A Formal Model of Financial Openness under Authoritarianism with Evidence from Russia

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Comments are welcome

ABSTRACT:

This paper presents a formal model of financial openness under authoritarianism that relates endogenous decisions about capital account reforms to changes in exogenous asset specificity. Comparative statics derived from the sequential "pooling" equilibrium of an extensive game under incomplete information suggest a range of parameter values that allow for authoritarian regime durability with greater financial openness regardless of regime strength. Model illustration is based on the Russian case. Empirical support for the model is provided using data collected during fieldwork in Moscow and Washington D.C., including 24 semi-structured interviews with policymakers, representatives of the banking sector, academics, experts, and journalists, as well as hundreds of press accounts in both Russian and English - language media.

Introduction

Worldwide financial liberalization is the most wide-reaching aspect of globalization during the last thirty years (Keohane and Nye, 2000, p. 110). Even Kenneth Waltz, a well-known globalization skeptic, acknowledged that the market for capital "has become truly global" (Waltz, 1999, p. 695). In the last two decades, the "astonishing ascension of finance" (Kirshner 2009, p. 41) has spread toward emerging and developing economies. The degree of financial openness more than doubled among the lower-income countries from 1975 to 2002, while direct annual capital inflows in constant dollars increased from $12 billion in 1975 to over $400 billion in 2000 (Milner and Mukherjee, 2009, p. 173). In emerging economies the portion of FDI and portfolio investment in the total amount of foreign assets and liabilities rose from 13% in the early 1980s to 37% in 2004. In the same period the share of FDI in the total private inflows tripled from 15% to nearly 50% for this group of countries. Portfolio investment now accounts for about the same (12%) portion of total private inflows in emerging markets as it does in the advanced economies (Kose et al., 2009, pp. 17-18).

When contrasted with financial globalization's confident march, the arc of post-Cold War democratization has not been as sweeping as scholars had initially anticipated (O'Donnell, Schmitter and Whitehead, 1986; Huntington, 1991; Bunce, 2001). Stark assessments suggest that of the 100 countries that were considered to be in transition to democracy over the last quarter-century, less than 20 are likely to be successful (Carothers, 2002, p. 9). At the same time, the process of prolonged transition away from authoritarianism has led to a notable trend toward "pseudo-democracy," "competitive" or "electoral authoritarianism" (Levitsky and Way, 2002; Schedler, 2006). In fact, about a third of all regimes in the world today are classified in this category (Diamond, 2002). Furthermore, the dominant trend of the decade following 1996 among the non-democracies is towards more not less authoritarianism.

That authoritarianism at the domestic level can coexist with openness to foreign finance at the international level is not a novel observation. Historical examples include Pinochet's Chile, Suharto's Indonesia, the Philippines under Marcos, and Singapore under Lee Kuan Yew. However, the more recent trend, where the ruling elites in countries like China, Russia, Egypt, Azerbaijan, Kazakhstan and Vietnam have been successful in combining various degrees of openness and non-democratic forms of government demands special attention for at least for two reasons.

Firstly, the most powerful non-Western states during the post-WWII period largely refrained from participation in the global economy, opting for the autarkic model instead. Today, China and Russia, with their enormous wealth and resources, take part in global capitalism to a much greater extent than ever before. The costs of abstention have risen tremendously over the last thirty years. With very few exceptions, authoritarian rulers today must decide not on *whether* to open up to foreign finance, but the degree of openness. Accordingly, the costs and benefits of financial openness have to be weighed carefully. Understanding how these forms of governments can be reconciled with global capitalism is an important question by itself.

Secondly, it is notable that while in the past, outward openness and authoritarianism were maintained with the tacit or explicit support of the Cold War - era American foreign policy, greater financial openness in Russia and China today couldn't be attributed to American affinity for these states. Nor can it be attributed to the power of international institutions such as the IMF, since these nations hold some of the largest current account surpluses and are unaffected by the conditionality requirements of the Bretton Woods institutions (Hertz, 2003, pp. 89-90). If the

condition of open finance represents a kind of "systemic" feature of the international system as suggested by Andrews (1994), why would the government of emerging powers decide to diminish autonomy by choosing to participate in the game? Why would the "sluggish" and "backward" authoritarian rulers want to keep up with the whims of what Thomas Friedman (2000, p. 134) called the "electronic herd" of global finance?

