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Abstract

Many economies have undergone the process of privatizing their state-owned enterprises. Recently, however, this process has slowed down in some economies and has been completely stalled in others. Here we formalize the view that this is so because these enterprises are major instruments of income redistribution and, in economies with significant degrees of income inequality, segments of the population that benefit from this redistribution would use their political power to oppose its abandonment. We find strong empirical support for this hypothesis using cross-country data on the relative size of the state-owned-enterprise sector. We also find robust evidence that left-wing (vis-à-vis right-wing) governments are associated with greater redistribution in more unequal societies. Further, this effect is non-linear, implying that redistribution becomes more costly at higher levels of inequality. We also find the same result for authoritarian (vis-à-vis democratic) governments.

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1 Introduction

Recent years have witnessed a widespread attempt in developing countries to dismantle one of their most entrenched institutions - the state owned enterprises (SOEs). Given the extensive discussion on privatization and the huge literature that followed, one might be tempted to conclude that SOEs have mostly disappeared from the economic scene. However, the rumors of their demise have been greatly exaggerated. A recent survey reports that the share of SOEs in GDP of middle income countries remains around 6 percent (compared to the pre-privatization share of 10 percent).[1] After more than a decade of privatization, Mexico – a success story – still had more than two-thirds of its SOEs intact. This paper tries to formalize, in the simplest analytical terms possible, a popular, but as yet informal, argument as to why some countries find it very difficult to privatize their SOEs and to test this argument empirically. Simply put, the argument is that the SOE sector has become a major instrument of income redistribution especially for countries undergoing a taxing structural adjustment. In the words of an acute observer writing about Turkey, "... the privatization drive ... has lost its attractiveness to the extent that it would impede the state from using the SOEs to ease the pain of other components of the structural adjustment process."[2]

The SOEs owe their genesis to the adoption of strategies of import-substituting industrialization.[3] In some cases these policies had been implemented quite early. For instance, in Turkey the SOE sector dates back to the late 1920's, in Mexico to the 1930's, in India to the late 1940's. In most cases the common ostensible rationale for establishing SOEs was that the exsting private sector was weak, unable to compete with foreign goods or prone to the formation of alliances with foreign capital to the detriment of national interests. It soon became clear to economists and policy-makers alike that the performance of the SOE sector left something to be desired: SOEs experienced chronic losses which resulted in rising domestic budget deficits and inflation. The response was attempts at rationalizing and streamlining the SOE sector. This soon proved diifficult.

In order to explain why such attempts were doomed to fail, we will focus in what follows on two main factors that contribute to the losses commonly registered in the SOEs: high wages to SOE employees and "surplus labor".

First, a clarification. When we say the SOEs pay *high wages* we mean that the SOEs typically pay wages that are higher than those paid by private enterprises in a given country. It is frequently the case that SOEs are monopolies and labor unions negotiate high wages without fearing a depression in wages caused by attraction of labor to SOEs from competing private firms. The SOEs may

[1] See Megginson and Netter (2001).

[2] See Waterbury (1992, p.194). Megginson and Netter (2001) point out that the main obstacle to the privatization of the Chinese SOEs is the "social welfare responsibilities" they shoulder.

[3] The genesis of the SOE sector may in addition reflect the need for income redistribution. Waterbury (1993, p. 263) stresses that "...the political logic that gave rise to the SOE sectors in the first place [was] the need to redistribute income..."

also pay a compensating wage differential when they operate in locations where private firms may be reluctant to locate. The full compensation package of the SOEs may include superior leave privileges and retirement benefits. Furthermore, even if wage rates in the SOEs are similar to those offered by private firms, given the low productivity endemic in the former, the ratio of wages to marginal productivity of labor is higher. Finally, there is strong empirical evidence from Latin America, Africa, and Southeast Asia that supports the observation that the SOEs pay high wages.[4]

Second, casual empiricism as well as careful empirical studies suggest that the SOEs carry "surplus labor", that is, they employ more workers than their operations would justify on strictly rational economic grounds.[5] Thus, for instance, an official study found that though the output of the SOEs in the Western and Mid-Western states of Nigeria remained unchanged in the period 1963-1967, the wages and salaries' bill more than doubled.[6] Complaints by management of surplus workers in the SOEs in Sri Lanka, Trinidad and Tobago, India, and Britain, inter alia, are well documented.[7]

It is, therefore, not surprising that the SOEs suffer from chronic losses given the wages they pay and the surplus labor with which they operate. And, they do so because they are instruments of income redistribution. Furthermore, this redistributive tool seems not to be shunned by governments either on the left or on the right (though as we show below not to the same extent), by governments democratic or dictatorial. Thus, for instance in Bolivia which is ruled by the left-wing MNR (Movimiento Nacionalista Revolucionaria) "[b]y the early 1960s a form of state capitalism developed, controlled and exploited by various competing groups of the middle classes ... [T]he state enterprises became a source of enrichment for these private factions, some civilian and some military."[8] Under the right-wing rule of General Hugo Banzer, who was installed as president of Bolivia following a coup d'etat in August 1971, "...the public enterprises served frequently as a mechanism to transfer state-owned (or state-guaranteed) resources to privileged groups in the private sector. Access to government officials and government contracts was considered the most important asset from the viewpoint of many private-sector businessmen."[9] Further, "[i]n fact, a non-negligible part of the support for the Banzer government and succeeding military regimes was the willingness to create employment in the public sector. The return to democracy in 1982 was also accompanied by a big spurt in the expansion of jobs in the most important public enterprises, particularly in COMIBOL."[10] When in 1970 the Mexican president Diaz Ordaz had to choose his successor unilaterally, the new president "... Echeverria faced

[4] For the evidence see Ramanadham (1988), ch.2.

[5] See, among others, Lin et al. (1998), Majumdar (1998), Bertero and Rondi (2000), Dewenter and Malatesta (2001), and Dong and Putterman (2003).

[6] See the Report of the Conference on Public Enterprises in Nigeria (1970), cited in Ramanadham (1988).

[7] See Ramanadham (1988).

[8] See Morales and Sachs (1989), p.180.

[9] See Morales and Sachs (1989), pp.192-193.

[10] Ibid. p.197.

the difficult task of creating his own supporting coalition after assuming office. The simplest method of shoring up the weakening political consensus was to spend on everyone's behalf: dole out subsidies to education and agriculture, increase government jobs for the middle classes, grant large wage increases to mollify organized labor, etc. ... Between 1970 and 1976, the number of federal government employees doubled and the growth rate of general government employment averaged 10.8 percent. A series of large wage hikes after 1972 further inflated the government wage bill."[11]

In what follows we thus take it for granted that the SOEs are used to redistribute income.[12] The question that remains to be answered then is: Under what conditions are they an acceptable means of income redistribution? Our formal model yields an answer to that question, namely, that capital-poor agents prefer more redistribution through the SOE sector than capital-rich agents. There are two ways to interpret this result. One would emphasize that as long as the median wealth is less than the average wealth the majority of the population will prefer to establish an SOE sector to redistribute income. In a democratic setting with majority voting this implies, under certain conditions, that we can invoke the median-voter theorem to suggest that an SOE sector would be established for redistributive purposes.[13] Otherwise, we surmise that the preferences of the majority would, through other unspecified channels, find expression in policies that favor redistribution through the SOEs. These channels may take the form of a desire on the part of dictators (as in the case of Banzer in Bolivia) or autocrats (as in the case of Echeverria in Mexico) to find popular support for their rule. A corollary to this reasoning is that the more unequal the distribution of wealth (as measured by the difference between median and average wealth) the more extensive will be the SOE sector.

A second way of interpreting our theoretical result is that pro-labor governments whose constituents are workers and need their political support would be more likely to use the SOE sector for redistribution.[14] It is also possible that such pro-labor left-wing governments place a higher weight on egalitarianism. Pro-capital right-wing governments, on the other hand would be more likely to adopt policies that reflect the preferences of their capital-rich constituents and

[11] See Buffie (1989), p. 420.

[12] Here we do not deal with the question as to why they are used as a tool of redistribution when there are more efficient tools. One possible answer to this question is that the lack of transparency in generating redistribution through nonmonetary transfers makes SOEs a politically efficient tool. See Coate and Morris (1995) for a formal model that shows that politicians would prefer to redistribute via public works rather than cash transfers when voters lack information.

[13] The median voter approach has been the target of empirical inquiry in a wide variety of contexts. For a study that finds strong empirical support for the median voter approach to trade policy determination, see Dutt and Mitra (2002).

[14] Shleifer and Vishny (1994) provide a model where, because "the public is disorganized" politicians cater to interest groups rather than the median voter. Among others, Claessens and Djankov (1998) find empirical support for this view using data from seven central and eastern European countries.

choose smaller SOE sectors and less redistribution.[15,16] Such an interpretation would be consistent with the approaches of Hibbs (1977) and Alesina (1987) in a macroeconomic setting or with that of Dutt and Mitra (2005) in an international trade framework.[17]

We also empirically test the hypotheses formulated in the theoretical model using both cross-sectional and panel data. In the broadest setting we measure the relative size of the SOE sector in three different ways: the share of the SOE production in GDP, their share in nonagricultural GDP, and their share in total investment. Our measure of inequality is income Gini, with the alternatives also considered. Across most measures we find empirical support in favor of our hypothesis that an increase in inequality is associated with a larger SOE sector. Further, we find that this effect is non-linear, rather than linear. However, statistically stronger results are associated with political ideology. We find that left-wing governments are involved with greater redistribution through SOEs, compared to right-wing governments. In addition, center-wing governments and governments whose political ideologies cannot be clearly specified generally tend to use redistribution more often as a policy tool, relative to right-wing governments. Thus, our results suggest a strong divide between right-wing and non-right-wing governments in terms of approach to redistribution. Furthermore, the political ideology channel also works in a non-linear fashion. That is, non-right-wing governments are involved with redistribution at a decreasing rate. This is intuitive in that redistribution may become costly to society at higher levels of inequality.[18] These results are robust in relation to how political ideology is measured.[19]

[15] As Dutt and Mitra (2005) point out, this line of reasoning could be couched in terms of the approach in Grossman and Helpman (1994) who use their political-contributions approach to provide micro foundations to the political-support function approach. Thus, suppose that the government's objective function (sometimes called the political-support function) is a weighted sum of the welfare of workers and capitalists. One can then think of a switch from a left-wing to a right-wing government here as reflecting a rise in the weight of capitalists in the government's maximand due, perhaps, to higher contributions by the latter. Furthermore, the political-contributions approach of Grossman and Helpman (1994) can be derived from a model of electoral competition (Grossman and Helpman, 1996), where it is possible for party platforms to remain divergent.

[16] Bortolotti et al. (2003) find that right-wing governments are more likely to privatize, but this effect is significant with cross-sectional data and insignificant with panel data.

[17] Hibbs (1977) argues that politicians are "partisan". Left-wing and right-wing governments have different objective functions and shows that countries and periods with left-wing governments had lower unemployment and higher inflation than others. In the rational partisan theory of Alesina (1987) the left-wing party attaches a higher weight to unemployment relative to inflation. Hibbs and Vasilatos (1982) and Hibbs, Rivers, and Vasilatos (1982) find that blue-collar groups are typically more concerned about unemployment while the major concern of their white-collar counterparts is inflation. Dutt and Mitra (2005) find strong and robust support for the hypothesis of a partisan, ideology-based model in that left-wing governments adopt more protectionist trade policies in capital-rich countries, but adopt more pro-trade policies in labor-rich countries, than in right-wing ones.

[18] Dutt and Mitra (2005) also find strong empirical support for the hypothesis that left-wing governments tend to redistribute more *via trade policy* than right-wing governments.

[19] It is also worth noting that our empirical findings are also consistent with the literature that emphasizes the concept of common property and the attempt by different groups in

In addition, we test whether democracies are more prone than dictatorships to redistribute income through the use of the SOE sector. We find that authoritarian governments are involved with higher redistribution, and, again, this effect is non-linear. This finding is consistent with Alesina and Rodrik (1994) who show that when it comes to distributional issues even dictators bow to popular will. This result is also related to the view advanced in Acemoglu and Robinson (2000), who derive a non-monotonic relationship between inequality and democracy. Note that democracy for them is essentially a tool for redistribution (with commitment). For low levels of inequality, higher inequality is associated with "more" democracy (redistribution), but further increases in inequality lead to less democracy (redistribution). Here the causation goes from inequality to democracy. We address this point by using initial levels of democracy in our analysis, and arrive at the same general conclusion as Acemoglu and Robinson: whether measured by democracy or SOE sector size, higher inequality is associated with higher redistribution, and this effect is non-linear.[20]

Further, we also check whether we can replicate for the SOEs the result obtained by Pagano and Volpin (2005) that once the electoral systems and legal origins are controlled for, the political ideology of the government ceases to have explanatory power for cross-country differences in employment protection.[21] Controlling for proportional (vs majoritarian) electoral systems, the political ideology of the government, and the origin of the legal system in our models does not change our main results relating to left-wing and unspecified-wing governments.

To sum up, the contribution of our paper to the literature is twofold. First it sets up a simple theoretical framework to establish formally the idea that SOEs will be used to redistribute income when inequality is sufficiently pronounced. Secondly, the paper contributes to the empirical literature on redistribution, on the role of political ideology, with and without democracy, and the continued struggle related to the privatization of state owned enterprises.

