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Rudiger AHREND & Carlos WINOGRAD

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Rudiger Ahrend†, Carlos Winograd‡

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Abstract

This article investigates the connection between the apparently uncorrelated issues of tax evasion and privatisation in a political economy framework. We first consider how the political process - given a country's level of development and income distribution- will affect the efficiency of the tax system. We then discuss the impact of the efficiency of the taxation system on the outcomes of privatisation. We consider under which condition privatisation will proceed, and who will be the political supporters as well as the main winners of the privatisation process. Moreover, we investigate the impact of different forms of corruption both on the initial public support for privatisation, as well as on its long term political sustainability.

Key Words: Privatisation, Taxation, Political Economy

JEL: D72, D78, H21, H26

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†OECD Economics Department. The views expressed in this article are those of the authors and do not necessarily reflect those of the OECD or the governments of its member countries. This work was undertaken while Rudiger Ahrend was at DELTA (Joint unit CNRS-ENS-EHESS) and London School of Economics prior to joining OECD.

‡University of Evry, EPEE & Paris School of Economics

1 Introduction

Large-scale privatisation - not only in former communist countries - was one of the most remarkable economic features of the last decade of the 20th century. However the outcome of privatisations showed sharp differences between countries, both in economic and political terms, in spite of the fact that for a large part of economic activities[1] private ownership is widely acknowledged to be a desirable feature, as it largely increases economic efficiency. Chile in the1980's and Argentina in the early 1990's are well known experiences of economic reform and mass privatisation. In the periods that followed the extensive property transfers these countries showed broad political support for market led reforms. The same appears to be true in some transition economies such as Czech Republic and Hungary. On the contrary, Russia showed strong and continuous opposition to privatisation all through the nineties. In spite of an extensive debate of the economic success of privatisation in the 1990's, little attention has been paid in the economic debate to the sources of political success or political failure of the privatisation agenda. Why did some communist parties embrace social democratic values and continue the privatisation process when in power, whereas others - that still command sizable public and electoral support - have kept renationalisation as one of their most prominent goals. Or more fundamentally, if privatisation is generally improving a country's economic welfare, how does it happen that it only remained popular in some countries, but was, or quickly became, highly controversial in others? The quick answer, namely that opposition to privatisation comes from those who lose out in the process, leaves the real question unanswered. Why were there large groups that lost out in some countries, this is less true in other countries? We argue that the key to this phenomenon may lie in certain structural features of a country, namely the level of corruption of its administrative and political leadership, and the quality of its tax and transfer system.

In this article we develop a simple political economy model of taxation and redistribution allowing for different forms of inefficient taxation. Tax evasion poses severe limits to implement policies aimed at reducing income inequality through redistribution We then investigate the impact of the relative efficiency of the tax system on privatisation outcomes. We consider under which

[1] For a discussion about the boundaries of private ownership see Hart/Shleifer/Vishny (1996).

conditions privatisation will proceed, and who will be the political supporters, as well as the main winners of the privatisation process. The analysis proposed introduces the notions of "corrupt" and "non corrupt" privatisation, the former basically describing the case where state assets are sold out at knock down prices, and we discuss the impact of corruption both on the initial political support for privatisation, as well as on its long term political sustainability.

While there is an extensive literature both on taxation and privatisation, there is no literature that treats the connection between imperfect taxation and privatisation. Cremer and Gahvari (1994) - though in a different context - discuss the impact of a tax evasion technology on the optimal design of a tax system, and Reinganum and Wilde (1986) develop a model where a country might optimally differentiate the level of tax inspection of citizens. Ahrend et al.(1998) investigate the correlation between tax evasion possibilities and political coalitions in the context of inflation tax. The literature on privatisation has been focused on the achievability and optimal design (speed, sequencing) of privatisation[2] rather than on the question of long term political support and sustainability. While the obvious reason for this focus has been the pressing need to organize the privatisation of the former Soviet bloc, this neglect reflects equally on the implicit assumption that privatisation would improve the economic situation so dramatically that, once achieved, one would not have to worry much about opposition from losers of the process. Still, questions of long-term sustainability are e.g. addressed in Roland/Verdier (1994) and in Schmidt (1998).

We show that while non-corrupt privatisation (unsurprisingly) enjoys widespread support, even corrupt privatisation can be broadly popular as long as the profits and efficiency gains from private ownership can at least partly be taxed away from the new owners, and thus be used to compensate the losers of a flawed privatisation process[3]. However, if a country lacks a redistribution mechanism due to an inefficient or corrupt tax system, there inevitably will be sustained political opposition from those groups that found themselves worse off after privatisation.

Not to be misunderstood, we clearly do not advocate corrupt privatisation. Apart from the obvious social injustice and the bad example the state sets through corrupt privatisation, the latter may increase the political power of the privatisation winners to a point where their potential for

[2] See Roland (1994) and Boycko, Shleifer and Vishny (1995) for fundamental contributions on this issue.

[3] Corrupt privatisation may increase the political power of the privatisation winners, and thus increase their potential for tax evasion. This is an interesting feature to be explored in future research.

political interference becomes massive[4], which in turn may heavily impact on economic and political efficiency. Our results underline the crucial importance of non-corrupt privatisation, especially in countries that lack efficient redistribution mechanisms. If in those countries the current political setting does not allow for non-corrupt privatisation, it should be seriously considered whether potential economic benefits from corrupt privatisation really outweigh the social and political costs, and whether postponing privatisation until the structural situation has sufficiently improved to garantee a fair sale of state property is not a preferable option.

Furthermore we obtain the interesting theoretical feature that inefficiencies in the tax system[5] can lead to stable "populist" coalitions between rich and poor. Under certain conditions both rich and poor will prefer to concentrate asset ownership, and thus privatisation will be biased towards the rich. These "populist" coalitions are a relatively recent concept in the formal political economy literature[6], in spite of having been a - sometimes highly successful - fact of political life in different countries. To illustrate this point and finish the introduction, a quote from El Pais (October 9, 1999) about Argentina under the rule of President Carlos Menem:

"In these ten years the "Justicialismo" (=the party of Carlos Menem) transformed its constituency and consequently the social alliance that it represented historically. It stayed with the extremes of the social spectrum. Those who have the least and those who have the most. The numerical weight of the former and the economic power of the latter. For the time of the election and for the time to govern. It had been said that such a combination was highly instable, but during ten years Carlos Menem proved that for him it was not. The "justicialist" rhetoric oscillated between a strong social and populist stress, and a cold economic neo-liberalism."

1.1 The model

Our model of imperfect taxation uses simplified elements both of the groundbreaking political economy taxation model developed by Meltzer/Richard (1981), as well as the "citizen-candidate" model from Besley/Coates (1997). More precisely we consider an economy with 3 groups of indi-

[4] Such interference could for example lead to increased possibilities of tax evasion. This is an interesting feature worth to be explored in future research.

[5] E.g. when a low efficiency of the tax collection technology does not allow for profitably taxing the middle classes.