In this paper I show formally that financial openness and authoritarianism can be mutually compatible even in highly asset specific economies. The paper outlines a model of endogenous capital mobility that relates endogenous decisions about financial openness made by authoritarian rulers with changes in exogenous changes in asset mobility. Comparative statics derived from the sequential "pooling" equilibrium of the extensive game of incomplete information suggest a range of parameter values that allow for authoritarian regime durability with greater financial openness regardless of regime strength. Model illustration is based on the Russian case and the data collected during fieldwork in Moscow and Washington D.C., including 24 semi-structured interviews with policymakers, representatives of the banking sector, academics, experts, journalists, as well as hundreds of press accounts both in the Russian and the English - language press.

1. Model

In *Democracy and Redistribution* (2003) Carles Boix presents a theory of political transitions that aims to capture two related mechanisms by which economic development is associated with the emergence of democracy. One the one hand, economic growth decreases inequality, which makes the wealthy more willing to accept democratic tax rates. On the other hand, growth usually corresponds with a shift away from reliance on fixed assets (land, farming, natural resources) and toward a less asset – specific economy (services, industry, finance).

Boix defines a political regime to be "a mechanism employed to aggregate individual preferences about the ideal distribution of assets among those individuals governed by this institutional mechanism" (2003, p. 10). In a two-player model, a minority of wealthy individuals, who use coercion to suppress the poor, governs an authoritarian regime, whereas the median voter (who is poor) sets the tax rates and redistributes the revenue among the population in a democracy. Transition from authoritarianism to democracy is more likely when the ruling wealthy classes can be assured to pay lower taxes under democracy (which correspond with lower inequality), or they can credibly threaten to take their wealth abroad (because of higher levels of capital mobility) (Boix 2003, pp. 10-13).

Let α be the fraction of the population that is poor, $(1-\alpha)$ – fraction that is wealthy $(\alpha > 1/2)$.[1] The total capital stock in the economy is K:

$$K_p + K_w = K;$$

For notational purposes: $k_p = K_p/K$; $k_p = K_w/K$, so that:

$$k_p + k_w = 1;$$

Hence, the capital held by each poor citizen:

$$k^i_p = k_p/\alpha;$$

while a wealthy citizen holds:

$$k^i_w = k_w/(1-\alpha).$$

The income of each individual is determined by capital endowment with constant returns alone, so that $y_j = k_j$ where $j = w, p$. Asset specificity is determined by the value of assets when

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[1] In the next few pages I follow Boix's notation to set up his model and to then present my modification.

they are transferred abroad. When capital is moved, it loses σ-portion of its value, so that capital k_h is worth $k_a = (1 - \sigma)* k_h$ abroad. The more "specific" are the predominant economic assets, the larger is the value of σ. For example, the economy of Saudi Arabia has a very high σ, and the Swiss economy has a very low σ.

Boix allows for four political states: authoritarianism (the wealthy exclude the poor from rule), communism (the poor rule, expropriating all assets of the wealthy), democracy (the median voter sets the tax rate), or revolutionary war (both parties incur costs, and the wealth they obtain depends on their respective strengths). Maintenance of an authoritarian regime requires expenditure on repression ρ, which is determined by "nature" to be either high or low. The magnitude of ρ depends on the "organizational and technical means" of the wealthy (Boix 2003, p. 26). When ρ is low, the rich are able to easily suppress an uprising by the poor and *vice versa*. The Boix model in extensive form is presented in Figure 1 below.