In section 2, we set up the theoretical model. Section 3 describes the empirical testing, while the last section provides some concluding remarks.

2 Model

In this section we formulate the simplest possible model that conveys the proposition that SOEs may be used as a redistributive mechanism. To do so consider an

societies to appropriate the common property (See, for instance, Tornell and Velasco (1992) and Benhabib and Rustichini (1996)). These models are said to apply to societies where there is "extreme inequality". If the resources of the SOEs are viewed as common property by the "various competing groups of the middle classes" then our findings should be interpreted as also giving empirical support to the common property notion and the models built to elucidate it.

[20] We do not find this effect when we use democracy as the average of sample period, a result which confirms indirectly the Acemoglu-Johnson conjecture that inequality and democracy are non-monotonically related.

[21] See also Botero et al. (2004) for a similar result concerning the regulation of labor.

economy populated by L households all endowed with a single unit of labor and varying amounts of capital. The economy may potentially produce three goods in three different sectors. For analytical simplicity, one could either imagine the economy under consideration to be closed - in which case we will assume that the goods are perfect substitutes in consumption with their relative price fixed at unity - or that it is a small open economy - in which case the parametrically given relative prices are again normalized to unity with an appropriate choice of units. We now turn to a detailed discussion of the production side of the model.

2.1 Production

The first of the three sectors will be called the "formal sector". This sector functions as the "modern", industrialized sector in the model. It uses capital and labor to produce a consumption good under a constant-returns-to-scale technology in a perfectly competitive market. The output of this good is given by:

$$Q_p = F(K, L_p) \tag{1}$$

where the production function $F(\cdot, \cdot)$ possesses the usual neo-classical properties and K and L_p denote the capital (physical and/or human) and labor employed in the sector under consideration.[22]

The second sector is labeled the "informal sector". Agents employed in this perfectly competitive sector have access to a Ricardian technology with a constant input-output coefficient $1/\alpha$ and produce a consumption good using labor alone. The labelling of this sector is motivated by the observation that in developing countries (as well as some "developed" countries, such as Spain or Southern Italy) agents who are not employed in either the "modern" private sector or by the SOEs find employment (or are considered officially unemployed) in an informal sector, of which street-peddling and Mariachi bands are the most picturesque examples.

Finally, the public sector may also employ labor, L_g, in SOEs to produce the same consumption good (or a perfectly substitutable good) with the same Ricardian technology that the informal sector uses.[23]The SOEs may pay a wage, w_g, higher than the marginal productivity of labor employed. If this is the case, the losses, $(w_g - \alpha)l_g$, (where lowercase letters denote per capita variables) of the SOEs, are financed by the revenues of a proportional income tax, τ, imposed on

[22] Since the formal sector is the only sector that employs capital (as will be seen below) K also denotes the total capital stock of the economy.

[23] In reality, of course, the SOEs may have (and typically, many of them do have) access to technologies potentially more capital-intensive than the "modern" private sector. Three considerations motivate the modeling choice made in the paper. First, as argued in the Introduction, we observe that SOEs normally employ "surplus labor" that renders their technology labor-intensive. Second, the actual pricing of the capital input in the SOEs is such that the shadow rentals to be attributed to the capital they own is typically below market value. Finally, the technology modeled in the paper brings out very sharply the potentially superfluous nature of the SOEs from a strictly economic (as opposed to political) point of view.

the factors employed by the formal sector.[24] The government budget constraint is, thus, given by:

$$(w_g - \alpha)l_g = \tau q_p \tag{2}$$

where the left hand-side of (2) denotes the outlays of the government and the right-hand side its tax revenue.

Now, competition from workers in the informal sector ensures that the after-tax wage rate across these private sectors is equalized.[25]Thus, given the proportional tax rate, profit maximization by firms in the formal sector implies that the rate of return on capital, r, and the level of employment in this sector depend negatively on the tax rate:

$$l_p = l(\tau), \quad l'(\tau) < 0, \tag{3}$$

$$r = r(\tau), \quad r'(\tau) < 0. \tag{4}$$

Intuitively, a higher tax rate lowers the employment level by reducing the after-tax marginal productivity of labor in the formal sector. Decreased employment, in turn, diminishes the marginal productivity of capital.[26]

2.1.1 Consumption

Turning to the consumption decisions of the households, note that they supply labor and capital in competitive markets. Each household is assumed to supply inelastically the unit of labor with which it is endowed. However, households differ with respect to their capital endowments $k_i \geq 0$ $(i = 1, .., L)$.

Given the static nature of the model and the fact that there is, effectively, one composite good to be consumed, the consumption decisions of households are quite simple - each household, facing the parametric tax rate and factor prices uses its wage and rental income (received in exchange for the services of labor and capital supplied) to consume this composite good.

2.1.2 Political Economy

The environment within which we work is now endowed with sufficient structure to answer the principal question we are interested in: Under what conditions will this economy choose to operate a state-owned enterprise as described above?

To answer this question, however, we need to prescribe a rule which governs the political decision process. The simplest and most frequently used rule in the

[24] The informal sector is in practice very difficult to tax, thus any revenue that governments actually raise by taxing this sector is small enough to be safely ignored in the present model.

[25] Though the formal sector (because of market imperfections) typically pays a wage above that which can be earned in the informal sector, that wage is depressed by competition from the pool of workers that find themselves in the latter sector. The result here should, therefore, be interpreted as a version (at the margin) of the observed outcome.

[26] For explicit expressions for the derivatives in these and following equations see Appendix II.

literature is the majority rule provided that decisions are made in a democracy, the agenda consists of a single item, and voters' preferences are single peaked. If this is the case, it is the preferences of the median voter we need to consult to see if s/he would choose to operate the SOE under question. Even in the absence of democracy, the median voter's preference yields, at the very least, some measure of the strength of support for the SOEs that the rulers will need to pay attention to.

Now, since the consumer consumes all of his income in this static world, the determination of the tax rate preferred by a household i can be formulated as the solution to the maximization problem faced by this household of (expected) indirect utility:

$$U = l_g u[(l-\tau)rk_i + w_g] + (1-l_g)u[(l-\tau)rk_i + \alpha] \tag{5}$$

(where l_g, the ratio of employment in the SOE to total employment, also denotes, from the household's point of view, the probability of being employed by the SOE and, thus receiving w_g; the household will otherwise be employed by the (formal or informal) private sector and earn the wage α) subject to the government budget constraint (2) with:

$$(w_g - \alpha)l_g = \tau q_p, \quad \tau q_p \geq 0 \tag{6}$$

The first-order conditions for the problem are:

$$\frac{l_g u'(c_g) + (1-l_g)u'(c_p)}{u'(c_g) + \sigma} = \frac{\beta - \tau}{\beta(1-\tau)}\frac{k}{k_i} \tag{7}$$

$$u(c_g) - u(c_p) = u'(c_g)(w_g - \alpha) \tag{8}$$

$$\sigma\tau q_p = 0 \tag{9}$$

where σ is the multiplier associated with the inequality constraint and β denotes the income share of capital in the formal sector.

Proposition 1 *Agent i prefers no taxation ($\tau = 0$) and, thus, no state-owned enterprises if and only if his capital endowment k_i exceeds the average capital endowment k.*

Proof. The proof proceeds in two steps. The first step shows that $\tau = 0$ and implies $k_i > k$. The second step shows the reverse implication.

1. Suppose $\tau = 0$. This implies $c_g = c_p = c$, $l_g = 0$, and $\sigma > 0$. The first order condition then becomes $u'(c)/[u'(c) + \sigma] = k/k_i$. Since the lefthand-side of this equation is less than 1, we have $k < k_i$.

2. Suppose $k < k_i$. We will show that if $\tau > 0$ this would violate the first-order condition. If $\tau > 0$ then $\sigma = 0$. Then the lefthand-side of the equation in the first-order condition becomes $[l_g u'(c_g) + (1-l_g)u'(c_p)]/[u'(c_g)]$. It is straightforward to show that this expression is greater than 1, because in this case $c_g > c_p$ and $u''(\cdot) < 0$. However, with $k < k_i$ and $\beta < 1$ the expression on the right-hand side of the first order condition is less than 1. Thus, the first order condition is violated. ■

Proposition 2 *Ceteris paribus, agent i benefits more from a higher tax and, thus, a larger state-owned enterprise sector the smaller is his capital endowment k_i relative to the average capital endowment k.*

Proof. It is straightforward to obtain the following

$$\frac{dU_i}{d\tau} > 0 \Longleftrightarrow \frac{(\beta - \tau)}{\beta(1-\tau)} \frac{u'(c_g)}{l_g u'(c_g) + (1-l_g)u'(c_p)} > \frac{k_i}{k} \tag{10}$$

The smaller k_i is relative to the average capital endowment k, the more likely it is for this inequality to hold. Note that for $k_i = 0$ this inequality implies a welfare-maximizing level of tax $\tilde{\tau}$ such that $\tilde{\tau} = \beta$. This is the tax rate that maximizes the tax revenue of the government allowing for the maximum size of the state-owned enterprise sector. ■

This proposition can mainly be interpreted in two ways. First, one can focus on a median agent and take the proposition to imply that the lower the median agent's capital endowment is relative to that of the average agent, the bigger will be the size of the SOE sector.[27] To see why, consider some tax rate. Will the median agent have a higher utility if the tax rate is raised? Or, to put it differently, would the median agent prefer a higher tax rate? The answer is more likely to be in the affirmative the smaller the median agent's endowment is relative to the endowment of the average agent. Intuitively speaking, this result belongs to a class of results obtained in the political economy literature that redistributive instruments will be preferred by a median voter whose wealth (or income) lies below that of the average agent. It differs from the existing literature in the form of the redistributive instrument (which is generally a lump-sum transfer payment[28]). But our result can also be interpreted to imply simply that (i) the majority of the population would prefer to have an SOE sector as long as the the median agent's capital endowment is smaller than that of the average agent, and (ii) this majority would be a larger fraction of the population the lower the median agent's capital endowment is relative to that of the average agent. Under such an interpretation we would leave the nexus between the preferences of the majority and the ultimate political decision unspecified, and point to the needs of autocrats and dictators for popular support to perpetuate their rule. This need seems to have motivated rulers like Banzer of Bolivia and Echeverria of Mexico to use the SOEs to redistribute income to obtain the support required.

A second way to interpret the proposition is to note that capital-rich agents would prefer to have lower taxes, less redistribution, and, thus, smaller SOE sectors. In the partisan politics approach, pro-capital right-wing parties that rely on the political and financial support of capital-rich agents would then opt to reduce the size of the SOE sector. Similarly, pro-labor left-wing parties that rely on the support of capital-poor agents would then choose to increase the size of the SOE sector and redistribute more. The depth and duration of these

[27] The median agent is defined here to mean the agent that owns the median capital stock.
[28] See, for example, Persson and Tabellini (1992) and Alesina and Rodrik (1992).

policies would depend on exogenous changes in global economic conditions, or on domestic social, political, economic realities, which might, and routinely do, trigger realliances of political forces. The choices of a Banzer or an Echeverria reflect these changing conditions, which can also be thought of as changes in the weights that a government attaches to the welfare of different groups in the Grossman and Helpman (1994) approach.

3 Empirical Analysis

3.1 Econometric Specification

The theory outlined above predicts that the more unequal the distribution of wealth, the more likely it is for a country to operate an SOE sector as a redistributive tool. To test this prediction, we estimate cross-country regressions of the following type:

$$SOE_i = \alpha_1 + \alpha_2 INEQ_i + \delta \mathbf{X} + \varepsilon_i \tag{11}$$

where SOE is an indicator of the relative size of the SOEs in overall economic activity, $INEQ$ denotes a measure of inequality, and $\mathbf{X}$ is a vector of control variables.

To capture the underlying data generating process as much as possible, we also consider several plausible scenarios related to the use of SOEs as a redistributive tool. First, can governments redistribute indefinitely? That is, in terms of our theoretical model, can the government keep levying taxes on the capital-rich? This calls for modelling a possible non-linearity in the inequality-redistribution relationship, which we do by employing a squared $INEQ$ variable in Equation (11). Second, the political ideology of the government may explain the extent to which the inequality-redistribution relationship holds. Specifically, as their core clientele spans capital-poor labor, left-wing governments are, *ceteris paribus*, expected to redistribute more in a society with higher inequality in comparison to right-wing governments. The non-linearity argument may also apply to this channel in that there may be a limit to which left-wing governments can be engaged in redistribution. Third, in relation to political regimes, it is well-established that even dictators need popular support to maintain their power (Alesina and Rodrik 1994). On the other hand, Rodrik (1999) finds that democracies pay higher wages. Thus, the difference between authoritarian and democratic regimes in redistribution is an important question to explore.

The political ideology considerations suggest the following estimating equation:

$$\begin{aligned} SOE_i &= \beta_1 + \beta_2 INEQ_i + \beta_3 INEQ_i^2 + \beta_4 WING + \beta_5 WING \times INEQ \\ &\quad + \beta_6 WING \times INEQ^2 + \theta \mathbf{X} + u_i \end{aligned} \tag{12}$$

where $WING$ comprises indicators of the government's political ideology, i.e., left-, center- or right-wing. The effect of democracy is tested through:

$$SOE_i = \gamma_1 + \gamma_2 INEQ_i + \gamma_3 INEQ_i^2 + \gamma_4 DEMOC + \gamma_5 DEMOC \times INEQ + \gamma_6 DEMOC \times INEQ^2 + \lambda \mathbf{Z} + v_i \quad (13)$$

where $DEMOC$ is the measure of civil liberties.[29] While Equation (11) will test redistribution as a macro issue in the political-economic structure, the approach adopted in Equations (12) and (13) will shed light on more specific channels in redistribution.