[6] Early formalisations include Fuest/Huber (2001) and Ahrend/Verdier/Winograd (1998), who model this phenomenum, respectively, in the context of international tax coordination and inflation tax.

viduals, rich (R), middle-class (M) and poor (P), where for simplicity we assume each group to consist of a representative individual of size 1. Each representative individual has a capital stock K_r, K_m, K_p that he uses to generate income. For simplicity we suppose individuals' utility functions to be linear, so that an individual's net income (after taxes and transfers) exactly depicts his utility level. We denote $R_i = R(K_i)$ the income of the representative individual of type i, obtained as returns on his capital K_i. This capital - which may be human or physical - is individual specific, that is cannot be used by other individuals. To simplify we assume in the following that poor individuals do not have any capital (and are unable to efficiently use physical capital due to their lack of human capital), thus cannot generate income. We furthermore assume that type and income are observable, but not verifiable without inspection. We motivate this by the observation that an individuals' income level can usually be very accurately deducted from his visible consumption spending, e.g. on houses or cars. However, only if an individual is tax inspected his income can actually be verified.

The main function of Government is to tax income and to redistribute it lump sum via a monetary transfer or the provision of public goods. In addition the government runs enterprises, profits of which are also distributed to the population. We assume everybody in the economy to profit equally from the transfers in order not to make our results dependent on a particularly biased way of redistribution. The income tax rate τ is decided in a general vote, and this decision on the tax rate is to a certain degree - as we will see later - an implicit decision on the efficiency of the tax system. We would like to draw attention to the fact that though we call it income tax, we consider taxation in a larger sense. We see individuals not only as wage earners, but mainly as owners of enterprises. Thus we would include in the income tax an individual pays all kind of taxes that his enterprise is paying (or evading).

While common knowledge considers that it is usually rich individuals or larger companies that have an advantage in tax evasion, casual evidence from developing countries as Brazil or Russia indicates that in reality sometimes the exact opposite may be true. Large companies in these countries keep complaining about "unfair competition" from smaller competitors that would not pay taxes as being small would allow them to escape the attention of the tax inspection authorities.[7]

[7] See FT, June 16, 1999 "Brazil's regional drinks makers slake thirst for value - The tax regime and growing

To capture this stylised fact we assume a fixed cost for taxing an individual. This fixed cost can be seen as the cost of paying a tax inspector for verifying an individual's income, and thus to enforce the payment of the taxes due (as long as your income has not been verified you have no incentive to pay taxes). The assumption of a fix cost implies that it is inefficient to tax-inspect individuals with an observed income below the fix cost of tax inspection, thus these agents will effectively not pay taxes. Another possibility, maybe closer to reality, for modelling a tax system would obviously be to only inspect sporadically and to fine tax evaders. Nevertheless this means that there is an average cost of inspection for each tax liable individual, and setting up such a system for a certain group of individuals makes only sense if the expected return from each of them - either from tax payments or fines - exceeds the average inspection cost. Thus assuming a fixed cost for inspecting an individual that, if inspected, pays the amount of taxes he is supposed to pay is basically equivalent to the aforementioned system, and has the advantage of simplicity. We denote c the cost of tax inspecting an individual. As mentioned before, an individual is only monitored if it is worthwhile, that is if the expected tax payment is higher than the monitoring cost, that is $\tau R_i > c$. There can be three different situations, as explained below:

"Low-Income Country" : Suppose a situation where $c > R_r > R_m \ \ \forall \ \tau \in [0, 1]$, that is the cost c of tax inspecting any individual in society is higher than the expected tax revenue τR_i, whatever the tax rate may be. In such a country everybody knows that he will rationally not be monitored, as it is not worthwhile doing so, and thus nobody pays taxes. We think that such a scenario could describe the situation in a very impoverished country, where the state is mostly absent, at least in any redistributive or social function, and might carry resemblance e.g. to some extremely poor African countries. For expressional clarity we will in the following refer to such a situation where nobody, given the efficiency of the tax administration as reflected in the level of c, is rich enough to be worth taxing as the "Low-Income Country" or the "No Taxation" case.

"Middle-Income Country" : Now consider the situation where there are tax rates $\tau \in [0, 1]$ so that $\tau R_r > c > \tau R_m$, that is where it is worthwhile to tax the rich, but at any tax rate it is inefficient to target the middle-classes. This results from the fact that only the tax income

demand have penalised leading brands" or Moscow Times, August 31, 1999 "Residential Construction Remains Profitable".

from a rich individual τR_r can be superior to the inspection cost c, provided the tax rate τ is sufficiently high, whereas the cost for inspecting a middle-class individual would be higher than the expected profit $c > \tau R_m$ for any tax rate τ. Such a description seems to fit quite a large number of developing or emerging countries, and we will refer to such a setting in the following as the "Middle-Income Country" case.

"High-Income Country" : Finally consider a country that is sufficiently rich to allow for profitable taxation of the largest part of the population. More precisely imagine that there are tax rates $\tau \in [0,1]$ so that $\tau R_r > \tau R_m > c$. Such a case - with taxation levels that allow profitably to tax both the rich and the middle-class - characterizes developed countries, and for clarity we will refer to this case as "High-Income Country".

In the case of a high-income country it is however not obvious - as we will see later - that the possibility to profitably tax the rich and the middle-class will effectively be exploited. As the level of taxation is a political decision that is decided in a general vote, the "who is taxed outcome" will naturally depend on the political equilibrium.

In a general vote, each individual i votes for the tax rate τ that maximises his personal well-being as represented by his (after tax and transfer) net income. That is each individuum i maximises

$$U_i = \underset{\tau}{Max} \left\{ R_i - (\tau R_i * \mathbf{1}_{\tau R_i > c}) + \frac{1}{3} \left[\Pi^G + \sum_j (R_j \tau - c) * \mathbf{1}_{\tau R_j > c} \right] \right\} \tag{1}$$

where $\mathbf{1}$ is the indicator function, and the optimisation of τ is obviously under the constraint that $\tau \in [0,1]$. In the above equation the first two terms describe an individual's net revenue (apart from transfers). The first term is his gross revenue, from which the taxes he pays (second term) are deducted. These taxes are τR_i if it is profitable to tax him, that is if $\tau R_i > c$; otherwise he completely evades taxation. The third term describes the transfer an individual obtains, that is $\frac{1}{3}$ (given that the size of the population is 3) of the total sum collected in profits Π^G from state enterprises and in taxes from the individuals that are worth taxing, minus the cost of tax collection. With respect to standard political economy models of taxation, the interesting feature here is that the decision on the tax rate will equally decide on who will be worth taxing, and the political outcome is thus far from trivial.

The argumentation about the determination of the political equilibria will in the following mainly be based on a slightly simplified version of the "Citizen-Candidate" model[8]. The "Citizen-Candidate" model allows to determine political (voting) equilibria in a broad range of situations, and is thus far more general than the median voter framework. It splits the political selection process in two stages. First there is an entry stage, in which each citizen chooses strategically whether to run as a candidate or not. A small entry cost in this stage prevents more than one candidate with the same preferred policy from running for office. In a second stage all citizens vote and elect one of the running candidates, who then implements his most preferred policy. In a three class setting as we use it, this basically means that there is either one citizen from the group with preferences between those of the two other groups (something like the "median group") who stands unopposed and wins. In this case the political outcome is equivalent to the one obtained in a median voter framework, and for simplicity of the exposition we will sometimes refer to a median voter framework at these occasions. Alternatively, and these are the cases where the median voter framework does not provide a political equilibrium, there are situations where citizens from n different groups run and tie, which signifies that the preference of each of the candidates is implemented with probability 1/n.