[**Figure 1**: Boix model in extensive form]
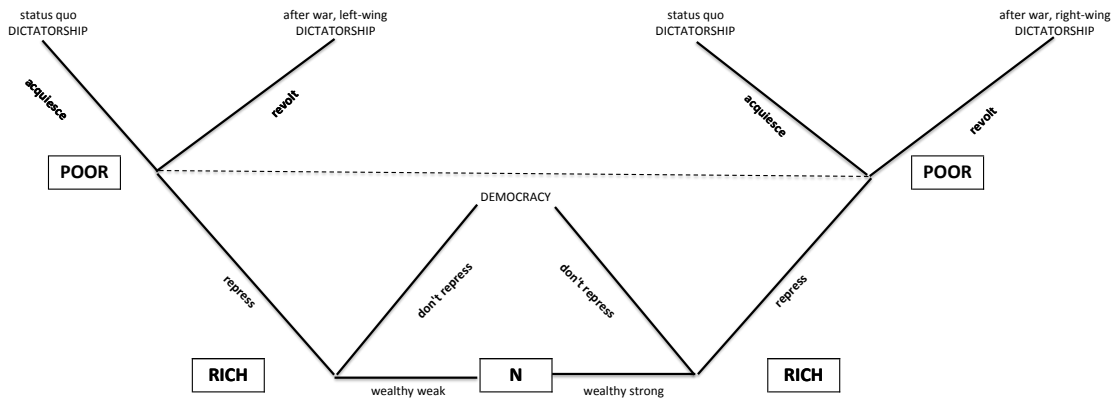
The game begins in the state of dictatorship, and the "rich" make the first move after observing the levels of k^i_p and σ, and whether they are "strong" or "weak." Following standard political economy approaches (Meltzer and Richard 1981; Persson and Tabellini 2000), Boix assumes that the median voter in a democracy sets the tax rate, so that she maximizes the following income function:

$$y^i_p = (1-\tau)\, k^i_p + \tau + \tau^2/2;$$

In other words, the democratic state taxes economic agents with linear tax τ, then redistributes the revenue across all individuals equally, less the distortionary losses from taxation denoted by $\tau^2/2$.

Solving the maximization problem[2]:

$$dy_p/d\tau = -\,k^i_p + 1 + \tau;$$
$$\text{Setting } dy_p/d\tau = 0;$$
$$\tau = 1 - k^i_p.$$

The "redistributive threat of democracy" drives the decision-making of the poor. For example, if the tax rate under democracy is low enough and the cost of repression is high, the rich won't bother to repress the poor, allowing for the emergence of democracy.

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[2] Second derivative $(dy_p/d\tau)' = -1$, so that in fact $dy_p/d\tau = 0$ solves for max.

However, the decisions of the rich are also subject to the capital mobility constraint. If they are able to retain a sufficient amount of their wealth by transferring it abroad, the poor won't be able to tax them under democracy:

$$(1-\tau)* k^i_w \geq (1-\sigma)* k^i_w;$$
$$t \leq \sigma.$$

The wealthy are indifferent between paying taxes preferred by the median voter, and moving capital abroad when $\sigma = 1- k^i_p$. In order to keep the wealthy from moving the capital abroad, the median voter in a democracy chooses the tax rate:

$$\tau* = \min\{1- k^i_p, \sigma\}$$

The capital mobility constraint is only binding when capital mobility is sufficiently high (in other words, σ is low). When $\sigma << (1- k^i_p)$, the redistributive threat of democratic tax rates is not menacing for the rich, so they choose not to continue authoritarian rule, knowing that the "poor" would have to choose σ as the tax rate under democracy. If σ and $(1- k^i_p)$ are equally high (as is the case in most modern authoritarian regimes where inequality is high and asset mobility is low), the rich are compelled to repress the poor, generally leading toward dictatorial equilibria.

Introducing Endogenous Capital Mobility

While the overall level of asset specificity in the economy is given exogenously, the wealthy have an interest and the capability to change levels of capital mobility on the margins. My model explores the relationship between the exogenously given levels of asset specificity and an endogenous decision of the wealthy to opt for grater financial openness. The wealthy have an interest in lowering σ for at least three reasons. The first reason, identified by Boix, is that σ is the tax the poor administer under democratic rule, so they have an interest in lowering it. Income of the rich is inversely related to democratic tax rates. Also, *ceteris paribus* the lower the democratic tax rates the less attractive is the "counterfactual" democratic rule to the poor. Secondly, higher capital mobility under dictatorship can amplify the wealth of the rulers in a dictatorship. Thirdly, – and this is the main focus of this paper – the endogenous decision to opt for greater financial openness or to retain the status quo depends on the exogenously given levels of asset specificity.