Several control variables are used to help identify the impact of the state variables on SOE. Often these variables aim at controlling for cross-country differences in the structural characteristics of an economy. First, we control for whether the country is oil-producing, as oil may result in state monopolization in the economy. We also control for small island countries, whose economies may be dominated by fishery or tourism, with a smaller role for the state. In addition, the level of state involvement in the economy would be influenced by whether it is dominated by agricultural vis-à-vis manufacturing sectors. To control for this effect we use the share of urban population in total population. Besides being highly correlated with the sectoral shares, this variable also helps control the overall level of economic development. Further, we control for the level of civil liberties (except in Equation (13)) because $WING$ comprises left-, center- and right-wing executives, with no distinction made between whether they are democratic or authoritarian (military, etc) regimes. Finally, we control comprehensively for region-specific effects that may influence the type of economic activity.[30] We conduct a number of robustness checks regarding the composition of these variables in the specifications.

3.2 Data

We employ two types of datasets: cross-sectional and panel. The former includes the 1978-1991 averages of the relevant data, and the latter spans the time period 1970-2004 in the form of five-yearly time windows. For the dependent variable, we have two SOE measures available in the cross-sectional dataset: the share of the SOEs' production in GDP and in non-agricultural GDP. The data come from *Bureaucrats in Business: The Economics and Politics of Government Ownership* (1995), as averages of the period 1978-1991.[31] The panel data measure is the share of SOEs in total investment activity, obtained from Fraser Institute's Economic Freedom of the World database (Gwartney, Lawson,

[29] $\mathbf{Z}$ is $\mathbf{X}$ but civil liberties. As components of democracy, political rights and civil liberties are highly correlated. Civil liberties is the preferred measure in our case as it comprises freedom of speech and association.

[30] It must be noted that Schultz (1998), among others, found that regional effects explain a portion of cross-country variation in inequality. Hence, we are careful with a possible multicollinearity between regional dummies and $INEQ$.

[31] The source actually provides the data in a panel format, but many missing observations prevent formation of a viable panel dataset. Therefore, we make use of the averages of the available data for cross-sectional analysis.

and Norton 2008). The latter is a very comprehensive database with a broad country coverage, and is adopted widely around the world to analyze the impact of institutions on economic performance.[32] The data are available in five-yearly time windows between 1970 and 1995 and annually after 2000.[33] We also convert this measure into cross-sectional form, enabling us to use three different variables for SOE in the cross-sectional analysis. The explanatory variables in the analysis are utilized both in cross-sectional and panel forms accordingly.

A conceptual problem may exist with SOE investment: investment can be based on purely economic and non-political reasons. The counter-argument is that most political scientists would strongly suggest the presence of political motives behind a significant portion of SOE investments and would argue that investment is at least partially determined by redistributive concerns, political ideology, and the type of political regime. We check the cross-sectional correlation between the share of SOE production and SOE investment in GDP in our sample. Bearing in mind that they come from different data sources, the correlation turns out to be 0.52, which is moderately high. So we proceed with SOE investment.[34]

As per the measure of $INEQ$, we use income Gini coefficient (denoted by $GINI$). We expect a positive sign for $GINI$, that is, as the income distribution becomes more unequal, we expect the share of SOEs in total GDP to increase. The data have been obtained from UNU/WIDER (2005). We also considered using share of median quintile in income distribution as a measure of (reverse) inequality. The correlation between share of median quintile and income Gini is found to be -0.95, where the results with income Gini are replicated exactly in terms of the patterns in the findings. Thus, in the interest of saving space, we do not pursue this variable. We also experiment with land Gini as the indicator of the wealth inequality. The data are obtained from Deininger and Olinto (2000).

The political ideology data have been obtained from Database of Political Institutions (Beck et al 2001). This database is annually updated and includes data for the period 1975 through 2006, and provides qualitative information on the political leaning of the executive power for each country, in the form of leftist, centrist and rightist ideologies. We utilize this information in several ways in constructing the $WING$ variable. First, we use the share of years in which each ideology reigns in the country over the course of the relevant time period (i.e., the cross-sectional period of 1978-1991, and within each five-yearly interval for panel data). This provides a continuous measure of political ideology. Second, we adopt the discrete form of the measure by creating dummy variables (i.e.,

[32] See, among others, La Porta et al's (1999) "The Quality of Government".

[33] We average the annual observations between 2000 and 2004 so as to form a five-yearly panel comprising five-yearly periods 1970, 1975, 1980, 1985, 1990, 1995 and 2000.

[34] Regarding the measure of SOE investment, the constant term of the regression can help clarify its effects: *in the context of Equation (11)* any systematic non-model variation in the dependent variable, such as rational investment would be captured by the constant term. Thus, our state variables would capture the redistributive components in the dependent variable *over and above* the systematic non-model variation that is captured by the constant term. In fact, this logic applies to the cases of SOE production in GDP and non-agricultural GDP, which are measures closer to our theoretical model.

leftist, centrist and rightist dummies). When a regime is observed over more than half of the relevant time period, the dummy takes the value 1, otherwise it is zero. A few marginal cases are handled using the approach of Dutt and Mitra (2005).[35] An important issue here is the "unspecified" category of the political leanings. Beck et al. (2001) list some country-year observations as possessing "no information". For instance, the Mahatir period of Malaysia, several monarchs in the Middle East such as King Hassan of Morocco, King Hussein of Jordan, Sheikh Zayed of UAE, several governments that ran Pakistan during the 1980's and 2000's, and some military regimes in Africa are listed with no specific information regarding their ideology. We manage the unspecified category in several different ways. First, we treat these rulers as "unspecified-wing", i.e., a fourth type of political leaning, and include them in the regressions to look at their implications. Second, we incorporate them in the centrist category (as in Dutt and Mitra 2005). Third, we remove them from the sample. Our results are robust to different ways of managing this category.[36]

Table 1 presents the summary statistics of the cross-sectional data, their sources, and some relevant explanations.

3.3 Estimation Methodology

We use Two-Stages Least Squares (2SLS) for the cross-sectional analysis and Generalized Method of Moments (GMM) for the panel analysis. In both cases, the underlying problem is the endogeneity of inequality. $GINI$ may be endogenous because the size of the SOE sector may affect income inequality. In other words, countries with high income inequality may be associated with greater redistribution that aims at reducing inequality. Thus, $GINI$ is instrumented. Our choice of instrumental variables (IVs) relies on Li, Squire and Zhou (1998), who find that, in a cross-country context, civil liberties, M2/GDP (as a measure of financial deepening), initial average years of schooling and land Gini (as an indicator of wealth inequality) can explain income inequality. Whether these variables constitute viable IVs in our analysis is an issue. Specifically, for a valid instrumentation, IVs should be strong, exogenous, and excludable from the SOE equation. We already use civil liberties as a control in the SOE equation, therefore, it cannot form a distinct IV. Regarding M2/GDP, it is well-known that SOEs run chronic losses, which may be monetized, leading to a rise in the monetary base and, therefore influencing M2/GDP. Thus, this variable cannot constitute an exogenous IV, and hence is ruled out. We believe that average years schooling in 1965 and land Gini constitute valid IVs. First, they

[35] See Dutt and Mitra (2005, pp. 63-64). In our case, Argentina had six years of centrist and six years of autocratic regimes, while in Uruguay seven years were autocratic and seven years were rightist. These countries are assigned to the centrist regime. Our results are robust to variations in such classifications. We also followed the same route in the categorization in the panel data and these results, too, are robust to variations in categorizations.

[36] We also considered an ordinal approach to political idelogy whereby leftist regimes could take the value 0, centrist regimes 1 and the rightist regimes 2. In doing so, countries with unspecified political leaning had to be removed from the sample. Our results are robust to this approach as well.

are not expected to be directly influenced by SOE, and therefore, to be exogenous. Second, regressing $GINI$ on these variables delivers high F-statistics (greater than 10), implying that they are strong instruments, as in Stock and Yogo (2005). Third, we do not expect that schooling directly influences SOE, thus it is excludable. One can argue that schooling may act like a measure of development level, and hence may capture the level of capital depth in the country, influencing the use of SOEs. However, we use urban population as a control, which would address this issue.[37] On the other hand, land Gini may directly influence SOE through the suggested mechanism in this paper. To explore the direct relationship between land Gini and SOE, we run a number of regressions under several plausible scenarios, but never find a significant direct relationship.[38]

An additional issue with $GINI$ is that UNU/WIDER reports $GINI$ observations as being based on income vs consumption, net vs gross income, and person vs household income constructions, as well as belonging to other income types such as earnings and monetary income. In addition, UNU/WIDER provides a quality indicator for the income distribution series (quality depends on the original source of data). Knowing the source of the measurement and quality differences helps address it; we use NET, $PERSON$, $EARNINGS$, $MONETARY$ and $CONSUMPTION$ dummies[39] and the $QUALITY$ variable as IVs.[40] In total, our IVs for $GINI$ include land Gini, average years of schooling,[41] and the dummies that control for construction differences and quality in the inequality measure.[42]

This IV strategy resulted in the number of variables in our instruments matrix being greater than the number of independent variables - thus, our equations were over-identified. We then performed the suggested Sargan tests. In the case of cross-sectional data we failed to reject the null hypothesis for every specification. Having valid instruments at our disposal, we next conducted Durbin-Wu-Hausman tests to see whether the endogeneity of $GINI$ is statistically supported (Davidson and McKinnon 2004, p. 338). These tests showed that inequality is endogenous to SOE for most of the specifications across different $WING$ measures. To conclude, with all tests approving our instrumentation strategy, our estimation methodology for cross-sectional analysis is 2SLS.

[37] All controls are included in the first-stage regressions, helping utilize the exogenous variation in the schooling variable.

[38] Note that land Gini would be exogenous to SOE size in our context, so directly using it as a regressor instead of income Gini would not require instrumentation.

[39] Kuznets (1989) favors gross, household-based income to measure inequality.

[40] The $QUALITY$ indicator takes values 1, 2, 3 and 4, with the lowest value representing the highest quality in terms of the data source.

[41] We use schooling data from Barro and Lee (2001). We experiment with a range of schooling values, such as that of population above 15 and 25, and values belonging to 1960 and 1965. Intuitively we find the schooling values of 1965 and of population above 15 as the most plausible to explain income inequality of 1978-1991, and hence they are used in the reported results.

[42] Our controls oil, small island dummy and regional dummies are strictly exogenous to SOE. We do not expect civil liberties and urban population to be endogenous to SOE, but use their 1970-74 values as a safeguard.

In panel data analysis, we first adopted the conventional cross-sectional time series approach with a motivation to account for country-specific fixed and/or random effects. Using the same set of instruments defined above, but utilizing them in panel form, we ran pooled data regressions. It turns out that, in these regressions, Sargan tests do not allow for over-identifying restrictions (as specified in the cross-sectional context). A number of exercises[43] show that the problem originates from variables that control the construction differences in $GINI$. This is not surprising because measurement error creates complex problems in panel data (Woolridge 2002, pp. 311-314). We did not elect to play with the IV matrix as it is essential to control for construction differences in $GINI$. Thus, we did not pursue this panel approach - instead, we changed the panel design and employed the data in the form of cross-sections pooled over time, estimating equations relating to each time period in a system of equations framework.[44] We adopted GMM to estimate the system, and used the same set of IVs as in the cross-sectional case. In doing so, we controlled for time-specific effects by allowing the intercepts vary, but imposed coefficients to be the same for right-hand side variables over time. The J-statistic obtained from the GMM minimization criterion was used to construct Sargan test statistics, which suggested accepting the over-identifying restrictions for the system (Woolridge 2002, p. 201).

4 Results

Table 2 presents the first stage results of $GINI$. Regressing $GINI$ on all instruments finds the majority of instruments were significant except monetary income and earnings (Model 1). We removed the latter in two steps (Model 2 and Model 3), a procedure justified with the Wald test, and found that the remaining instruments were highly significant.[45] The model has an F-statistic of 20, rejecting the presence of weak instruments. In this model, instruments possess the expected signs: while higher land inequality and person-based income Gini construction are associated with higher income Gini values, higher average years of schooling in 1965, and net income- and consumption-based Gini construction are associated with lower Gini values.[46] In addition, higher quality Gini values are on average lower. In what follows, we use the explanatory variables in Model 3 (Table 2) as instruments.

[43] These include Sargan tests for each combination of IVs.

[44] Pooled cross-sections is also the panel approach of Dutt and Mitra (2005). They use instrumental variables as the estimation method.

[45] A Wald test shows that removed instruments are jointly insignificant whereby the p-value is 0.71.

[46] Person-based income Gini construction takes into account within-household income inequality, and hence is higher relative to household-based construction. Net income is obviously after-tax income and is more even relative to gross income. Likewise, consumption-based Gini captures after-saving income distribution, which is more even relative to income-based distribution.