1.2 Political equilibria of taxation levels

In a first step we determine the tax rates in political equilibrium as resulting from the electoral process set out before. We think an effective tax rate of 1 - which means complete equalisation of net revenues - not only to be unrealistic, but also to be an undesirable feature. While it obviously has the attraction of simplicity, it often implies that individuals become indifferent to most policy choices. We thus define a maximum tax level $\tau^{\max}$. We think of it as being strictly inferior to 1, but as sufficiently close to it to guarantee that necessary threshhold levels of redistribution, that could be reached with $\tau = 1$, will also be attainable with $\tau^{\max}$. This implies that in high-income countries $\tau^{\max} > \frac{c}{R_m}$.

Proposition 1 *: In a low income country there will be no taxation, in a medium income country*

[8] See Besley/Coate(1997).

the political equilibrium tax rate will be maximal, $\tau = \tau^{\max}$. In a high income country the political equilibrium will lead to the maximal tax rate $\tau = \tau^{\max}$ if the income of the middle class is below the mean, and to $\tau = \frac{c}{R_m}$ otherwise.

We give a full proof in the appendix and thus limit ourselves here to explaining the intuition behind the results. As in a low-income country nobody can be profitably taxed, there obviously will be no taxation. In a middle-income country where it only makes sense to tax the rich, the political equilibrium is also very intuitive. The rich prefer no taxation $\tau = 0$[9]. However, both middle-class and poor voters are not worth taxing, but profit from a transfer if the rich pay taxes. Thus they both favour the highest possible net tax payments - taxes minus tax inspection costs - and thus vote for $\tau = \tau^{\max}$.

In the case of a high-income country where both rich and middle-classes in principal could be profitably taxed the political equilibrium is more complicated. If there was no fixed cost of taxation, this situation would be the "standard case" in the traditional political economy literature. Namely if the median voter - who in our case is a middle-class individual - had a higher income than the mean there would be no taxation ($\tau = 0$) for redistributive purposes, and if his income was below the mean he would want maximal[10] redistribution, that is $\tau = \tau^{\max}$. But due to the fixed cost assumption the situation changes. The poor, for similar reasons as in the middle-income country or the "standard case", still want the largest redistribution possible, while the rich would prefer no taxes. As long as the income of the middle-class is below the mean, they vote with the poor for maximal taxation. However when their income is above the mean, their most favoured tax rate is the highest tax rate such that they themselves just escape taxation - by being unprofitable to tax - but where the rich still pay taxes. As this basically means a reduction of the taxes both the rich and the middle-class pay to the detriment of the poor, one might describe this as a coalition between rich and middle-class against the poor.

In the following table we summarize the preferred tax rates of the different classes, and the resulting political equilibrium taxation levels.

[9] More precisely the optimal tax rate τ could be anywhere in the interval $\left[0, \frac{c}{R_r}\right]$ as for those tax rates taxation would not be profitable, and thus there would be no taxation. For clarity of the exposition and notational simplicity we refer throughout the article with $\tau = 0$ to such a situation where optimal tax rates are in an interval that includes

Table 1: Taxation levels - political equilibria

	Preferred tax rate of: poor	middle-class	rich	Voted rate:
Low-income country: Taxation not profitable	$\tau=0$	$\tau=0$	$\tau=0$	$\tau=0$
Medium-income country: Only taxation of rich profitable	$\tau=\tau^{max}$	$\tau=\tau^{max}$	$\tau=0$	$\tau=\tau^{max}$
High-income country: Taxation of rich and middle-class profitable				
Middle-class income above mean	$\tau=\tau^{max}$	$\tau=c/R_m$	$\tau=0$	$\tau= c/R_m$
Middle-class income below mean	$\tau=\tau^{max}$	$\tau=\tau^{max}$	$\tau=0$	$\tau=\tau^{max}$

1.3 Privatisation - political equilibria

We are now turning to the question how the politico-economic structure will determine the development of an economy's asset ownership. More precisely we focus on the question to whom society will give the ownership rights if there are new assets to be distributed. More concretely this could be a case where ownership rights of newly discovered resources are decided, or - the case we focus on - when state assets are privatised. We assume that state owned assets procure the government with a revenue stream used for redistribution. While government owned enterprises are not always very profitable (if at all), they often provide substantial transfers to the population, for example through artificially low prices for housing, basic food and especially utilities (water, gas, electricity, etc.). The total revenue stream of government from state owned enterprises consists thus of the share of profits its obtains directly plus the value of subsidies to the population. It is this total revenue stream that we refer to in the following when we speak of the profit of state owned enterprises, and we denote it by Π^G.

A country has now the choice between keeping assets in state control and thus being able to

0 and where the rates of this interval would effectively lead to zero taxation.

[10] As for simplicity we assume the cost of taxation not to increase with the tax rate.

continue providing the aforementioned transfer, or privatising. We assume private management to be more efficient, thus the revenue stream that private owners can capture following privatisations Π^P will be above the revenue stream Π^G the government has been able to obtain. We differentiate in addition between countries with strong administrative capacities, and those with weak and corrupt administration. In countries with weak and corrupt administrations, privatisations will more or less resemble theft as assets will be given away to insiders at knock-down prices, whereas in less corrupt countries assets will be sold closer to market prices.

Following standard capital market theory, the price of an asset should be the net present value of its future revenues[11]. We define privatisation to be corrupt when assets are sold for a price P below the net present value of the income stream which even inefficient management, that is government, would be able to obtain. In countries with decent administrations that do not privatise in a corrupt way, the price of the assets will be somewhere between the net present value of the income stream of an inefficient (government) and an efficient private owner, with the exact price depending on the bargaining power of government and potential private owners. Considering for simplicity a one-period model, the price of an asset should thus be the profit that could be derived from it. In our case this comes down to privatisation being corrupt as long as $P < \Pi^G$. The price in non-corrupt privatisations will be between $\Pi^P \geqslant P \geqslant \Pi^G$, where $P \leq \Pi^P$ must hold as otherwise individuals would not be interested in buying the assets.

The exact political game is now the following: First there is a vote on the tax rate, as described in section 1.2. Afterwards there is a vote on privatisation, in the sense that a policymaker is elected who will decide whether to privatise, and, if relevant, whom to privatise the assets to. In their vote citizens take rationally into account who would win control over the assets in case they were privatised. When deciding on privatisation issues, individuals take the efficiency of the tax system and the tax rates as determined in section 1.2 as given. This implies that privatisation does not change the efficiency of the tax system or the political equilibrium[12]. It might be unusual to think about privatisation as being targeted towards a special social group, however the way

[11] As long as there is no uncertainty.

