the elites were able to influence the constitutional draft process), but not support the decisive effect of income inequality.

Besides historical explanations, one might argue that geography was the decisive factor for the choice of form of government. Among the five countries in the sample, the two countries closest to Western Europe have opted for a parliamentary system. However, the case of the constitutional assembly in Russia and their proposal of a parliamentary system, which was only stopped through forceful action of President Yeltsin, causes some doubts whether geography can be seen as the decisive factor.

If history and geography are not the dominating factors, income inequality within the countries might drive the choice of form of government. The prepositions of the model state that the level of income inequality exercises its effect only through the transmission channel of the composition of the constitutional assembly. Since income inequality at the outset of the constitutional drafting has been relatively equal among the different countries, one could make a strong case against the hypothesis if different compositions of the assembly would nevertheless lead to the same form of government chosen. However, as shown in table 1, this is not the case. This results can also be seen as indicative evidence against the claims of Robinson and Torvik (2012) with regards to the effect of income inequality. However, the results do indicate the possibility of constitutional assemblies as the missing link.

There seems to be a link between a left-wing constitutional assembly and a presidential system chosen. For a right-wing constitutional assembly, only Russia opted for a presidential system and the Russian experience can be treated as a special case due to the constitutional crisis of 1993, which led to a form of government that was not the preferred one of the constitutional assembly. Altogether, the evidence presented gives an initial indication that the composition of the constitutional assemblies has an effect. Whether this is a direct effect or an effect through income inequality, as suggested by the model, is a different question and some discussion on this limitation to distinguish these two alternative transmission channels follows in the next subsection.

6.8 Limitations

The case studies presented above suffer from four limitations in terms of explanatory power and ability to distinguish competing hypothesis. The first limitation concerns the process of constitution making. Several countries, e.g. Russia, Lithuania, and Estonia, used referenda as the final step of the ratification procedure. This step has neither been included in the formal model nor in the analysis of the cases. It can be argued that referenda have a rather symbolic function and will not change the result of constitutional negotiations, since the citizens do prefer any reasonable constitution over a situation with no constitution (cf. Hardin, 1989). However, in the case of the Soviet Union the previous

constitutions of the Soviet republics remained in place and hence the outside option was not a situation without a constitution. The failed first referendum in Lithuania serves as an example for this limitation. As furthermore discussed in the literature on direct democracy (cf. Matsusaka, 2005), the threat of a failed referendum might already be enough to have an effect on the policy outcome. This effect does not required a failed referendum to materialise and hence can hardly be tested empirically.

Another limitation is the assumption that no politician is certain at the constitutional stage that he might end up as president or prime minister. The example of the Ukraine in 1994 shows that these considerations can provide strong incentives in favour of a certain form of government. Incorporating these considerations would make the model more realistic, but also more complicated. Hence, it serves as a possible future extension.

The third limitation concerns the use of the left-right scale for constitutional assemblies with mainly politicians from the former, communist parliaments of the Soviet republics. Even if the communist party can be argued as being left on the scale, it is doubtful whether those politicians remained faithful to their ideology after the breakdown of the Soviet Union. If this doubt would turn out to be true, the results for the Ukraine in the analysis above might be reconsidered, since the Communists also had a strong position in the constitutional assembly.

The fourth and final limitation concerns the distinction of transmission channels. The setup of the case study does not allow distinguishing whether the effect of the composition of the constitutional assembly operates only through the transmission channel of income inequality differences or if there is some other way in which the composition of constitutional assemblies is affecting the choice of form of government. Since the differences in income inequality between the countries in the sample are quite small, there is no feasible way to dismiss either conjecture.

Altogether, these limitations point out that further research on the inner workings and procedures of constitutional assemblies would contribute to a better understanding of these links.