4.1 Simple Relationship between SOE and Income Inequality

Tables 3a, 3b and 3c present the estimation results for Equation (11) and as such depict the simple and direct relationship between SOEs' roles in the economy and income inequality. Using all the three dependent variables, $SOEGDP$, $NONAG$, and $SOEINV$, and OLS estimation, Table 3a clearly shows that the relationship is non-linear, rather than linear. Further indications of the non-linear relationship are found Figures 1 and 2. The locally weighted regression lines between $GINI$ and $SOEGDP$ and $SOEINV$, respectively, are estimated to be non-linear. The estimation results with 2SLS are reinforcing (Table 3b). Although the linear relationship is weakly significant with $SOEGDP$ and $NONAG$, the non-linear relationship is statistically stronger across all the three SOE measures. Table 3c presents the sensitivity of the 2SLS results to control variables. The latter are added to the regressions in two steps. Model 1 includes oil exporter and small island dummies, civil liberties score and urban population share in 1970. Model 2 includes, in addition, the regional dummies. Model 3 eliminates the insignificant controls through general-to-specific modelling procedure a la Hendry (1995) in order to check the sensitivity of $GINI$ and $GINI^2$. Evidence of the non-linearity varies in this case. Focusing on Models 3, 6 and 9, non-linearity prevails when $NONAG$ is the dependent variable, is weakly significant using $SOEGDP$, and loses significance when $SOEINV$ is the dependent variable. These results encouraged us to look for further factors that play a role in the data generating process, and which we believe are related to the political ideology of the government.

4.2 Political Ideology and Redistribution

Tables 4a and 4b present the estimation results for Equation (12), again using the three SOE indicators. Table 4a presents the OLS results while Table 4b presents the results with 2SLS. Our focus will be on the 2SLS results; Table 4a is presented only to show that our results with 2SLS are robust across different estimation methods. Also, DWH tests, presented at the bottom of Table 4a, show that it is prudent to address the endogeneity of $GINI$.[47] The measure for $WING$ is the continuous measure, where 'unspecified' wings are treated as a separate group. For each dependent variable, three models are presented. In the first, Equation (12) is estimated without controls; in the second, controls are included, and in the third, insignificant controls are removed to check the sensitivity of the state variables. As before, the removal of the insignificant controls is justified with Wald tests.

[47] To save space, estimation results of Equation (11) with OLS using different $WING$ measures are not presented. In those regressions as well as in Table 4a, evidence for $GINI$'s endogeneity is stronger when no controls are used. Including control variables, especially regional dummies, is found to weaken the reverse causation in the case of $SOEGDP$ and $NONAG$ as dependent variables. This is understandable because our mostly time-invariant controls help capture several initial conditions. On the other hand, using $SOEINV$ as the SOE measure, evidence for endogeneity is always robust and consistent.

We next proceed with 2SLS (Table 4b). The Hansen's J-statistics presented justify our instrumentation procedure. While we touch upon all models for discussion, our focus will be on Models 3, 6 and 9. In all these models, there is overall a very consistent pattern in the estimated coefficients, with significance levels varying mostly within conventional levels. First, there is a strong non-linearity regarding the impact of $GINI$ on SOE. In addition, non-linearity is also observed in regard to government's political ideology in that there is a limit to which political ideology is associated with higher redistribution through SOEs. Specifically, compared to right-wing governments, left-wing, center-wing and unspecified-wing governments redistribute more through SOEs, but this effect tapers off at higher levels of inequality.

In Model 3 (Table 4b), all state variables are strongly significant at 1% and 5% levels. To represent the regression output, consider the following estimated equation:

$$\begin{aligned} SOEGDP &= 98.68 - 5.03GINI + 0.06GINI^2 - 154LEFT - 285.21CENTER \\ &\quad -162.94UNSPEC + 7.79LEFT \times GINI + 13.91CENTER \times GINI \\ &\quad +8.34UNSPEC \times GINI - 0.09LEFT \times GINI^2 \\ &\quad -0.16CENTER \times GINI^2 - 0.10UNSPEC \times GINI^2 + ... + u_i \end{aligned}$$

The impact of $GINI$ on $SOEGDP$ is shown as follows:

$$\begin{aligned} \frac{\partial SOEGDP}{\partial GINI} &= -5.03 + 0.12GINI + 7.79LEFT + 13.91CENTER \\ &\quad +8.34UNSPEC - 0.18LEFT \times GINI \\ &\quad -0.32CENTER \times GINI - 0.20UNSPEC \times GINI \end{aligned}$$

This derivative implies that redistribution through SOEs depends on the political ideology of the government and the level of inequality. Take, for instance, the minimum Gini value in the sample, 24.5.[48] If there is a left-wing government in the full 1978-91 period, then $-5.03 + 0.12 \times 24.5 + 7.79 \times 1 - 0.18 \times 1 \times 24.45$, which means that a one unit increase in Gini increases the SOE share in GDP by 1.3%. When the government ideology is the 'unspecified' type, the same amounts of increase are observed.[49] These effects taper off and reach a turning point around the mean Gini value, 45, around which Gini has no impact on the SOE share. After this point, higher Gini values start having a negative impact on $SOEGDP$, possibly because redistribution becomes costly to the society. For instance, around the Gini value 55, and with the full sample period governed by a left- or unspecified-wing government, an increase in Gini by one unit decreases $SOEGDP$ by 0.5%.

[48] We disregard the type of Gini construction for the moment.

[49] When the government possessed a center-wing ideology, a one unit increase in GINI increases SOEGDP by almost 4.95%, but the mean share of center-wing goverments in the sample is low, i.e., around 5%, so such 'wild' variations are possible.

Importantly, the impact of left-wing ideology on $SOEGDP$ is seen through the following derivative:

$$\frac{\partial SOEGDP}{\partial LEFT} = -154 + 7.79GINI - 0.09GINI^2$$

This derivative suggests that between the income Gini levels 27.25 and 61.25, left-wing governments are always associated with a higher SOE share in GDP. The zeal of this effect is around the mean Gini value of 45. Note that these are "corrected" Gini levels, i.e., corrected during the instrumentation procedure, and thus refer to household gross income-based constructions. In our sample, there are two countries with income Gini values lower than 27.25 (Belgium and Denmark), but these values are net income-based constructions; accounting for the "understatement" of inequality would push these countries into the estimated band 27.25-61.25, implying a positive impact of left-wing governments on $SOEGDP$. Likewise, in our sample there are three income Gini values higher than 61.25 (Sierra Leone, Central African Republic and Senegal). These are person-based income Gini constructions with a quality rating 3; correcting the "overstatement" of inequality would put these countries into the estimated band. This implies that potentially in all countries in our sample, left-wing governments are associated with a higher SOE share in GDP.

In terms of control variables, oil exporter countries and lower levels of civil liberties are associated with higher shares of SOE in GDP. Comparing Models 1, 2 and 3, it is clear that control variables help identify the impact of $GINI$ and $GINI^2$ as seen through stronger significance levels, while the effects related to political ideolgies are robust with and without controls.

Model 6 (Table 4b) shows that using $NONAG$ as the dependent variable, the results in Model 3 are almost completely replicated, with slightly lower significance levels overall, though at conventional levels. One exception is that the center-wing government effect is not significant. With key point estimates, for example, of $GINI$ and $GINI^2$ being significant around 10%, we do not attempt to derive numerical inference; however, the effects related to left-wing and unspecified-wing ideologies are found to be robustly significant at the 5% level. The same control variables as before, i.e., oil exporters and civil liberties, are found to have robust and significant controlling effects.

Model 9 (Table 4b) shows that using $SOEINV$ as the dependent variable also results in the same pattern of signs. However, $GINI$, $GINI^2$ and the effects related to political ideology become weaker in significance. Our further exploration (unreported) shows that this is due to the Sub-Saharan African dummy, which, if remains in the model during the general-to-specific modelling procedure, tends to wash out the explanatory power of income inequality and related interaction variables. However, this dummy is generally insignificant itself in affecting the SOE size, and, in most of the cases, is removed from the regression.[50] In terms of control variables, oil exporter countries are associated with higher SOE investment, but the magnitude of the coefficient is much smaller compared

[50] We note again the Schultz (1998) finding that regional effects and inequality are correlated.

to SOE production. Additionally, small island economies are involved with less SOE investment, as are countries with higher levels of democracy.

Table 5 shows the results whereby $WING$ is represented by a discrete measure. With this measure, the results found in Table 4 are all replicated in terms of the sign structure of the state variables. Considering Models 3, 6 and 9, the overall conclusion is that the impact of $GINI$ on SOE works through the political ideology channel. Specifically, left-wing and center-wing governments and their interactions with $GINI$ possess robustly significant coefficients. The "unspecified-wing" effect is significant only when SOE production is used as a dependent variable, otherwise it has a t-statistic between 1.18 and 1.62. With these results, we are relatively confident that the political ideology effects are not driven by the $WING$ measure. The insignificance of $GINI$ and $GINI^2$ may be due to the fact that the discrete $WING$ measure (which is a more aggregate measure relative to continuous) takes away their explanatory power by encapsulating their effects.

Table 6 presents the results whereby the "unspecified"-wing governments are considered as center-wing. With this exercise too, we obtain similar results as above in terms of the signs of the coefficients. The redistribution effects related to left-wing and center-wing governments are strongly significant across all SOE measures. Considering that $SOEINV$ and other dependent variables come from entirely different data sources, the robust redistribution effect of left-wing governments is noteworthy. In an unreported regression, we remove unspecifed-wing governments from the dataset. Having around 40 observations in the model, the statistical significance of variables is naturally reduced. However, the left-wing government effect is significant around the 12%-15% levels.

Table 7 presents the panel data results. Noting that we use only $SOEINV$ as the dependent variable, the overall evidence found through cross-sectional analysis is generally replicated. Specifically, the redistributive engagement of left-wing governments and that this engagement is non-linear along income Gini values are robustly shown by the panel data. Likewise, the same effect is shown robustly for governments of the unspecified wing as well. On the other hand, the evidence varies for center-wing governments. First, a reverse sign structure - U shape - is obtained for their redistributive engagement when a continuous WING measure is used. However, this effect is not robust to the use of a discrete $WING$ measure, or to the treatment of an unspecified-wing as center-wing. While the effect is insignificant with the discrete measure, the sign structure becomes an inverted-U shape with the latter treatment. This is possibly because the center-wing effect is dominated by the unspecified-wing. Similarly, the stand-alone level effect of $GINI$ and $GINI^2$ varies across the use of controls and the treatment of unspecified-wing as center-wing. The inverted-U structure obtained in the cross-sectional analysis is found only when control variables are used in the models and the $WING$ measures are continuous and discrete. It must be noted that our panel data set brings together a collection of cross-sectional data sets with short time windows (i.e., each covering five-yearly time periods), and therefore, the relationships found may differ when compared to a cross-sectional data set that captures a longer time span (such as 1978-1991 above). In this respect, the

redistributive involvement of left-wing governments and the fact that this effect is non-linear emerges as robust evidence in our cross-sectional and panel data analyses.

4.3 Further Links

Democracy vs Dictatorship. In the introduction we have argued that policymakers tend to be responsive to the concerns of the majority of the population whether they are democratically elected or not. One could however plausibly counter that there certainly might be a significant difference in degree if not in kind between dictatorial and democratic policymakers. To investigate this claim in the context of the SOE sector as a means of redistribution, we estimate Equation (13), with $GINI$ again instrumented. In doing so, we also relate our results to Acemoglu and Johnson (2000), who argue a non-monotonic relationship between inequality and democracy. In their context, democracy is essentially a tool for redistribution, whereby initially higher inequality is associated with "more" democracy (redistribution), but then higher levels of inequality lead to less democracy (redistribution). Ignoring this point, we first use the average democracy score as the measure of $DEMOC$ in the regression. The results, reported in Table 8a, possess no statistical significance across different SOE measures. If inequality causes democracy in the Acemoglu-Johnson sense, then the insignificance of $DEMOC$ is understandable. Next, we address this point by using initial levels of democracy. The results, reported in Table 8b, are dramatically different, at least for $SOEGDP$ and $NONAG$. Both standalone effects of inequality as seen through $GINI$ and $GINI^2$ and the effects that depend on the level of democracy are significant in conventional limits. As $DEMOC$ is a reverse measure of democracy, a positive coefficient points to autocratic regimes redistributing more through SOEs, with however the effect decreasing over higher levels of inequality. This enables us to arrive at a general conclusion in lieu of Acemoglu and Robinson: whether measured by democracy or the SOE share in production, higher inequality is associated with higher redistribution, and this effect is non-linear. Our results additionally suggest that (as far as redistribution through the SOE sector is concerned) dictatorships are as responsive to majoritarian concerns as democracies: a conclusion in conformity with the anecdotal/historical evidence a limited selection of which we cited in our introduction.[51]

SOEs and Employment Protection. Pagano and Volpin (2005) analyze the political determinants of investor and employment protection. They find that proportional (vs majoritarian) electoral systems, the political ideology of the government, and the origin of the legal system explain cross-country differences in employment protection. Further, once the electoral systems and legal origins are controlled for, the political ideology of the government ceases to have ex-

[51] Alesina and Rodrik (1994) also conclude that " ... even in a dictatorship, distributional issues affecting the majority of the population will influence policy outcomes." Dutt and Mitra (2002) reach a similar conclusion in their empirical investigation of the political economy of trade policy.

planatory power (see also Botero et al. 2004 for regulation of labor). As SOEs have long been argued to be instruments for the creation of secure employment, we include the Pagano-Volpin variables to our models to check for this effect. As shown in Table 9, addition of these variables to our models does not change our main results relating to left-wing and unspecified-wing governments. The center-wing government effect becomes insignificant only when $SOEGDP$ and $NONAG$ are used.[52]

5 Conclusion

The paper formalizes a popular, but informal, argument to explain the persistence of the SOE sector in many less-developed countries (as well as in transitional countries like Russia). In its broadest outline, the argument is that the SOE sector is used as a redistributive device and cannot be easily given up especially given the pains of other reforms that form a package of structural adjustment. It is shown that capital-poor agents prefer to establish or maintain an SOE sector that redistributes income by paying higher wages than the private sector and carrying surplus labor. The paper then finds strong and robust empirical support for this hypothesis. Specifically, we test the two questions that generally come up in the political economy literature: (i) whether and to what extent the political ideology of government affects redistribution, and (ii) whether democracies are more likely to be responsive to popular pressures when it comes to redistribution. First, we do find strong evidence that non-right-wing governments are more prone to use the SOE sector as a redistributive device. This effect is particularly robust for left-wing governments as the result holds regardless of the dataset used (cross-sectional vs panel), different measures regarding political ideology and the role of SOEs in the economy, and several specifications of the econometric model. Further, this effect is found to be non-linear, pointing out that there is a limit to which governments can be engaged with redistributive activity. Second, we find that autocracies would be more likely to redistribute through SOEs than democracies, and this effect, too, is non-linear.