[12] The former seems unproblematic apart for extreme situations where post-privatisation the taxation of income groups, that pre-privatisation could not be profitably taxed, becomes profitable. The latter signifies that the relative income position of the middle class with respect to the mean is unchanged by privatisation, a feature that equally seems to hold in an overwhelming majority of privatisations. However, for an explicit treatment of the situation where privatisation changes the relative income position of the middle class see Biais/Perotti 2001.

privatisation is implemented usually has a large impact on who will end up owning the assets. One could for example think about closed insider privatisation, or direct asset sales of large entities as privatisation towards the rich. In such a set-up middle-class individuals would not be able to succeed in winning control over assets, as they would lack the necessary connections and/or financial power[13]. On the contrary public share offerings, eventually with a cap on the amount of shares an individual can buy, or the sale of large enterprises in small entities would favour privatisation towards members of the middle-class.

Proposition 2 *: All individuals support a non-corrupt privatisation, regardless of the type of the country and the efficiency of its tax system, as long as there is some stock or bond market with returns matching those of the private sector.*

We give explicit proofs of this and the following propositions in the appendix, and limit ourselves here to explain the intuition behind the results. A non-corrupt privatisation, by definition, is done at or above the net present value of the revenue stream from the state enterprises. Under the condition that there is a foreign or local financial market with returns matching those of privately owned enterprises, a non-corrupt administration has the possibility to invest the privatisation receipts there, and thus to transform them into a constant revenue stream exceeding the one from the state enterprises. Consequently post-privatisation the government can provide a transfer to everybody that exceeds the transfer it provided from or via the state owned industries beforehand. Thus privatisation is an improvement that will enjoy widespread support as increasing everybody's net income, regardless of the income level of the country and the efficiency of its tax system.

Proposition 3 *: In a low income country non-corrupt privatisation will be supported by rich and middle class, which will split the assets in expected value terms. In a country where privatisation would be corrupt there is no clear political equilibrium. Hence an individual of any social class can access to power. A middle class or rich policymaker would privatise (at a discount) to their own social group, whereas a poor policymaker would not privatise.*

With respect to the privatisation outcome, rich and middle-class both favour privatisation and

[13] Supposing that there are credit constraints.

would both want to get control of the assets for themselves. If privatisation was non-corrupt, the poor would be completely indifferent[14] about whether to privatise or who to privatise to. They, however, strictly oppose corrupt privatisation as selling state assets below their net present value takes - at least partly - the only opportunity for the government away to redistribute, and hence poor agents, who do not profit from the general giveaway of state assets, will loose. Consequently, in a non-corrupt setting a rich and a middle-class citizen will stand for election and tie (with the poor abstaining). In such a situation the governor will be randomly selected between the election winners, and then implement his preferred policy, which would mean that either rich or middle-class would get hold of the assets.

In a corrupt setting it will be preferable for each social group to try to grasp power for themselves, instead of supporting a candidate from another social group. Hence there will be a tie between three candidates and an ensuing lottery, this implying that an individual from any group can accede to power. Assuming that government is decided in a lottery is obviously an unrealistic feature if taken literally. We see this lottery as a stylised way of describing a situation where different social classes have completely contradictory interests on an important issue, and hence are unable to form electoral alliances (this is typically the case when there is no median-voter equilibrium). In such a situation elections are typically decided on minor issues, as e.g. the looks of the candidates.

It is interesting to note that, as under corrupt privatisation the losers from the above lottery would lose from privatisation, in spite of an ex-ante majority for privatisation, there would be an ex-post majority against it. In reality such a situation might be accommodated by some kind of coalition between rich and middle-class to share the assets, but even in such a situation there would be continued opposition against privatisation from the poor who would loose out in the privatisation process.

Proposition 4 *: In a middle income country both corrupt and non-corrupt privatisation will profit from unanimous public support, and in both cases there will be a "populist coalition" that will*

[14] As income taxation is impossible, from a taxation point of view it does not make any difference to the poor who gets the assets. The exception being the case where giving the assets to the rich will increase their capital base sufficiently as to make it worthwhile taxing them. Under these circumstances the poor would prefer the rich to have the assets, who would thus get them. However this special case is ruled out in our model by definition.

attribute asset ownership to the rich.

In a middle-income country, that by definition has an inefficient tax administration as it can only tax the rich, both rich and middle-class individuals are obviously still interested in obtaining the state assets. However, the preferences of the poor change in comparison with the low-income case. They will favour privatising the assets to the rich, as this will increase the taxable revenue and thus their transfer. In consequence a "populist" coalition between rich and poor emerges that at the same time increases asset inequality and decreases income inequality. This populist coalition does even hold for a corrupt privatisation as the poor are willing to privatise assets at knock down prices, getting compensated for their income loss by an increased transfer[15] from the additional income of the privatisation winners. In addition middle-class agents, though they would obviously have preferred to profit directly by gaining control over corruptly privatised assets, still prefer corrupt privatisation to the rich to no privatisation as this increases their income via a larger transfer. The middle-class is thus willing to support privatisation, knowing that they will not gain control over the assets. Consequently there is not only a broad consensus for privatisation ex-ante, but also ex-post.

Proposition 5 *: In a high income country where the middle class income is above the mean, both non-corrupt and moderately corrupt privatisation (i. e.* $\Pi^P - P < (\Pi^G - P)\frac{R_m}{c}$*) will be supported by a "populist" coalition that will sell the assets to the rich. There will even be unanimous support for privatisation. However, if* $\Pi^P - P > (\Pi^G - P)\frac{R_m}{c}$*, there will be no clear political equilibrium with candidates from each social class standing. If the income of the middle class is below the mean, both in a corrupt and non-corrupt privatisation assets will be split in expected value terms between middle class and rich.*

For a high-income country where both middle-class and rich can be taxed, we showed in the previous section that as long as the income of the middle-class is above the mean, the political equilibrium will be an inefficient tax administration with only the rich paying taxes. Thus, as in a middle-income country with an inefficient tax administration, there will be a "populist" coalition

[15] This depends on our assumption that the equilibrium tax rate $\tau^{\max}$ will be sufficiently close to 1 to achieve this effect. If one restricted maximal taxation rates more strictly, there would be levels of corruption where privatisation would not be supported any longer apart from those who acquire the assets on the cheap.

where the poor favour privatisation to the rich, as this will increase their transfer. However in this case the rich only pay taxes at a reduced rate $\tau = \frac{c}{R_m}$, and thus only part of their additional income from the newly privatised assets can be taxed away. Consequently, in order to win the support of the poor and the middle-class for a privatisation towards the rich, the loss in government revenue due to privatisation must be below the additional tax income from the rich, that is $\Pi^G - P < \frac{c}{R_m}(\Pi^P - P)$. If this condition were violated the poor would lose from privatisation, thus opposing it. However, both rich and middle-class would profit most if they privatised the assets at a large discount to their clientele, hence a representative of each social group would stand, with the aim of preventing privatisation (poor) or grabbing the assets for his social group (rich or middle-class). This would imply a tie and a lottery, hence any social group may end up in power.