7 Conclusion

This paper has argued that the choice of the form of government can be better understood if tax rates and political rents are endogenous to the model. The main claim of this paper is that the composition of constitutional assemblies determines in which way income inequality is affecting the choice of form of government. Hence, a high income inequality can lead to a preference for a presidential system or to a preference for a parliamentary system, conditional on who has the majority in the constitutional assembly. The case study of the former Soviet republics also indicates that constitutional assemblies can play a role for the choice of form of government. The result that tax rates are higher under parliamentary systems are in line with the empirical findings of Persson and Tabellini (2003), who find that the central government spending is higher under a parliamentary system. It has furthermore been shown that the choice of form of government relies additionally on the costs of taxation and income inequality within the society. Furthermore, the result that poor citizens might vote for right-wing politicians is quite counter-intuitive. However, taking the cost of political rents for the citizens into account, this result might explain why right-wing politicians occasionally find strong support among the poor. This results give support to the claim that institutional details, such as the composition of the constitution assembly, matter.

Nevertheless, the main limitations of the modelling approach in this paper must be mentioned. First, the revolution constraint is so far simply an exogenous function. It might offer further insights to see what happens if the revolution constraint is endogenised. Furthermore, the utility of individuals might not only rely on pecuniary factors. Income-based models of constitutional choice have been criticized for ignoring other factors. Incorporating political ideology to include non-economic spheres of the political game might mitigate this limitation. These three possible extensions offer possibilities for future research.

Altogether, this paper shows the relevance of the composition of the constitutional assembly and that the level of income inequality on its own does not say a lot about the choice of form of government.

8 Appendix

8.1 Extension: Rich Citizens Have Political Power

This extension of the model analyses a case where the rich citizens are able to generate, despite their numerical minority, enough political power to be decisive in the general election. The following analysis looks at the stages of general election as well as the choice of form of government.

8.1.1 General Election

Since the right-wing politician prefers a lower tax rate than the left-wing politician under any given system, the choice for the voting citizens is the same under both forms of government. The rich citizen would prefer $\tau = 0$ as an optimal tax rate and hence chooses the politician which offers the lower tax rate, i.e. the right-wing politician.

Hence, if the rich have political power, the government will in both forms of government be formed by right-wing politicians.

8.1.2 Choice of Form of Government

Case 3: right-wing politicians have the majority in the constitutional assembly

In this case, the right-wing politicians already know that they will be for sure in the government since the voters will favour them regardless of the form of government. Hence, they choose the political system that offers them the higher payoff. This decision relies on the tax rates which are optimal for the politicians under each respective system.

While the formal solution is provided in the appendix, the interpretation of the results will be conducted here. For this decision, the comparison is between the level of income inequality and the weighted differences in gains from redistribution and political rent extraction. If the gains are larger under a presidential system, then the presidential system is always preferred. This effect relies on the result that the tax rate is lower under a presidential system. Therefore, if the higher gains come at a lower price, the decision is clear-cut.

However, if the gains are higher under a parliamentary system, then a trade-off exists between the larger gains and the larger costs in terms of taxation. Only if the difference in gains, weighted by the difference in tax rates, is still larger than the level of income inequality, a parliamentary system will be chosen.

This leads to the question how the differences in tax rates affect this condition. If the difference between τ_w and τ_{pr} increases *ceteris paribus*, the relative risk of a popular uprising in a parliamentary system increases as well as the amount of political rents obtainable. If the difference is relatively small, a parliamentary system is more attractive since the gain in political rents does not increase the likelihood of an uprising heavily. However, if the politicians know that the differences in tax rates will be large, then they need to take into account that the gains in political rents also lead to a large increase in the likelihood of an uprising. Since the costs of taxation are furthermore increasing as the tax rates increase, this trade-off becomes more unfavourable with a larger difference in tax rates. Hence, a larger difference in tax rates makes a presidential system more likely and *vice versa*.

Case 4: left-wing politicians have the majority in the constitutional assembly

The left-wing politicians know that they will never be in power and hence they prefer the system where the tax rate realised by the right-wing politicians is closer to their preferred tax rate. Hence, they face the same decision as in case 2.