In addition to the costs of repression for the wealthy and rebellion for the poor (ρ & ϖ), inequality (k^i_p), and initial (σ_I) and "natural" (σ_N) levels of asset mobility, I introduce parameter ϕ: a redistributive transfer payment the wealthy make to the poor in dictatorship. The poor receive a transfer payment $\sigma_N*\phi$, which increases with the rise in the natural resource endowment ("given" level of asset specificity). The value of ϕ is greater in semi-authoritarian and hybrid regimes than in fully closed authoritarian regimes.

The main modification of the ECM model is the addition of the ability of the wealthy to choose a lower level of asset mobility endogenously within the model. Income inequality changes very slowly over time.[3] On the other hand, while changes in asset specificity also take time to take effect; global commodity booms can raise the value of non-specific assets, in effect making a mineral-rich economy more dependent on immobile capital than before. Additionally, governments can and do lower the barriers to capital mobility in relatively short order. This is

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[3] In fact, according to Bourguignon and Morrison 2002, inequality among the world's citizens has not changed between 1945 and 1992. Recent findings suggest that inequality is empirically unconnected with regime transitions (Houle 2009), although quite important for democratic consolidation). On the other hand, the costs of abstaining from participation in global financial markets have increased significantly (Andrews 1994).

true especially for authoritarian governments that presumably exercise the greatest liberty in altering capital account policies in the absence of a viable opposition.

From the perspective of neoclassical economic theory, the benefits of financial internationalization are numerous. Greater access to foreign finance lowers the costs of borrowing, which increases investment, leading to growth in the total output. Financial openness expands opportunities for country-specific risk sharing, which smoothest the consumption patterns of each individual country, producing more sustainable growth over the long term. In other words, agents in the target countries (banks, insurance companies, pension funds and individuals) can invest in foreign assets and diversify away from their exposure to domestic risks. International financial liberalization can also discipline the decision-making of domestic firms and governments.

Increased capital mobility, however, could also harm an authoritarian regime during times of crisis and upheaval, leading to financial crises and even regime breakdown (Pepinsky 2009). The empirical evidence on the benefits of financial globalization is mixed. There is a strong connection between liberalization of equity markets and higher (short-term) growth (Henry 2000).[4] Bekaert, Harvey and Lundblad (2005) find that equity market liberalization is associated with strong and significant increase in the real GDP (1% of additional annual output). More generally, Henry (2007) finds broad and significantly beneficial effects of liberalization on the cost of capital, investment, and long-term growth (Quinn and Toyoda (2008), Henry (2000), and Summers (2000) draw similar conclusions). But Gourinchas and Jeanne (2006) find the benefits of financial openness to be negligible for the emerging economies, while Durham (2004) shows the benefits of FDI and portfolio investment to be conditional on financial and institutional development on the receiving end of foreign financing. Kose, Prasad and Terrones (2007) find that developing countries have not experienced the positive upside of risk sharing that theory predicts should accompany greater openness, especially in the less financially integrated economies.[5]

In summary, some evidence suggest that financial liberalization is associated with growth - at least - in the shorter term, and especially when equity markets are deregulated. However, those benefits come with additional risks. Emerging markets with underdeveloped financial and legal institutions are definitely exposed to greater volatility and higher chances of growth reversal when they lower the barriers of entry to the flow of foreign finance (Ramey and Ramey 1995; Levchenko et al 2009; Martin and Rey 2006).

Higher mobility of capital, in other words, can magnify both gains and losses for the wealthy. The model that I present here attempts to capture this dynamic to help us understand how the prospect of increased financial openness affects the decision-making of the rich and the poor in a non-democratic setting.