If on the other hand the middle-class is poorer than the mean, the political equilibrium leads to an efficient tax administration with rich and middle-class both paying taxes at the same tax rate. Consequently a poor individual is indifferent between privatizing to the rich or the middle-classes. We would thus, as in a low-income country, get an election where a rich and a middle-class individual would stand and tie, and thus in expected value terms rich and middle-class would split the assets between them. In this setting even corrupt privatisation would have unanimous support both ex-ante and ex-post, as due to an efficient tax system, the additional revenue from the winners of the privatisation can be largely taxed away (as the tax rate $\tau^{\max}$ is sufficiently close to 1), and thus the post-privatisation transfer is at least equal to the pre-privatisation transfer.

For generality and simplicity we have so far considered a linear tax system, but would like to state at this point that our main result - a political tendency of privatisation towards the rich in a country with imperfect taxation - is robust to introducing a more progressive tax system. A more progressive tax system would already by itself create an incentive for individuals depending on transfers to give ownership of state assets rather to those with the highest marginal tax rate, as this would maximise their transfer revenue, and thus reinforce our result.

1.4 Privatisation under the possibility of tax evasion through corruption

Until now we have been assuming that individuals either fully evade taxation if they are not monitored, or fully pay taxes if they are. This is obviously an unrealistic assumption, as even in

Table 2: Privatisation outcomes - political equilibria

	Poor	Middle-cl.	Rich	Election outcome:	Privatisation outcome:
	prefer privatisation towards:				
Low-income country: ***No tax-administration***					
Non-corrupt privatisation	indifferent	middle-class	rich	rich & middle-class candidate tie	**rich & middle-class "share" assets***
Corrupt privatisation	against privatisation	middle-class	rich	rich, middle-class & poor candidate tie	**no privatisation, or rich & middle-class "share" assets***
Medium-income country: ***Inefficient tax-administration***	rich	middle-class	rich	rich candidate wins unopposed	**rich get assets** (populist coalition)
High-income country:					
Inefficient tax-administration Non- or moderately^{+} corrupt privatisation	rich	middle-class	rich	rich candidate wins unopposed	**rich get assets** (populist coalition)
Highly^{+} corrupt privatisation	against privatisation	middle-class	rich	rich, middle-class & poor candidate tie	**no privatisation, or rich & middle-class "share" assets**
Efficient tax-administration	indifferent	middle-class	rich	rich and middle-class candidate tie	**rich & middle-class "share"assets***

* in expected value terms $^{+}$see proposition 5 for details

the presence of monitoring individuals might be able to avoid part of their tax burden. One could assume for example that each individual only pays a percentage α of its tax bill even if monitored. Supposing that this type of evasion often needs at least the tacit support of government officials, who might ask for some compensation for their support[16], we will refer to it as "evasion through corruption"

In this section we investigate how privatisation incentives change for corrupt privatisation when individuals have an additional possibility to evade a part $1 - \alpha$ of their taxes through corruption. In a low-income country with no taxation the situation is obviously unchanged by the additional possibility of tax evasion through corruption. Both in a middle-income and in a high-income country the preferences about who to privatise to - if privatisation goes ahead - do not change; however, in both cases, under certain conditions the willingness to privatise changes. More precisely there will be the possibility of opposition from the poor (and ex-post from the other social group that did not directly profit from the privatised assets), even in those cases where before privatisation enjoyed widespread support. This results from the fact that under the possibility of additional tax evasion through corruption the effectively paid taxes on income from privatised assets may not be sufficient any more to compensate for the historic transfer financed from state assets, that was at least partly lost due to privatisation. In the table below we summarise our findings with respect to the popularity of privatisation, where we put the efficiency of a country's tax administration on the vertical axis, and the degree of corruptness on the horizontal axis. We see that both with increasing inefficiency of a country's tax system, and with increasing corruption there is a tendency of popular support for privatisation to diminish.

[16] For convenience we normalize the size of this compensation to 0.

Table 3: Privatisation - political support

No tax-administration	Political support	Political opposition	Political opposition
Inefficient tax-administration	Political support	Political opposition[1] or political support	Political opposition[2]
Efficient tax-administration	Political support	Political support	Political opposition[3]
	No corruption[4]	**Corrupt privatisation**	**Privatisation & tax-administration corrupt**

[1] If $(c/R_m) < (\Pi^G - P)/(\Pi^P - P)$ in a high-income country, otherwise political support.
[2] Unless $\alpha > (\Pi^G - P)/(\Pi^P - P)$ in a medium-income, or $\alpha(c/R_m) > (\Pi^G - P)/(\Pi^P - P)$ in a high-income country.
[3] Unless $\alpha > (\Pi^G - P)/(\Pi^P - P)$ in a high-income country.
[4] Or moderately corrupt privatisation as defined for the high-income country case.

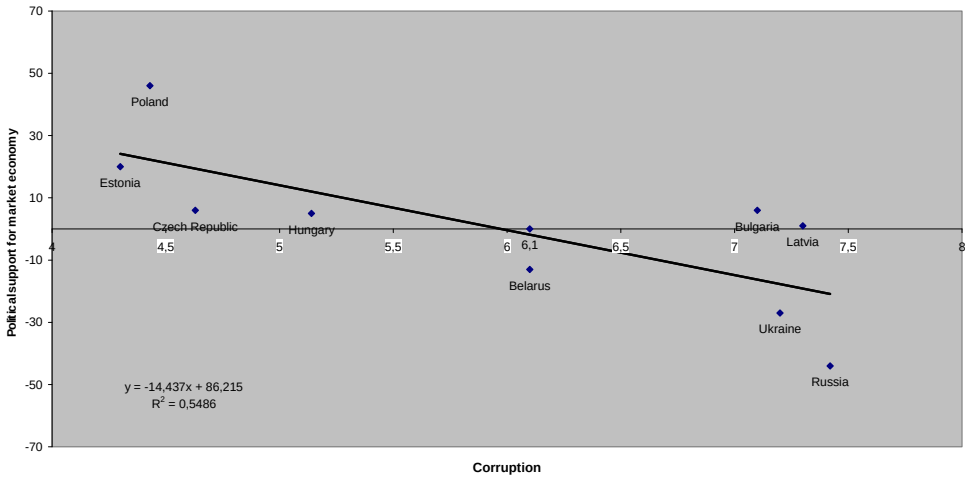
Our finding that even corrupt privatisation may be popular as long as an efficient and not too corrupt tax administration allows for the compensation of those who lost out in the privatisation process, might for example explain differences in public perception of privatisation in Russia and Argentina. Privatisation in Russia remained deeply unpopular and under constant attack from the left of the political spectrum all through the nineties. In contrast, privatisation in Argentina enjoyed broad support from all sides of the political spectrum during the period that followed the extensive property transfers. In both countries state assets were sold fast and at discounted prices.[17] In the mid-nineties for Argentina this resulted in increased investment and growth, higher state revenues, and increased social spending both in absolute and relative terms. On the contrary, in Russia during the nineties a weak state was unable to collect sufficient taxes. This contributed to a continued decline in GDP and a large fall in the size of government in the aftermath of privatisation, this implying an important decrease in social spending, again both in relative and absolute terms.