The next natural question, given the result obtained, is how to explain successful privatization experiments such as Argentina's. To answer the question one can point out that factors that are not taken into account in the present model drive the process of privatization. For example, Waterbury (1992) argues that this process is driven by fiscal crises of varying intensity coupled with inflation, reduced international credit-worthiness, and impediments to export promotion. Since, to keep the model as analytically simple as possible, we have abstracted from such considerations, the model will not help us explore these

[52] Our results also show that the British legal system and in one case the German legal system are associated with higher SOE shares in the economy. This seems to contradict Pagano and Volpin (2005) (who use the OECD data), as they find that these legal systems are associated with lower employment protection. However, different country compositions in the datasets can explain the differing findings.

factors.

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Appendix I

$$r_\tau = \frac{-(1-\beta)Q}{(1-\tau)K} = \frac{-(1-\beta)q_p}{(1-\tau)k} < 0$$

$$dl_p/d\tau = \frac{-(1-\beta)q_p}{\alpha\beta} < 0$$

$$\frac{d(\tau q_p)}{d\tau} = \frac{(\beta-\tau)q_p}{\beta(1-\tau)}$$

$$q_p = k^\beta l_p^{1-\beta}$$

Table 1. Summary Statistics for Cross-Sectional Data, Data Sources and Explanations

Variable	Mean	Median	Max	Min	St. Dev.	N	Data Source and Explanations
SOE share in GDP (%)	11.91	9.50	64.60	1.20	10.99	75	World Bank, *Bureaucrats in Business*. Averages of 1978-1991.
SOE share in non-agr. GDP (%)	14.96	11.15	71.70	1.30	13.70	74	World Bank, *Bureaucrats in Business*. Averages of 1978-1991.
SOE share in total investment (%)	8.48	7.67	23.29	3.02	3.53	66	Gwartney, Lawson, Sobel and Leeson (2007). Panel data converted into cross-sections by averaging 1975, 1980, 1985, 1990 and 1995 obs.
Income Gini	45.11	45.84	68.80	24.48	10.16	68	UNU/WIDER (2005). 0-100 scale.
Person-based Gini Dummy	0.72	1	1	0	0.42	68	UNU/WIDER (2005)
Net income-based Gini Dummy	0.33	0	1	0	0.46	68	UNU/WIDER (2005)
Cons./Exp.-based Gini Dummy	0.31	0	1	0	0.45	68	UNU/WIDER (2005)
Earnings-based Gini Dummy	0.04	0	1	0	0.18	68	UNU/WIDER (2005)
Monetary Income-based Gini Dummy	0.16	0	1	0	0.36	68	UNU/WIDER (2005)
Quality of Gini (1 to 4)	2.32	2.50	4	1	0.82	68	UNU/WIDER (2005)
Land Gini	65.23	67.59	92	35.25	16.18	72	Deininger and Olinto (2000). 0-100 scale.
Unspecified Wing	0.39	0.21	1	0	0.43	74	Beck et al. (2008). Continuous measure statistics.
Left Wing	0.30	0	1	0	0.39	74	Beck et al. (2008). Continuous measure statistics.
Center Wing	0.05	0	1	0	0.18	74	Beck et al. (2008). Continuous measure statistics.
Right Wing							Beck et al. (2008). Continuous measure statistics.
Avg. Years of Schooling	3.28	2.99	9.09	0.17	2.22	61	Barro and Lee (2001)
Oil Producing Dummy	0.07	0	1	0	0.25	75	World Bank, GDN Database
Civil Liberties	4.09	4.33	7	1	1.73	73	www.freedomhouse.org
Small Island Dummy	0.09	0	1	0	0.29	75	CIA World Factbook. Island countries whose surface areas are less than 10,000 sqkm.
East Asia and Pacific Dummy	0.07	0	1	0	0.25	75	World Bank, GDN Database
South Asia Dummy	0.07	0	1	0	0.25	75	World Bank, GDN Database
Sub-Saharan Africa Dummy	0.36	0	1	0	0.48	75	World Bank, GDN Database
Latin America and the Carib. Dummy	0.29	0	1	0	0.46	75	World Bank, GDN Database
Middle East and North Afr. Dummy	0.09	0	1	0	0.29	75	World Bank, GDN Database

Table 2. First Stage Regression of Income Inequality			
	Dependent Variable: Income Gini		
	(1)	(2)	(3)
Net income based construction	-9.281	-9.164	-8.825
	(3.15)***	(3.37)***	(3.44)***
Monetary income based const.	3.012	2.949	
	(0.83)	(0.83)	
Personal income based const.	5.925	6.012	6.698
	(2.00)*	(2.08)**	(2.25)**
Quality of GINI	2.338	2.398	2.608
	(1.47)	(1.57)	(1.69)*
Cons/Exp. based construction	-9.741	-9.818	-10.387
	(2.45)**	(2.52)**	(2.58)**
Earnings based construction	0.943		
	(0.13)		
Avg. School 1965	-1.772	-1.770	-1.503
	(2.67)**	(2.69)***	(2.54)**
Land Gini	0.256	0.256	0.227
	(3.13)***	(3.13)***	(2.87)***
Constant	29.574	29.380	30.064
	(4.63)***	(4.53)***	(4.80)***
Observations	59	59	59
R-squared	0.50	0.50	0.50
Wald test		0.90	0.71
F-statistic	13.60	15.61	19.99

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis being they are jointly insignificant. F-statistic for overall model significance.

Table 3a. Simple Relationship between SOE and Income Gini - OLS						
	Dep. Var: SOEGDP		Dep. Var: NONAG		Dep. Var: SOEINV	
	(1)	(2)	(3)	(4)	(5)	(6)
GINI	0.036	1.496**	0.066	2.068**	0.006	0.700***
	(0.34)	(2.14)	(0.50)	(2.03)	(0.16)	(2.87)
$GINI^2$		-0.0162**		-0.0222*		-0.008***
		(-2.04)		(-1.92)		(-2.94)
Constant	10.19*	-21.07	11.76*	-31.03	8.162***	-6.674
	(1.93)	(-1.48)	(1.84)	(-1.50)	(5.40)	(-1.30)
Observations	68	68	67	67	62	62
R-squared	0.00	0.03	0.00	0.03	0.00	0.07

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Figure 1. SOE share in production and Income Gini

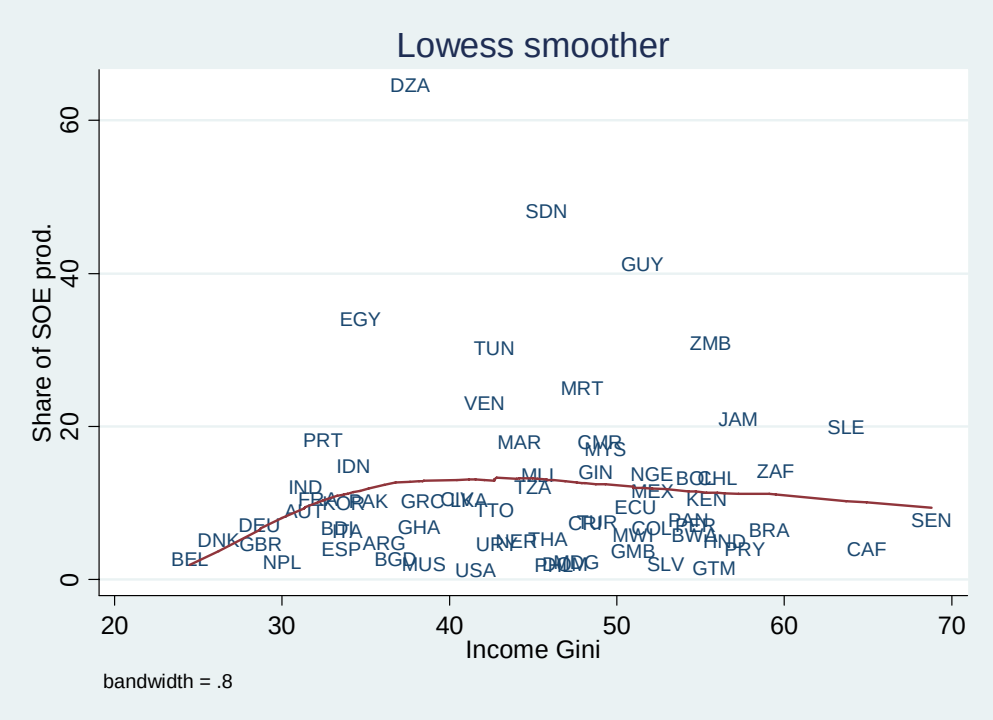

Figure 2. SOE share in investment and Income Gini

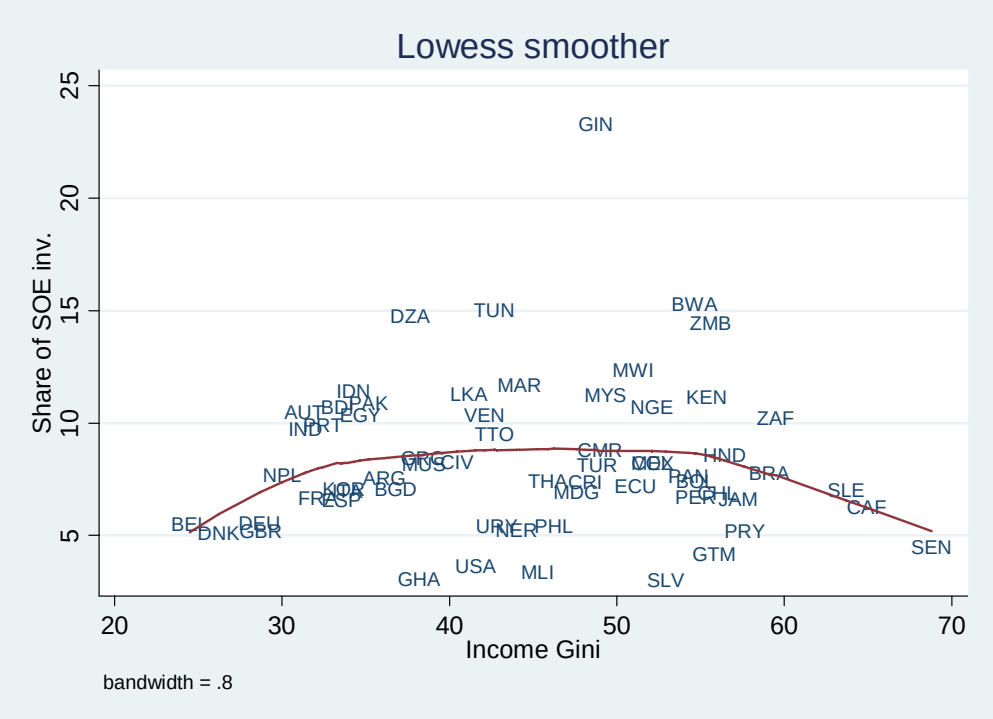

Table 3b. Simple Relationship between SOE and Income Gini – 2SLS

	Dep. Var: SOEGDP		Dep. Var: NONAG		Dep. Var: SOEINV	
	(1)	(2)	(3)	(4)	(5)	(6)
GINI	0.231*	2.196**	0.293*	3.195**	0.0532	1.010***
	(1.67)	(2.13)	(1.81)	(2.37)	(1.27)	(2.87)
$GINI^2$		-0.022*		-0.033**		-0.011***
		(-1.94)		(-2.18)		(-2.77)
Constant	0.986	-40.02*	0.946	-58.91**	5.591***	-14.67*
	(0.18)	(-1.86)	(0.14)	(-2.13)	(3.07)	(-1.90)
Observations	59	59	58	58	55	55
Hansen's J	0.28	0.32	0.07	0.10	0.18	0.40

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid.