8.2 Formal Solution of Choice of Form of Government

Case 1: right-wing politicians have the majority in the constitutional assembly, poor voters have the majority

Using equation (1), it can be seen that the presidential system is preferred if:

$$((1 - \tau_{pr})Y_r + (1 - \lambda_{pr})(\tau_{pr} - c(\tau_{pr}))\bar{Y}) > ((1 - \tau_w)Y_r + (1 - \lambda_w)(\tau_w - c(\tau_w))\bar{Y}) \quad (18)$$

Using again $\theta := \frac{Y_r}{\bar{Y}}$ and rearranging both sides of the equation gives the following condition

for the choice of a presidential system

$$\theta > \frac{(1 - \lambda_w)(\tau_w - k\tau_w^2) - (1 - \lambda_{pr})(\tau_{pr} - k\tau_{pr}^2)}{2(\tau_w - \tau_{pr})} \quad (19)$$

Case 2: left-wing politicians have the majority in the constitutional assembly, poor voters have the majority

Using equation (7), it can be seen that the presidential system is preferred if:

$$\begin{aligned} & ((1 - \tau_{pr})Y_l + (1 - \lambda_{pr})(\tau_{pr} - c(\tau_{pr}))\bar{Y}) + (1 - \pi(\tau_{pr})E[\alpha]\lambda_{pr}\bar{Y})(\tau_{pr} - c(\tau_{pr})) > \\ & ((1 - \tau_w)Y_l + (1 - \lambda_w)(\tau_w - c(\tau_w))\bar{Y}) + (1 - \pi(\tau_w)E[\alpha]\lambda_w\bar{Y})(\tau_w - c(\tau_w)) \end{aligned} \quad (20)$$

Using $(1 - \theta) := \frac{Y_l}{\bar{Y}}$ and rearranging both sides of the equation gives the following condition for the choice of a presidential system

$$(1 - \theta) > \frac{(1 - \lambda_w)(\tau_w - k\tau_w^2) + (1 - \pi(\tau_w))E[\alpha]\lambda_w - (1 - \lambda_{pr})(\tau_{pr} - k\tau_{pr}^2) - (1 - \pi(\tau_{pr}))E[\alpha]\lambda_{pr}}{2(\tau_w - \tau_{pr})} \quad (21)$$

Case 3: right-wing politicians have the majority in the constitutional assembly, rich voters have the majority

Using equation (7), it can be seen that the presidential system is preferred if:

$$\begin{aligned} & ((1 - \tau_{pr})Y_r + (1 - \lambda_{pr})(\tau_{pr} - c(\tau_{pr}))\bar{Y}) + (1 - \pi(\tau_{pr})E[\alpha]\lambda_{pr}\bar{Y})(\tau_{pr} - c(\tau_{pr})) > \\ & ((1 - \tau_w)Y_r + (1 - \lambda_w)(\tau_w - c(\tau_w))\bar{Y}) + (1 - \pi(\tau_w)E[\alpha]\lambda_w\bar{Y})(\tau_w - c(\tau_w)) \end{aligned} \quad (22)$$

Using $\theta := \frac{Y_r}{\bar{Y}}$ and rearranging both sides of the equation gives the following condition for the choice of a presidential system

$$\theta > \frac{(1 - \lambda_w)(\tau_w - k\tau_w^2) + (1 - \pi(\tau_w))E[\alpha]\lambda_w - (1 - \lambda_{pr})(\tau_{pr} - k\tau_{pr}^2) - (1 - \pi(\tau_{pr}))E[\alpha]\lambda_{pr}}{2(\tau_w - \tau_{pr})} \quad (23)$$

Case 4: left-wing politicians have the majority in the constitutional assembly,

rich voters have the majority

Using equation (1), it can be seen that the presidential system is preferred if:

$$((1 - \tau_{pr})Y_p + (1 - \lambda_{pr})(\tau_{pr} - c(\tau_{pr}))\bar{Y}) > ((1 - \tau_w)Y_p + (1 - \lambda_w)(\tau_w - c(\tau_w))\bar{Y}) \quad (24)$$

Using again $(1 - \theta) := \frac{Y_p}{\bar{Y}}$ and rearranging both sides of the equation gives the following condition for the choice of a presidential system

$$(1 - \theta) > \frac{(1 - \lambda_w)(\tau_w - k\tau_w^2) - (1 - \lambda_{pr})(\tau_{pr} - k\tau_{pr}^2)}{2(\tau_w - \tau_{pr})} \quad (25)$$

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