Moreover our result that both corruption in various forms, either during privatisation or in a country's tax administration, as well as inefficiencies in a country's tax collection system reduce the popularity of privatisation seems to fit quite well the experience of the Eastern European transition countries as the following graphs show. In the first graph we put the general level of

[17] However, the "rebate" at which assets in Russia were privatised was much higher.

corruption[18] in a country on the horizontal axis and the political support for a market economy[19] on the vertical axis. Interestingly we see that popular support for a market economy, that we consider as a very good proxy for the popularity of privatisation, is much stronger in countries with lower corruption levels. In the second graph we put inequality (measured by the GINI coefficient[20]) on the horizontal axis, and again political support for a market economy on the vertical axis. While there were already differences in inequality in Communist times, the largest part of the difference is due to changes in recent years. We thus regard high levels of inequality as an expression of the incapacity of a government to efficiently tax and redistribute resources. We see that in those countries with high levels of inequality, political support for a market economy is - in average - lower. We view this as tentative empirical evidence that the less governments were able to compensate losers from privatisation, the more the popularity of the free-market model suffered.

Graph 1: Popular support for market economy vs. corruption



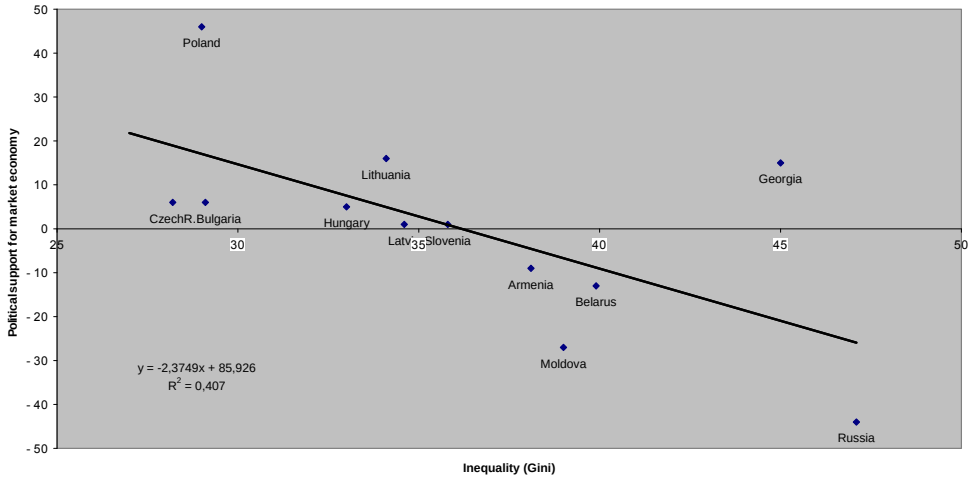
[18] Data from "Transparency International" (TI) Corruption Index (rescaled from 0-10, so that 10 is the highest possible level of corruption). The TI Corruption Index, that has been widely used in empirical studies on coruption, constructs a weighted average from different corruption indices that measure perception of corruption in a large sample of countries.

Obviously under the constraint of data availability, we use the year that is closest to the main privatisation initiative in each country.

[19] For 1995 as taken from Aslund/Boone/Johnson(1996). Surveyed citizens in each country were asked about whether or not they supported the system of a market economy. The data reported are the percentage of net positive (i. e. positive - negative) responses.

[20] Data taken from various EBRD transition reports and Deininger and Squire(1996).

Graph 2: Political support for market economy vs. inequality



1.5 Equilibrium taxation levels and privatisation outcomes under the possibility of political evasion

So far we have been assuming that all individuals have the same possibility to corrupt. In this situation smaller companies have an advantage in tax evasion, as by being small they might not be worth the tax inspector's attention, and thus be able to evade a part of their taxes. It seems however reasonable to drop the constraint that all individuals have the same capacity to corrupt, and to assume that individuals or companies with better connections or more financial power have - if monitored - an advantage in trying to use corruption to diminish their tax bill. Given the advantage of more powerful and politically better connected individuals and companies for this kind of tax evasion, we will refer to it as "political" evasion. We model this feature somewhat simplified by assuming that only rich individuals have the possibility to "politically evade", more precisely we assume that they do not pay taxes on a share $1-\alpha$ of their revenue even if monitored. Obviously, such an assumption does not change the political equilibrium in low and middle[21] income countries. However in high-income countries the condition which determines whether the middle-class are willing to be in a "low tax rate" coalition with the rich (see Proposition 1) changes from $R_r < 2R_m$ to $R_r < \frac{2R_m}{\alpha}$. This means that the larger the possibilities for political evasion,

[21] At least as long as it stays profitable to tax the rich.

and thus the lower the share α of their tax bill that the rich actually pay, the more the middle-class are likely to support a lower tax rate, that is to join a coalition with the rich against the poor. This comes from the fact that under the possibility of "political evasion" the difference between the taxable income of the rich and the middle-class decreases, thus making redistribution from the rich to the middle-class less interesting for the latter. We obtain thus the interesting feature that in countries with higher levels of corrupt links between the wealthy and the political and administrative elites, not only total tax income, but equally tax rates have a tendency to be lower in political equilibrium.

But the possibility of "political" evasion not only changes taxation levels in political equilibrium, but equally impacts on privatisation outcomes. In the "efficient taxation" political equilibrium in a high-income country, where both rich and middle-classes are paying taxes, the possibility of political evasion for the rich means that the middle-class' effective tax rate surpasses that of the rich. Thus the poor, before indifferent with respect to the privatisation outcome, now favour privatisation towards the middle-class. Generally speaking we find thus that the possibility of "political" tax evasion favours privatisation towards the middle-class.

Under the plausible assumption of a negative correlation between the strength of civil society and levels of political corruption[22], the stronger a country's civil society, the more the political setup will allow for privatisations towards the rich. This results from the fact that in countries with lower corruption potential the possibility of "political" tax evasion of the rich is reduced, and thus effective tax and transfer levels are higher. Consequently we would expect less political resistance to concentrated asset ownership in countries with strong institutions and a highly developed civic and democratic culture. In this respect Sweden's "social-democracy a la Wallenberg", where extremely concentrated asset ownership goes hand in hand with a very progressive tax system and high-income equality due to large social transfers, seems an interesting example.

1.6 Conclusion

In this article we have developed a political economy model of imperfect taxation, and investigated the impact of imperfections in the system of taxation on privatisation outcomes. We show that

[22] See Ahrend(2002) for empirical evidence on this issue

under imperfect taxation the possibility of "populist" coalitions between the richer and poorer segments of society arises that lead to a concentration of wealth while simultaneously decreasing income inequality. We furthermore argue that these extreme coalitions are more likely to emerge in countries with a better developed civil society where advantages in tax evasion for wealthier agents are less pronounced.

We show that privatisation can enjoy widespread support even in a corrupt country, as long as an efficient and honest tax administration allows to increase tax revenues in the aftermath of privatisation to compensate those that lost out in the process. However if, either due to lack of development or widespread corruption, a country lacks the possibility of sufficient taxation and redistribution, compensating the losers becomes unfeasible. In such a case permanent political opposition against privatisation will emerge, and privatisation attempts may be blocked or under threat of reversal. We present empirical evidence from Eastern European Transition countries that support our theoretical result that corruption in various forms, as well as inefficiencies in a country's tax collection system, reduce the popularity of privatisation.