Table 3c. SOE and Income Gini – 2SLS and Controls

	Dep. Var: SOEGDP			Dep. Var: NONAG			Dep. Var: SOEINV		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GINI	1.259	2.000	2.212*	1.520	3.038	2.787**	0.843***	0.525	0.343
	(1.10)	(1.40)	(1.90)	(1.04)	(1.55)	(2.33)	(2.65)	(1.05)	(0.95)
$GINI^2$	-0.014	-0.019	-0.020	-0.018	-0.031	-0.030**	-0.009***	-0.004	-0.003
	(-1.11)	(-1.37)	(-1.57)	(-1.10)	(-1.62)	(-2.17)	(-2.68)	(-0.83)	(-0.66)
Oil Exporter	23.21*	22.17**	21.33**	22.36*	21.70**		3.583**	4.501***	4.177***
	(1.96)	(2.28)	(2.13)	(1.83)	(2.04)		(2.35)	(4.23)	(5.42)
Small Island	-7.301	-6.408		-9.415	-9.265		-2.209*	-0.819	
	(-1.03)	(-0.88)		(-1.17)	(-1.05)		(-1.87)	(-0.80)	
Civil Liberties 1970	1.022	0.0978		1.450	0.458		-0.218	-0.464*	
	(0.94)	(0.10)		(1.05)	(0.36)		(-0.73)	(-1.82)	
Urban Pop. 970	-0.0315	0.003		-0.105	-0.047		-0.0340**	0.00228	
	(-0.51)	(0.027)		(-1.28)	(-0.33)		(-1.99)	(0.086)	
East Asia and Pac.		-1.849			-4.449			1.481	
		(-0.29)			(-0.56)			(0.73)	
South Asia		-0.930			-1.957			3.378**	2.398***
		(-0.16)			(-0.24)			(2.15)	(2.71)
Sub-Saharan Afr.		1.345			2.987	9.017*		0.397	
		(0.20)			(0.37)	(1.75)		(0.18)	
Lat. Amer. and Car.		-4.743	-6.833*		-5.483			-2.213	-2.037**
		(-0.53)	(-1.88)		(-0.49)			(-0.83)	(-2.13)
M. East and N. Afr.		10.55	11.07*		8.915	17.06*		3.675	2.802**
		(1.34)	(1.82)		(0.96)	(1.71)		(1.63)	(2.05)
Constant	-19.03	-37.85	-44.60*	-18.35	-54.98	-50.43**	-8.626	-5.384	-1.678
	(-0.76)	(-1.09)	(-1.84)	(-0.59)	(-1.13)	(-2.12)	(-1.14)	(-0.46)	(-0.23)
Observations	59	59	59	58	58	58	55	55	55
Hansen's J	0.24	0.29	0.42	0.09	0.19	0.25	0.45	0.16	0.13
Wald test			0.98			0.45			0.42

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis being they are jointly insignificant.

Table 4a. SOE, Political Ideology, Income Inequality – OLS Estimations - Continuous Wing Measure									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent Var: SOEGDP			**Dependent Var: NONAG**			**Dependent Var: SOEINV**		
Constant	30.964	69.822	-3.656	27.025	67.437	49.383	11.019	20.762	9.040
	(1.13)	(1.61)	(1.85)*	(0.82)	(1.21)	(1.18)	(0.96)	(1.96)*	(0.78)
GINI	-1.512	-3.571	0.045	-1.370	-3.278	-2.550	-0.363	-0.757	-0.283
	(1.03)	(1.65)	(1.92)*	(0.77)	(1.18)	(1.12)	(0.60)	(1.45)	(0.46)
$GINI^2$	0.019	0.043	-86.494	0.018	0.039	0.032	0.005	0.010	0.005
	(1.11)	(1.66)	(1.44)	(0.87)	(1.18)	(1.19)	(0.77)	(1.66)	(0.76)
Left Wing	-47.512	-83.997	-234.539	-45.306	-74.412	-67.938	-26.321	-34.584	-34.266
	(0.81)	(1.28)	(2.88)***	(0.63)	(0.88)	(0.93)	(1.15)	(1.44)	(1.51)
Center Wing	-295.283	-335.105	-126.461	-176.071	-52.402	-208.531	-159.800	-89.991	-112.562
	(2.26)**	(2.21)**	(2.52)**	(0.31)	(0.06)	(0.37)	(3.95)***	(1.57)	(2.98)***
Unspecified Wing	-83.379	-128.263	4.842	-89.340	-136.548	-104.398	-4.710	-16.580	-2.482
	(1.67)	(2.25)**	(1.66)	(1.40)	(1.77)*	(1.47)	(0.22)	(0.64)	(0.11)
Left Wing x GINI	3.101	4.755	11.572	3.085	4.312	4.107	1.594	1.931	1.911
	(1.15)	(1.48)	(3.00)***	(0.92)	(1.03)	(1.15)	(1.44)	(1.75)*	(1.76)*
Center Wing x GINI	13.941	16.109	6.801	8.043	2.249	9.795	7.750	4.493	5.453
	(2.34)**	(2.27)**	(2.73)***	(0.29)	(0.05)	(0.36)	(3.90)***	(1.64)	(2.92)***
Unspec. Wing x	4.674	6.732	-0.055	5.326	7.292	6.223	0.516	0.939	0.422
	(2.02)**	(2.46)**	(1.72)*	(1.80)*	(2.01)*	(1.86)*	(0.50)	(0.80)	(0.39)
Left Wing x $GINI^2$	-0.037	-0.055	-0.135	-0.036	-0.049	-0.047	-0.019	-0.023	-0.023
	(1.25)	(1.54)	(3.03)***	(0.97)	(1.05)	(1.18)	(1.62)	(2.01)*	(1.95)*
Center Wing x $GINI^2$	-0.159	-0.184	-0.081	-0.090	-0.023	-0.111	-0.090	-0.053	-0.063
	(2.41)**	(2.29)**	(2.83)***	(0.28)	(0.04)	(0.35)	(3.72)***	(1.64)	(2.78)***
Unspec. Wing x$GINI^2$	-0.056	-0.080	14.589	-0.065	-0.087	-0.077	-0.007	-0.012	-0.007
	(2.19)**	(2.56)**	(2.02)**	(1.99)*	(2.13)**	(2.05)**	(0.64)	(0.95)	(0.60)
Oil Exporter		15.596			14.749	13.700		2.794	3.105
		(2.24)**			(1.91)*	(1.74)*		(2.90)***	(3.92)***
Civil Liberties 1970		1.244			1.502			0.103	
		(1.15)			(1.05)			(0.18)	
Small island		-3.945			-6.061			-1.786	
		(0.57)			(0.75)			(1.06)	
Urban Pop. 1970		-0.031			-0.077			-0.032	
		(0.36)			(0.69)			(1.13)	
East Asia and Pac.		-0.951	14.756		-3.079			1.564	
		(0.15)	(3.13)***		(0.35)			(0.62)	
M. East and N. Afr.		10.842			11.090	15.574		2.624	
		(1.92)*			(1.36)	(2.89)***		(1.07)	
South Asia		-5.018			-6.798			0.402	
		(0.89)			(0.86)			(0.19)	
Sub-Saharan Afr.		-3.375			-2.880			1.126	
		(0.52)			(0.30)			(0.47)	
Latin Amer. and Car.		-1.136			-0.606			-0.742	-3.113
		(0.25)			(0.08)			(0.37)	(2.74)***
Observations	68	68	68	67	67	67	62	62	62
Wald test			0.88			0.15			0.10
DWH test	0.15	0.90	0.19	0.00	0.88	0.46	0.00	0.00	0.00

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis referring to joint insignificance. DWH test: p-values of the Chi-squared test statistic of the Durbin-Wu-Hausman test, with null hypothesis of no endogeneity. Specifically, the test is carried out by regressing GINI on instruments, saving the residuals next, and then inserting them back to the OLS regression in appropriate form (i.e., in levels as well as by interacting them with variables interacted with GINI itself where necessary), and finally, testing the joint significance of all residual variables and their interactions.

Table 4b. SOE, Political Ideology, Income Inequality – Cross-Sectional Data - 2SLS Estimations - Continuous Wing Measure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent Var: SOEGDP			**Dependent Var: NONAG**			**Dependent Var: SOEINV**		
Constant	65.526	97.157	98.675	70.753	98.288	103.396	13.708	26.254	14.188
	(1.70)*	(2.16)*	(2.53)**	(1.52)	(1.70)*	(2.28)**	(1.30)	(2.35)**	(1.18)
GINI	-3.192	-4.698	-5.025	-3.520	-4.566	-5.314	-0.478	-0.962	-0.523
	(1.64)	(2.15)**	(2.53)**	(1.48)	(1.61)	(2.25)**	(0.86)	(1.74)*	(0.82)
$GINI^2$	0.038	0.054	0.059	0.042	0.052	0.064	0.007	0.012	0.008
	(1.71)*	(2.17)**	(2.61)**	(1.55)	(1.61)	(2.32)**	(1.01)	(1.84)*	(1.04)
Left Wing	-137.915	-141.561	-154.000	-163.931	-166.202	-182.469	-27.489	-24.498	-21.778
	(2.10)**	(2.65)***	(2.69)***	(2.22)**	(2.56)**	(2.91)***	(1.54)	(1.41)	(1.25)
Center Wing	-299.604	-250.332	-285.212	-397.200	-444.079	22.901	-155.207	-48.763	-54.845
	(3.31)***	(2.22)***	(3.65)***	(0.84)	(0.60)	(0.05)	(4.60)***	(0.95)	(1.20)
Unspecified Wing	-121.640	-169.215	-162.943	-137.175	-194.519	-176.794	-4.493	-4.974	2.994
	(1.97)**	(2.56)**	(2.72)***	(1.76)*	(2.18)**	(2.31)**	(0.25)	(0.22)	(0.12)
Left Wing x GINI	7.084	7.576	7.789	8.504	8.773	9.634	1.596	1.461	1.333
	(2.23)**	(2.90)***	(2.67)***	(2.36)**	(2.72)***	(3.15)***	(1.85)*	(1.79)*	(1.60)
Center Wing x GINI	14.287	12.196	13.905	18.864	21.275	-1.167	7.548	2.714	2.909
	(3.41)***	(2.32)**	(3.80)***	(0.82)	(0.60)	(0.05)	(4.51)***	(1.10)	(1.31)
Unspec. Wing xGINI	6.163	8.216	8.384	7.290	9.492	9.424	0.408	0.331	0.029
	(2.07)**	(2.64)***	(2.85)***	(1.93)*	(2.29)**	(2.51)**	(0.45)	(0.32)	(0.02)
Left Wing x $GINI^2$	-0.076	-0.086	-0.092	-0.092	-0.099	-0.107	-0.019	-0.018	-0.017
	(2.21)**	(2.99)***	(3.05)***	(2.33)**	(2.76)***	(3.19)***	(2.01)**	(2.06)**	(1.84)*
Center Wing x $GINI^2$	-0.163	-0.140	-0.159	-0.215	-0.242	0.016	-0.088	-0.034	-0.036
	(3.47)***	(2.34)**	(3.81)***	(0.81)	(0.60)	(0.06)	(4.27)***	(1.19)	(1.37)
Unspec. WingxGINI^2	-0.070	-0.092	-0.096	-0.084	-0.108	-0.109	-0.006	-0.005	-0.002
	(2.11)**	(2.71)**	(2.89)***	(2.00)**	(2.37)**	(2.58)***	(0.54)	(0.42)	(0.14)
Oil Exporter		18.685	17.351		18.196	15.923		3.199	3.758
		(3.07)***	(2.50)**		(2.76)***	(2.10)**		(4.97)***	(4.89)***
Civil Liberties 1970		0.587			1.132			-0.507	-0.415
		(0.61)			(0.84)			(1.93)*	(1.83)*
Small island		-9.225			-11.889			-3.072	-2.158
		(1.24)			(1.37)			(2.28)**	(1.77)*
Urban Pop. 1970		-0.061			-0.117			-0.036	
		(0.74)			(1.09)			(1.49)	
East Asia and Pac.		4.718			1.243			4.829	4.093
		(0.79)			(0.14)			(3.16)***	(3.35)***
M. East and N. Afr.		12.524	12.935		9.439	13.157		5.200	4.222
		(2.23)**	(3.13)***		(1.13)	(2.94)***		(3.87)***	(4.19)***
South Asia		-0.170			-2.485			2.614	3.014
		(0.03)			(0.34)			(1.31)	(2.15)**
Sub-Saharan Afr.		-4.925			4.538			3.730	2.923
		(0.90)			(0.55)			(2.24)**	(2.12)**
Latin Amer. and Car.		-3.265			1.470			1.941	
		(0.67)			(0.19)			(1.57)	
Observations	59	59	59	58	58	58	55	55	55
Hansen's J	0.77	0.36	0.63	0.67	0.39	0.62	0.14	0.52	0.10
Wald's test			0.37			0.27			0.14

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis of joint insignificance.