1.7 APPENDIX

Proof. [Proof of Proposition 1] : We refer to what we call "low-income", "middle-income" and "high-income" countries in the text respectively as case 1, 2 and 3. All following maximisations are under the constraint that $\tau \in [0, \tau^{\max}]$, where $\frac{c}{R_m} < \tau^{\max} < 1$, and for simplicity we assume that in the case where the fixed cost of taxation equals exactly the potential tax liability there will be no taxation. Case 1 is trivial.

In case 2 a rich individual maximises $\underset{\tau}{Max} R_r - [\tau R_r * \mathbf{1}_{\tau R_r > c}] + \frac{1}{3}\{[\tau R_r - c] * \mathbf{1}_{\tau R_r > c}\}$, which is obviously maximal (namely R_r) for any positive $\tau \leq \frac{c}{R_r}$. Middle-class individuals maximise $\underset{\tau}{Max} R_m + \frac{1}{3}\{[\tau R_r - c] * \mathbf{1}_{\tau R_r > c}\}$ which is maximal for $\tau = \tau^{\max}$ (remember that in case 2 by definition $R_r > c$). Poor individuals maximise the general transfer (as by assumption they have no revenue on their own), thus $Max \frac{1}{3}\{[\tau R_r - c] * \mathbf{1}_{\tau R_r > c}\}$ which again is maximal at $\tau = \tau^{\max}$. This implies that there would be only one citizen with preferences $\tau = \tau^{\max}$ (either from the poor or the middle-class) that would stand for election and be elected. There would be no candidate from the rich, as he/she would only waste money on the entry cost to be a candidate, but would not have any chance to win. The tax rate implemented after election will thus be $\tau = \tau^{\max}$.

In case 3 rich individuals maximise $\underset{\tau}{Max} R_r - [\tau R_r * \mathbf{1}_{\tau R_r > c}] + \frac{1}{3}\{[\tau R_r - c] * \mathbf{1}_{\tau R_r > c} + [\tau R_m -$

$c] * \mathbf{1}_{\tau R_m > c}\}$, which as in case 2 is maximal for any positive $\tau \leq \frac{c}{R_r}$. Rich individuals are not interested in setting a tax rate so as to tax the middle-class (i.e. $\tau > \frac{c}{R_m}$), as any increase in their transfer through such higher taxes would be dwarfed by the additional tax they would have to pay themselves. Poor individuals - as in case 2 - want obviously maximal taxation so as to maximise their transfer. For middle-class individuals the situation is more interesting, as their utility is maxed by $\underset{\tau}{Max} R_m - [\tau R_m * \mathbf{1}_{\tau R_m > c}] + \frac{1}{3}\{[\tau R_r - c] * \mathbf{1}_{\tau R_r > c} + [\tau R_m - c] * \mathbf{1}_{\tau R_m > c}\}$. This function is linear in each of its continuous and differentiable intervals, so that an optimum will necessary be at one of the break-points or edges. Let us first consider the interval $0 \leq \tau \leq \frac{c}{R_m}$. We see immediately that in this interval utility increases with τ, so that $\tau = \frac{c}{R_m}$ would be optimal on this interval. Now consider the interval $\frac{c}{R_m} < \tau \leq 1$. On this interval the maximisation becomes $\underset{\tau}{Max} R_m(1-\tau) + \frac{1}{3}(\tau R_r + \tau R_m - 2c)$. This function is decreasing with τ as long as $R_r < 2R_m$, which basically states that the middle-class do not want to increase taxes as long as their income is above the mean income. This shows that for $R_r < 2R_m$ the maximum utility for a middle-class individual is at $\tau = \frac{c}{R_m}$. However, controlling for the actual utility values at $\tau = \frac{c}{R_m}$ and $\tau = 1$, we see that if $R_r > 2R_m$ a middle-class individual prefers $\tau = 1$. Hence -as we have defined $\tau^{\max}$ to be sufficiently close to 1- if $R_r > 2R_m$ a middle-class individual prefers $\tau = \tau^{\max}$. This means that in case 3 the election result will depend on the relative income position of the middle-classes. If $R_r < 2R_m$, that is their income is above the mean, a citizen from the middle-class will stand unopposed and win, thus the political equilibrium outcome will be $\tau = \frac{c}{R_m}$. If however their income is below the mean income, that is $R_r > 2R_m$, either a citizen from the middle-class or the poor will stand unopposed and win, thus the political equilibrium outcome will be the tax rate $\tau = \tau^{\max}$. ■

To be able to prove propositions 2-5 in an efficient manner, we prove first a useful Lemma. As stated in the beginning of section 1.3 we assume that privatisation does not change the efficiency of the tax system or the political equilibrium. Moreover we assume in the following that there is some stock or bond market with returns matching those of the private sector. This means -as in our case we have assumed the return on one unit of capital to be one- that the government can place its privatisation revenues P and obtain a return of P on them.

Lemma 1: If assets are privatised, individuals who acquire the assets always profit from privatisation. Individuals who do not acquire privatised assets profit from privatisation if the tax rate of the buyers $\tau_B > \frac{\Pi^G - P}{\Pi^P - P}$

Proof. [Proof of Lemma 1] Denote by nb an individual that does not buy, by b an individual that buys privatised assets, and by P the price at which assets are privatised. Furthermore denote by τ_i the effective tax rate individual i is paying, that is $\tau_i = \tau$ if individual i

pays taxes and $\tau_i = 0$ otherwise. As long as there is no privatisation, the utility of any individual i is given by equation 1, that is $U_i^{NP} = R_i(1-\tau_i) + \frac{1}{3}\left[\Pi^G + \sum_j R_j\tau_j - \sum_j c\right]$. where j denotes all individuals that pay taxes. Post privatisation the utility for non-buyers becomes $U_{nb}^{PP} = R_{nb}(1-\tau_{nb}) + \frac{1}{3}\left[P + (R_b + \Pi^P - P)\tau_b + \sum_{j\setminus b} R_j\tau_j - \sum_j c\right]$. Post privatisation the utility for buyers becomes $U_b^{PP} = (R_b + \Pi^P - P)(1-\tau_b) + \frac{1}{3}\left[P + (R_b + \Pi^P - P)\tau_b + \sum_{j\setminus b} R_j\tau - \sum_j c\right]$. Thus the change in utility for a non-buyer is $\Delta U_{nb} = U_{nb}^{PP} - U_{nb}^{NP} = \frac{1}{3}\left[P - \Pi^G + \tau_b(\Pi^P - P)\right]$. Hence a non-buyer profits from privatisation when $\tau_b \geqslant \frac{\Pi^G - P}{\Pi^P - P}$. The change in utility for buyers is $\Delta U_b = U_b^{PP} - U_b^{NP} = (1-\tau_b)(\Pi^P - P) + \frac{1}{3}\left[P - \Pi^G + \tau_b(\Pi^P - P)\right]$, which is always positive as straightforward calculation shows (remember that necessarily $P \leqslant \Pi^P$, as otherwise no individual would buy the assets to be privatised). Moreover we see that the change in utility for a buyer is always superior (or at least equal) to the change in utility for a non-buyer. ■