Table 5. SOE, Political Ideology, Income Inequality – Cross-Sectional Data - 2SLS Estimations - Discrete Wing Measure									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent Var: SOEGDP			**Dependent Var: NONAG**			**Dependent Var: SOEINV**		
Constant	6.060	60.372	27.264	-5.911	43.072	12.467	2.050	30.878	33.587
	(0.46)	(1.52)	(1.25)	(0.46)	(0.90)	(0.51)	(0.29)	(3.61)***	(3.58)***
GINI	-0.108	-2.793	-3.771	0.512	-2.787	-2.925	0.158	-1.105	-1.207
	(0.16)	(1.56)	(2.08)**	(0.77)	(1.28)	(1.83)*	(0.41)	(2.75)***	(2.86)***
$GINI^2$	0.003	0.038	0.048	-0.004	0.038	0.040	-0.001	0.014	0.014
	(0.35)	(1.83)*	(2.27)**	(0.50)	(1.17)	(0.93)	(0.17)	(2.94)***	(2.96)***
Left Wing	-21.604	-160.519	-110.024	-64.445	-183.038	-177.521	0.046	-23.823	-21.807
	(0.40)	(3.18)***	(2.10)**	(1.30)	(3.01)***	(3.27)***	(0.00)	(1.82)*	(1.79)*
Center Wing	2.321	-230.311	-137.777	22.937	-179.684	-163.098	5.560	-75.728	-60.398
	(0.14)	(1.78)*	(1.97)**	(1.50)	(1.26)	(2.31)**	(0.56)	(2.59)***	(2.86)***
Unspecified Wing	-69.112	-142.325	-98.917	-69.811	-180.891	-141.998	4.197	-21.154	-32.681
	(1.37)	(2.24)**	(1.80)*	(0.95)	(2.05)**	(1.83)*	(0.37)	(1.12)	(2.39)**
Left Wing x GINI	1.240	7.771	6.380	3.131	9.005	8.920	0.164	1.419	1.287
	(0.49)	(3.25)***	(2.84)***	(1.34)	(3.13)***	(3.43)***	(0.20)	(2.41)**	(2.35)**
Center Wing x GINI	0.106	8.649	4.208	-0.919	9.283	8.473	-0.023	4.068	3.308
	(0.13)	(1.59)	(2.64)***	(1.21)	(1.33)	(2.47)**	(0.05)	(2.85)***	(3.17)***
Unspec. Wing x GINI	3.380	7.602	7.483	3.645	8.872	7.456	-0.081	1.025	1.534
	(1.47)	(2.64)***	(2.80)***	(1.09)	(2.23)**	(2.07)**	(0.15)	(1.21)	(2.59)***
Left Wing x $GINI^2$	-0.012	-0.087	-0.073	-0.030	-0.099	-0.099	-0.003	-0.018	-0.016
	(0.40)	(3.33)***	(2.98)***	(1.17)	(3.11)***	(3.45)***	(0.28)	(2.89)***	(2.74)***
Center Wing x $GINI^2$	-0.005	-0.105	-0.053	0.007	-0.112	-0.102	-0.003	-0.051	-0.042
	(0.53)	(1.65)*	(2.91)***	(0.74)	(1.38)	(2.61)***	(0.57)	(3.10)***	(3.48)***
Unspec. Wing x$GINI^2$	-0.038	-0.087	-0.086	-0.042	-0.101	-0.088	-0.000	-0.012	-0.017
	(1.56)	(2.80)***	(2.98)***	(1.18)	(2.38)**	(2.26)**	(0.02)	(1.36)	(2.70)***
Oil Exporter		22.615	19.237		22.759	21.362		3.635	2.624
		(3.28)***	(2.64)***		(3.04)***	(2.71)***		(5.16)***	(4.16)***
Civil Liberties 1970		0.486			0.926			-0.496	
		(0.51)			(0.72)			(1.99)**	
Small island		-5.339			-7.134			-2.290	
		(0.81)			(0.86)			(1.87)*	
Urban Pop. 1970		-0.066			-0.088			-0.062	-0.072
		(0.65)			(0.70)			(2.32)**	(3.36)***
East Asia and Pac.		-2.681			-6.689			3.180	
		(0.37)			(0.70)			(2.34)**	
M. East and N. Afr.		10.471	15.901		7.621	11.954		4.059	2.991
		(2.08)**	(3.85)***		(1.13)	(2.81)***		(3.13)***	(2.72)***
South Asia		-2.322			0.018			1.756	
		(0.37)			(0.00)			(0.97)	
Sub-Saharan Afr.		-2.853			-3.934			1.629	
		(0.46)			(0.49)			(1.21)	
Latin Amer. and Car.		-7.050			-11.071	-10.147		-0.095	
		(1.24)			(1.42)	(2.61)***		(0.08)	
Observations	59	59	59	58	58	58	55	55	55
Hansen's J	0.14	0.33	0.24	0.28	0.30	0.34	0.31	0.36	0.36
Wald's test			0.45			0.62			0.46

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis being they are jointly insignificant.

Table 6. SOE, Political Ideology, Income Inequality – Cross-Sectional Data - 2SLS Estimations - Unspecified Wing = Center Wing

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent Var: SOEGDP			**Dependent Var: NONAG**			**Dependent Var: SOEINV**		
Constant	71.512	102.067	117.817	79.591	63.961	59.056	18.272	16.310	3.927
	(1.86)*	(2.10)**	(2.67)***	(1.76)*	(1.01)	(1.38)	(1.71)*	(0.99)	(0.37)
GINI	-3.483	-5.036	-6.029	-3.942	-4.659	-3.134	-0.718	-0.929	-6.483
	(1.81)*	(2.13)**	(2.69)***	(1.72)*	(1.56)	(1.43)	(1.26)	(1.54)	(2.66)***
$GINI^2$	0.041	0.059	0.072	0.047	0.054	0.038	0.009	0.012	0.076
	(1.88)*	(2.18)**	(2.78)***	(1.80)*	(1.61)	(1.56)	(1.37)	(1.75)*	(2.68)***
Left Wing	-152.632	-158.336	-182.472	-186.616	-179.622	-176.608	-31.981	-29.239	-217.610
	(2.24)**	(2.80)***	(2.76)***	(2.42)**	(2.79)***	(2.28)**	(1.83)*	(1.83)*	(3.05)***
Center Wing	-155.930	-180.459	-199.299	-184.713	-204.625	-196.824	-46.319	-19.440	-251.405
	(2.48)**	(2.85)***	(2.65)***	(2.36)**	(2.41)**	(2.39)**	(1.48)	(0.84)	(3.22)***
Left Wing x GINI	7.675	8.346	9.533	9.415	9.324	8.963	1.825	1.701	11.252
	(2.33)**	(2.98)***	(3.00)***	(2.52)**	(2.87)***	(2.33)**	(2.13)**	(2.24)**	(3.26)***
Center Wing x GINI	7.555	8.741	10.009	9.208	9.806	9.362	2.212	1.041	12.267
	(2.51)**	(3.14)***	(3.19)***	(2.43)**	(2.45)**	(2.39)**	(1.53)	(0.97)	(3.23)***
Left Wing x $GINI^2$	-0.082	-0.094	-0.107	-0.101	-0.104	-0.098	-0.021	-0.021	-0.126
	(2.29)**	(3.04)***	(3.07)***	(2.46)**	(2.86)***	(2.31)**	(2.25)**	(2.51)**	(3.30)***
Center Wing x $GINI^2$	-0.084	-0.098	-0.113	-0.103	-0.109	-0.104	-0.024	-0.013	-0.138
	(2.51)**	(3.14)***	(3.21)***	(2.43)**	(2.48)**	(2.39)**	(1.53)	(1.09)	(3.23)***
Oil Exporter		19.610	17.989		19.161	20.241		4.025	4.241
		(3.20)***	(2.70)***		(2.90)***	(2.44)**		(7.73)***	(7.47)***
Civil Liberties 1970		0.558			1.059	2.072		-0.193	
		(0.62)			(0.88)	(2.09)**		(0.80)	
Small island		-8.317			-11.089			-2.160	-1.461
		(1.19)			(1.32)			(1.84)*	(2.18)**
Urban Pop. 1970		-0.049			-0.100			-0.032	
		(0.61)			(0.98)			(1.24)	
East Asia and Pac.		3.956			1.437			0.964	
		(0.63)			(0.16)			(0.58)	
M. East and N. Afr.		11.943	13.556		9.680			0.266	
		(2.13)**	(3.36)***		(1.30)			(0.54)	
South Asia		0.870			-0.064			1.084	2.352
		(0.18)			(0.01)			(0.69)	(1.81)*
Sub-Saharan Afr.		3.072			3.470			-0.571	
		(0.56)			(0.47)			(0.30)	
Latin Amer. and Car.		1.029			-0.293	-7.116		-2.188	-2.771
		(0.20)			(0.04)	(2.04)**		(1.20)	(2.88)***
Observations	59	59	59	58	58	58	55	55	55
Hansen's J	0.77	0.69	0.62	0.61	0.62	0.73	0.58	0.34	0.50
Wald's test			0.33			0.38			0.79

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis of joint insignificance.

Table 7. Panel (Pooled Cross-Sections) Results - GMM Estimation

	Dependent Variable: SOEINV								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Continuous WING Measure			Discrete WING Measure			Unspecified WING = Center WING		
GINI	0.599	-0.097	-0.096	0.499	-0.115	-0.112	0.664	0.000	0.001
	(5.83)***	(2.45)**	(2.50)***	(5.36)***	(3.48)***	(3.43)***	(3.57)***	(0.06)	(0.016)
$GINI^2$	-0.005	0.001	0.001	-0.004	0.001	0.001	-0.006	0.000	0.000
	(4.84)***	(3.88)***	(3.98)***	(4.51)***	(5.36)***	(5.33)***	(4.10)***	(1.09)	(1.22)
Left Wing	-1.838	-8.921	-8.978	-7.867	-10.259	-10.201	-0.892	-6.490	-6.577
	(0.62)	(7.86)***	(8.25)***	(3.77)***	(11.51)***	(11.88)***	(0.21)	(3.47)***	(3.62)***
Center Wing	13.088	6.197	6.014	6.941	1.228	1.233	-10.801	-3.581	-3.581
	(4.17)***	(5.89)***	(8.08)***	(2.69)***	(1.44)	(1.51)	(1.96)*	(1.70)*	(1.80)*
Unspecified Wing	-5.162	-13.706	-13.687	-5.748	-12.368	-12.218			
	(1.14)	(7.74)***	(8.11)***	(1.51)	(7.29)***	(7.57)***			
Left Wing x GINI	0.253	0.614	0.617	0.519	0.649	0.647	0.228	0.495	0.499
	(1.76)*	(11.04)***	(11.51)***	(3.77)***	(14.61)***	(15.12)***	(1.18)	(5.42)***	(5.68)***
Center Wing x GINI	-0.520	-0.233	-0.223	-0.235	-0.002	-0.001	0.738	0.252	0.251
	(-3.57)***	(4.39)***	(4.54)***	(4.99)**	(0.05)	(0.03)	(2.78)***	(2.51)**	(2.65)***
Unspec. Wing x GINI	0.493	0.706	0.700	0.501	0.647	0.641			
	(2.29)**	(8.61)***	(9.10)***	(2.80)***	(8.44)***	(8.83)***			
Left Wing x $GINI^2$	-0.003	-0.008	-0.008	-0.006	-0.008	-0.008	-0.003	-0.006	-0.006
	(2.13)**	(12.51)***	(13.15)***	(4.13)***	(15.77)***	(16.34)***	(1.57)	(6.31)***	(6.68)***
Center Wing x $GINI^2$	0.005	0.002	0.002	0.002	0.000	0.000	-0.009	-0.003	-0.003
	(3.33)***	(4.25)***	(4.40)***	(1.71)*	(0.17)	(0.12)	(3.06)***	(2.75)****	(2.90)***
Unspec. Wing x$GINI^2$	-0.006	-0.008	-0.008	-0.006	-0.007	-0.007			
	(2.75)***	(8.94)***	(9.50)***	(3.31)***	(9.05)***	(9.53)***			
Oil Exporter		4.034	4.048		4.083	4.093		4.035	4.074
		(29.2)***	(29.67)***		(32.59)***	(32.85)***		(23.63)***	(25.32)***
Civil Liberties 1970		-0.920	-0.917		-0.876	-0.873		-0.853	-0.856
		(49.75)***	(52.47)***		(49.75)***	(51.08)***		(30.94)***	(32.96)***
Small island		0.065			0.026			0.074	
		(0.67)			(0.32)			(0.61)	
Urban Pop. 1970		1.102	1.102		1.112	1.112		1.388	1.338
		(8.52)***	(9.06)***		(8.86)***	(9.03)***		(8.47)***	(8.62)***
East Asia and Pac.		0.225	0.235		0.209	0.217		0.021	
		(3.7)***	(3.87)***		(3.85)***	(4.01)***		(0.23)	
M. East and N. Afr.		0.531	0.525		0.554	0.551		0.350	0.327
		(3.74)***	(3.74)***		(4.03)***	(4.01)***		(2.005)**	(2.04)**
South Asia		0.632	0.643		0.613	0.627		0.487	0.453
		(7.29)***	(7.29)***		(8.54)***	(9.12)***		(3.86)***	(4.87)***
Sub-Saharan Afr.		0.475	0.502		0.534	0.551		0.172	
		(3.10)***	(3.34)***		(3.67)***	(4.03)***		(0.80)	
Latin Amer. and Car.		-1.046	-1.030		-1.122	-1.112		-1.388	-1.379
		(12.40)***	(12.55)***		(14.02)***	(13.88)***		(8.53)***	(12.49)***
Constant 1975	-8.268	12.162	12.132	-5.851	12.472	12.387	-10.100	9.366	9.374
	(3.75)***	(14.38)***	(14.7)***	(2.82)***	(16.92)***	(17.01)***	(3.57)***	(6.40)***	(6.80)***
Constant 1980	-7.408	12.803	12.767	-5.012	13.118	13.031	-8.990	9.997	10.009
	(3.33)***	(14.97)***	(15.32)***	(2.41)**	(17.62)***	(17.75)***	(3.57)***	(6.83)***	(7.25)***
Constant 1985	-9.201	11.585	11.555	-5.978	11.792	11.707	-9.755	8.826	8.835
	(3.72)***	(13.55)***	(13.78)***	(2.41)***	(15.71)***	(15.78)***	(3.13)***	(6.12)***	(6.50)***
Constant 1990	-8.247	10.766	10.735	-6.698	11.121	11.036	-10.678	7.943	7.956
	(4.11)***	(12.70)***	(12.98)***	(2.90)***	(14.72)***	(14.78)***	(3.38)***	(5.45)***	(5.80)***
Constant 1995	-10.414	10.093	10.053	-7.922	10.389	10.296	-11.964	7.317	7.311
	(4.65)***	(11.77)***	(11.98)***	(3.81)***	(13.72)***	(13.77)***	(3.69)***	(4.93)***	(5.22)***
Constant 2000	-11.862	8.531	8.495	-9.385	8.804	8.713	-13.572	5.732	5.734
	(5.41)***	(10.42)***	(10.6)***	(4.52)***	(11.75)***	(11.78)***	(4.75)***	(3.91)***	(1.37)***
Hansen's J	0.89	0.72	0.73	0.81	0.71	0.70	0.82	0.75	0.71
Wald's test			0.50			0.74			0.79

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis referring to joint insignificance.