Proof. [Proof of Proposition 2] Following Lemma 1 those acquiring assets always profit from privatisation, and those who do not, profit from it when $\tau_b \geqslant \frac{\Pi^G - P}{\Pi^P - P}$. As $\Pi^P - P > 0$ for the simple fact that otherwise there would be no buyers for state assets, and $\Pi^G - P \leqslant 0$ by definition of a non-corrupt privatisation, we always have $\frac{\Pi^G - P}{\Pi^P - P} \leqslant 0$. As τ cannot be negative, $\tau_b \geqslant \frac{\Pi^G - P}{\Pi^P - P}$ always holds for non-corrupt privatisations, hence they profit everybody. ■

Proof. [Proof of Proposition 3] In a low-income country the effective tax rates of rich and middle-class will be $\tau_M = \tau_R = 0$. Following Lemma 1 the poor will profit from privatisation as long as the tax rate of the buyers $\tau_b \geqslant \frac{\Pi^G - P}{\Pi^P - P}$. Thus they will support privatisation when $\Pi^G - P \leqslant 0$, and oppose it when $\Pi^G - P > 0$, that is they will support non-corrupt privatisation and oppose corrupt privatisation. Moreover, in the case of any privatisation they are indifferent between privatisation to the rich or the middle-class, as in both cases their change in utility from privatisation $\Delta U_{nb} = \frac{1}{3}\left[P - \Pi^G\right]$ is the same. Following Lemma 1 the rich respectively the middle-class would always profit from privatisation if they were the ones to acquire the assets. However if they were not the buyers of the assets, -again after Lemma 1, they would only profit from privatisation under the same conditions as the poor, that is profit from non-corrupt, but loose out on corrupt privatisation. A non-corrupt privatisation would thus profit everybody, hence have unequivocal support. Moreover, the change in utility for the buyer of assets $\Delta U_b = (\Pi^P - P) + \frac{1}{3}\left[P - \Pi^G\right]$ is always larger than the utility for the non-buyer, hence the middle-class respectively the rich would always prefer to acquire the assets themselves. In a non corrupt country a middle-class and a rich individual would thus stand for election and tie (supposing that the poor who are indifferent between them abstain), with the winner of the ensuing lottery privatising the assets to his social group.

In a corrupt country, in principle, there could either be an equilibrium where only a poor

candidate stands for election, wins as also supported by another social group, and does not privatise, or an equilibrium with one candidate from each social group standing for office, this implying a tie to be solved by a lotterie. If in the latter case the poor candidate won, he would not privatise, while a sucessful rich or middle-class candidate would privatise the assets to their respective clientel. In the following we show that for both rich and middle-class their expected utility is higher under the second scenario. Consequently none of them would support a poor candidate, and hence the second scenario is the unique equilibrium. A rich or middle-class individual i prefers the lottery to no privatisation as long as $\frac{1}{3}(U_{ib} + U_{inb} + U_i^{NP}) > U_i^{NP}$, that is as long as the average utility for i from being the buyer U_{ib} in a corrupt privatisation, from not being the buyer U_{inb} in a corrupt privatisation, and from no privatisation U_i^{NP} is above his utility from no privatisation. Substituting from the proof of Lemma 1 and rearranging, we obtain that this is the case if $\Pi^G < P + \frac{3}{2}(1-\tau_i)(\Pi^P - P) + \frac{1}{2}(\tau_i + \tau_{-i})(\Pi^P - P)$ (where τ_{-i} is the effective tax rate of the rich if i is middle-class and vice versa). Substituting the effective tax rates $\tau_i = 0$, $\tau_{-i} = 0$ this simplifies to $\Pi^G + \frac{1}{2}P < \frac{3}{2}\Pi^P$. As $P < \Pi^P$ and $\Pi^G < \Pi^P$ this condition always holds. As both for rich and middle-class the utility from no privatisation is above the utility of a corrupt privatisation in which they are not the buyers themselves, this implies that rich and middle-class also prefer the lottery to voting for the candidate of the other group. ■

Proof. [Proof of Proposition 4] In a middle-income country, by definition, the effective tax rates of the middle-class and the rich will be respectively $\tau_M = 0$ and $\tau_R = \tau^{\max}$. From the proof of Lemma 1 we know that the utility of an individual who does not buy privatised assets increases with the effective tax rate of the buyers. This means that in a middle-income country the poor will always prefer to privatisatise to the rich rather than to the middle-class. Following Lemma 1 the poor will support privatisation as long as the tax rate of the buyers $\tau_b \geqslant \frac{\Pi^G - P}{\Pi^P - P}$. As $\tau_R = \tau^{\max}$ (by definition sufficiently close to 1) and by definition $\Pi^G \leqslant \Pi^P$, the poor will always support privatisation to the rich. Moreover, using the equations from the proof of Lemma 1 one sees easily that both rich and middle-class prefer to acquire privatised assets themselves, as this leads to larger increases in their utility than a privatisation to the other social class. Hence, as privatisation by a rich policymaker is the most preferred option for both rich and poor, only a rich candidate would stand and get elected (a middle-class candidate that would have no chance of winning would not bother to stand for election). Moreover, as the middle-class would be better off from a privatisation to the rich (compared to no privatisation) as long as $\tau_R \geqslant \frac{\Pi^G - P}{\Pi^P - P}$ (Lemma 1), a condition that always holds, they would equally profit from privatisation to the rich, hence support it ex-post. ■

Proof. [Proof of Proposition 5] Suppose first that the middle-class is above the mean. In this case the effective tax rates for the rich and middle-class are respectively $\tau_R = \frac{c}{R_M}$ and $\tau_M = 0$. This is

almost identical to the case of a middle-income country, where rich and middle-class would like to privatise to themselves, the poor prefer privatisation to the rich, and profit from privatisation as long as the tax rate of the buyers $\tau_b \geqslant \frac{\Pi^G - P}{\Pi^P - P}$. The only difference is that now the tax rate of the rich is $\tau_R = \frac{c}{R_M}$, and hence the poor will support corrupt privatisation to the rich only as long as long as $\frac{c}{R_M} \geqslant \frac{\Pi^G - P}{\Pi^P - P}$. If this condition is fulfilled (which assures that corruption is "moderate"), a rich citizen would stand unopposed, win, and privatise the assets to the rich. However if this condition is not fulfilled the situation would resemble the case of a low-income country. As in that case, straightforward calculation shows that both the rich and middle-class prefer a lottery to supporting a poor candidate. Hence a candidate from each social group would stand, implying a tie and a lottery. If the poor candidate won, he would not privatise, while a sucessful rich and middle-class candidate would respectively privatise to their social group.

Suppose now that the middle-class is below the mean, in which case the effective tax rate both for the rich and middle-class will be $\tau_M = \tau_R = \tau^{\max}$. We have shown before that buyers in the privatisation always politically support it, and that non-buyers always support it when the tax rate is $\tau^{\max}$ (as we suppose it to be sufficiently close to 1). Consequently a poor individual supports privatisation, but is indifferent between privatizing to the rich or the middle-classes. We would thus, as in a low-income country, get an election where a rich and a middle-class individual would stand and tie, and thus in expected value terms rich and middle-class would split the assets between them. ■

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