Table 8a. SOEs and Democracy vs. Dictatorship (Sample Average of Democracy) – 2SLS Estimations									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent Var: SOEGDP			**Dependent Var: NONAG**			**Dependent Var: SOEINV**		
Constant	58.515	70.441	49.853	39.310	60.313	39.292	15.201	6.544	1.886
	(1.11)	(1.70)*	(1.03)	(0.61)	(1.12)	(0.66)	(0.97)	(0.37)	(0.10)
GINI	-2.666	-3.404	-2.206	-1.798	-2.647	-1.781	-0.397	0.280	0.242
	(1.01)	(1.61)	(0.89)	(0.54)	(0.96)	(0.57)	(0.50)	(0.31)	(0.23)
$GINI^2$	0.029	0.039	0.022	0.019	0.027	0.017	0.005	-0.004	-0.001
	(0.92)	(1.42)	(0.72)	(0.46)	(0.76)	(0.44)	(0.46)	(0.36)	(0.11)
Democracy	-12.677	-23.457	-10.801	-3.625	-10.752	-4.045	-5.483	-5.279	-4.455
	(0.65)	(1.32)	(0.59)	(0.16)	(0.56)	(0.19)	(1.08)	(1.02)	(0.86)
Democracy*GINI	0.728	1.172	0.596	0.420	0.720	0.399	0.254	0.161	0.178
	(0.83)	(1.49)	(0.70)	(0.40)	(0.82)	(0.40)	(1.13)	(0.67)	(0.70)
Democracy*$GINI^2$	-0.008	-0.013	-0.006	-0.005	-0.008	-0.004	-0.003	-0.001	-0.002
	(0.84)	(1.44)	(0.63)	(0.43)	(0.80)	(0.37)	(1.07)	(0.40)	(0.59)
Oil Exporter		23.208	21.329		19.656	20.311		4.434	5.292
		(3.04)***	(2.96)***		(2.55)**	(2.98)***		(3.26)***	(4.05)***
Small Island		-1.962			-3.521			-1.089	
		(0.36)			(0.55)			(1.05)	
Urban Pop. 1970		0.019			-0.052			-0.037	
		(0.20)			(0.48)			(1.57)	
East Asia and Pac.		-0.352			-4.409			1.067	
		(0.08)			(0.84)			(0.56)	
South Asia		0.177			-9.209			2.428	
		(0.03)			(1.05)			(1.18)	
Sub-Saharan Afr.		-1.470			-5.754			-1.786	-3.610
		(0.25)			(0.98)			(1.12)	(2.88)***
Latin Amer. and Car.		12.045			2.450			2.879	
		(2.34)**			(0.30)			(1.77)*	
M. East and N. Afr.		12.011	12.229		10.905	11.034			
		(2.33)**	(2.59)***		(2.12)**	(2.23)**			
Observations	59	59	59	58	58	58	55	55	55
Hansen's J test	0.35	0.36	0.29	0.27	0.23	0.19	0.33	0.25	0.22
Wald's test			0.46			0.24			0.59

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis referring to joint insignificance.

Table 8b. SOEs and Democracy vs. Dictatorship (Initial Levels of Democracy) – 2SLS Estimations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent Var: SOEGDP			**Dependent Var: NONAG**			**Dependent Var: SOEINV**		
Constant	85.595	88.224	104.188	77.781	90.808	84.009	3.284	21.909	19.311
	(2.21)**	(2.14)**	(2.46)**	(1.76)*	(1.83)*	(1.90)*	(0.17)	(0.99)	(0.91)
GINI	-4.338	-4.983	-5.428	-3.921	-4.918	-4.419	0.088	-0.965	-0.819
	(2.12)**	(2.12)**	(2.35)**	(1.64)	(1.77)*	(1.81)*	(0.08)	(0.80)	(0.70)
$GINI^2$	0.055	0.069	0.072	0.049	0.068	0.060	0.000	0.015	0.013
	(2.08)**	(2.19)**	(2.40)**	(1.57)	(1.83)*	(1.87)*	(0.03)	(0.96)	(0.86)
Democracy	-21.931	-27.280	-34.858	-21.545	-37.869	-33.912	-1.046	-5.170	-3.740
	(1.49)	(2.38)**	(2.75)***	(1.29)	(2.40)**	(2.19)**	(0.22)	(1.18)	(0.85)
Democracy*GINI	1.160	1.419	1.700	1.178	1.866	1.695	0.062	0.261	0.199
	(1.87)*	(2.43)**	(3.02)***	(1.68)*	(2.52)**	(2.50)**	(0.27)	(1.19)	(0.89)
$Democracy*GINI^2$	-0.014	-0.017	-0.020	-0.014	-0.021	-0.019	-0.001	-0.003	-0.003
	(2.23)**	(2.51)**	(3.22)***	(2.02)**	(2.61)***	(2.74)***	(0.32)	(1.25)	(0.98)
Oil Exporter		27.698	26.336		28.531	29.024		5.546	5.144
		(3.45)***	(3.08)***		(3.29)***	(2.64)***		(4.07)***	(4.41)***
Small Island		-3.257			-4.728			-0.664	
		(0.55)			(0.69)			(0.42)	
Urban Pop. 1970		0.046			0.021			0.005	
		(0.35)			(0.13)			(0.20)	
East Asia and Pac.		-1.379			-2.230			1.360	
		(0.25)			(0.36)			(0.84)	
South Asia		3.209			6.319			3.592	2.955
		(0.54)			(0.73)			(2.11)**	(2.74)***
Sub-Saharan Afr.		-1.329			-11.346			1.052	2.470
		(0.24)			(1.49)			(0.58)	(2.26)**
Latin Amer. and Car.		-9.551	-8.614		9.433	-11.727		-2.858	-2.919
		(1.17)	(2.18)**		(1.28)	(2.35)**		(2.22)**	(2.71)***
M. East and N. Afr.		9.673	11.440		11.162			3.311	3.046
		(1.36)	(1.89)*		(1.62)			(1.98)**	(1.94)*
Observations	59	59	59	58	58	58	55	55	55
Hansen's J	0.50	0.30	0.26	0.27	0.22	0.32	0.35	0.26	0.18
Wald's test			0.47			0.61			0.39

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis referring to joint insignificance.

Table 9. SOEs and Employment Protection,– Cross-Sectional Data - 2SLS Estimations - Continuous Wing Measure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent Var: SOEGDP			**Dependent Var: NONAG**			**Dependent Var: SOEINV**		
Constant	97.16	108.907	107.052	98.29	102.580	66.75	26.25	27.304	25.381
	(44.97)**	(3.95)***	(3.43)***	(57.91)*	(2.95)***	(38.65)*	(11.19)**	(3.34)***	(2.17)**
GINI	-4.698	-5.035	-5.120	-4.566	-4.501	-2.641	-0.962	-1.022	-1.161
	(2.181)**	(3.65)***	(3.18)***	(2.835)	(2.59)***	(2.068)	(0.553)*	(2.57)**	(1.93)*
$GINI^2$	0.054	0.059	0.061	0.0524	0.053	0.032	0.0117	0.012	0.014
	(0.025)**	(3.66)***	(3.28)***	(0.0324)	(2.62)***	(0.024)	(0.00633)*	(2.68)***	(2.02)**
Left Wing	-141.6	-143.937	-160.088	-166.2	-148.664	-108.3	-24.50	-21.717	-16.390
	(53.38)***	(3.17)***	(2.87)***	(64.97)**	(2.57)**	(59.83)*	(17.38)	(2.08)**	(1.02)
Center Wing	-250.3	-265.302	-43.807	-444.1	380.945	59.37	-48.76	-88.069	-92.074
	(112.6)**	(1.68)*	(0.44)	(738.0)	(0.65)	(492.2)	(51.27)	(2.02)**	(2.95)***
Unspecified Wing	-169.2	-137.772	-211.049	-194.5	-138.711	182.6	-4.974	-7.630	-3.588
	(66.14)**	(3.11)***	(3.66)***	(89.20)**	(2.42)**	(71.06)**	(22.26)	(0.54)	(0.19)
Left Wing x GINI	7.577	7.792	8.232	8.773	8.025	5.873	1.461	1.446	1.240
	(2.615)***	(3.65)***	(3.06)***	(3.223)***	(2.94)***	(3.010)*	(0.814)*	(3.00)***	(1.66)*
Cen. Wingx GINI	12.20	13.097	2.750	21.28	-18.388	-2.861	2.714	4.554	4.738
	(5.256)**	(1.80)*	(0.59)	(35.40)	(0.65)	(23.83)	(2.465)	(2.15)**	(3.09)***
Uns. Wingx GINI	8.217	7.010	10.088	9.492	7.152	8.495	0.331	0.568	0.354
	(3.112)***	(3.32)***	(3.73)***	(4.141)**	(2.56)**	(3.340)**	(1.032)	(0.85)	(0.39)
Left Wingx $GINI^2$	-0.086	-0.088	-0.092	-0.0985	-0.090	-0.0653	-0.0180	-0.018	-0.016
	(0.029)***	(3.79)***	(3.14)***	(0.036)***	(3.05)***	(0.034)*	(0.00872)**	(3.52)***	(2.08)**
Cnt Wing x $GINI^2$	-0.140	-0.150	-0.032	-0.242	0.216	0.0355	-0.0344	-0.054	-0.056
	(0.060)**	(1.82)*	(0.60)	(0.407)	(0.67)	(0.276)	(0.0289)	(2.16)**	(3.04)***
Uns. Wingx$GINI^2$	-0.093	-0.082	-0.112	-0.108	-0.084	-0.093	-0.00475	-0.008	-0.005
	(0.034)***	(3.46)***	(3.79)***	(0.0453)**	(2.66)***	(0.037)**	(0.0113)	(1.13)	(0.53)
Oil Exporter	18.69	17.983	18.257	18.20	16.914	17.50	3.199	2.143	2.315
	(6.153)***	(3.96)***	(2.86)***	(6.590)***	(3.33)***	(5.625)***	(0.644)***	(2.69)***	(3.14)***
Civil Liberties	0.587	-0.065		1.132	-0.144		-0.507	-0.325	
	(0.963)	(0.08)		(1.340)	(0.13)		(0.263)**	(1.24)	
Small island	-9.226	-8.527		-11.89	-10.265	-10.24	-3.072	-3.937	-3.108
	(7.422)	(1.86)*		(8.695)	(1.88)*	(5.598)*	(1.345)**	(2.45)**	(2.86)***
Urban Pop. 1970	-0.0614	0.021		-0.117	-0.006		-0.0357	-0.015	
	(0.0830)	(0.42)		(0.107)	(0.09)		(0.0240)	(0.79)	
British Legal Origin		8.498	6.449		8.669	7.513		3.760	3.185
		(2.61)***	(2.36)**		(1.96)**	(3.624)**		(4.90)***	(3.28)***
German Legal Orig.		4.692	9.014		4.674			1.189	
		(1.08)	(2.42)**		(0.89)			(1.17)	
Scandinavian Leg.		2.263			2.714			-0.190	
		(0.68)			(0.73)			(0.21)	
Proportionality		-0.085			-0.078			-0.027	
		(0.95)			(0.64)			(1.14)	
Tenure of Democ.		0.567			1.113			0.245	
		(0.59)			(0.97)			(0.76)	
Comp. of Democ.		-1.902	-1.451		-2.363	-2.240		-0.348	
		(2.83)***	(1.90)*		(3.00)***	(0.899)**		(1.76)*	
Regional Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	59	54	59	58	53	58	55	52	55
Hansen's J	0.77	0.23	0.29	0.67	0.34	0.77	0.14	0.17	0.37
Wald's test			0.41			0.44			0.19

Absolute value of the robust t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Hansen's J: p-value for the heteroskedasticity-consistent Sargan test for overidentifying restrictions, with the null hypothesis being the restrictions are valid. Wald test: p-values of the F-statistic for joint insignificance of the eliminated control variables, with the null hypothesis referring to joint insignificance.