It is important to note that "financial openness" and Boix's asset specificity parameter (σ) are related, but not equivalent. While those in charge of the regime can relax the regulations related to capital controls in a short amount of time, they cannot change the fundamental composition of the economy overnight. For Boix, σ is a general measure of asset specificity, so that an economy based in services and banking would have lower asset specificity than an economy that relies on rents from land and other natural resources (Boix 2003, p. 23). No matter

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[4] Kose et al. (2009, p.11) point out, such changes usually take place along other market reforms, so the causal relationship here is unclear.

[5] Kose, Prasad and Terrones (2007) ascribe this mostly to short-term debt which until recently was the largest component of external liabilities of emerging countries.

how much they might try, the Russian leaders – who have been earnestly attempting to shift toward an "innovation economy" and away from reliance on natural resources – won't be successful the short term, simply because the Russian economy is too dependent on oil and gas exports and those are worth too much on international markets. Even a "philosopher king" would not be able to transform Zimbabwe into Lichtenstein in any reasonable amount of time.

I introduce a "natural" level of asset mobility σ_N that marks the lower boundary of σ that the wealthy can propose (σ_N captures natural resource endowment). The wealthy make the decision to not repress when inequality and σ_N is sufficiently low (I describe the relatively limited conditions under which this is possible later in the paper). However, in a more realistic scenario, the wealthy choose to repress. Let's assume some initial level of σ_I such that $\sigma_I > \sigma_N$ that when the rich aim to lower to σ_N, they offer capital account deregulation policy that amount to: $\Delta\sigma = \sigma_I - \sigma_N$.

The concept of "financial openness" I employ here is a *de jure* measure, but what it implies is very closely connected with the logic by which σ affects the decision-making of the players in the model. By liberalizing the rules that govern the movement of capital in and out of the country, the wealthy lower the overall level of asset specificity in the economy. By removing the tax on exporting capital, or by inviting foreign equity investors into the domestic markets, the rulers raise the valuation of their assets, and bolster their rule by improving the conditions in the broader economy. For example, if foreign investors are allowed to purchase stocks issued by domestic oil firms (owned by the wealthy elites) on domestic exchanges, the effective assets of the oil company become "more mobile," in a sense that the owners' wealth can be exchanged for liquid assets with greater ease. At the same time, the wealthy – even when strong – do not want a "rebellion" to break out if they had opted for greater openness, since it would cause capital reversals and even panics, lowering the valuation of their assets.[6]

Finally, the poor in the model are able to fight for a "transitional regime" (as opposed to a more ambitious "left-wing dictatorship" in Boix). Left-wing dictatorships are rarely in the offing these days. In reality the choice the poor most often face is between dictatorship and an imperfect democracy.

Timing of the game

The game begins with the move by "Nature," which determines the "given" lower boundary of capital mobility (σ_N), the initial level of asset specificity (σ_I), inequality parameters (k_p, α), the strength of the wealthy (whether they are "strong" or "weak"), redistribution under dictatorship ϕ and the costs of organizing for the poor (ϖ). The wealthy move next, opting for either *Financial Openness* (FO) or *Status Quo* (SQ), followed by a decision to either repress or not repress the poor. *FO* offer of $\Delta\sigma$ always equals to $\Delta\sigma = (\sigma_I - \sigma_N)$ and *SQ* offer is always zero. When asset specificity and inequality are low, democratic equilibrium emerges, because tax rates under democracy will be low enough to make the continuation of the authoritarian regime unappealing to the rich.[7] The game ends.

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[6] The empirical literature on this subject is vast, confirming a connection between political instability and capital flight (e.g., Lensink et al 2000; Le and Zak 2003; Cerra et al 2008).

[7] The addition of the ability of the wealthy to lower asset specificity to the model makes it easier to understand the effects of expanded opportunities for financial internationalization over last twenty years on regime outcomes. Wealthy elites in many authoritarian countries opted for democratic rule without a major pushback. This is the mechanism by which globalization may have aided the third wave of democracy in countries that were "on the cusp"

If the wealthy decide to repress, the poor choose to either *rebel* or *acquiesce*, but they don't know whether the rich are strong or weak. Depending on the exogenous parameters the game ends in dictatorship, transitional regime, or post-war dictatorship.

[**Figure 2**: Model of Endogenous Capital Mobility (in extensive form)]

(figure)

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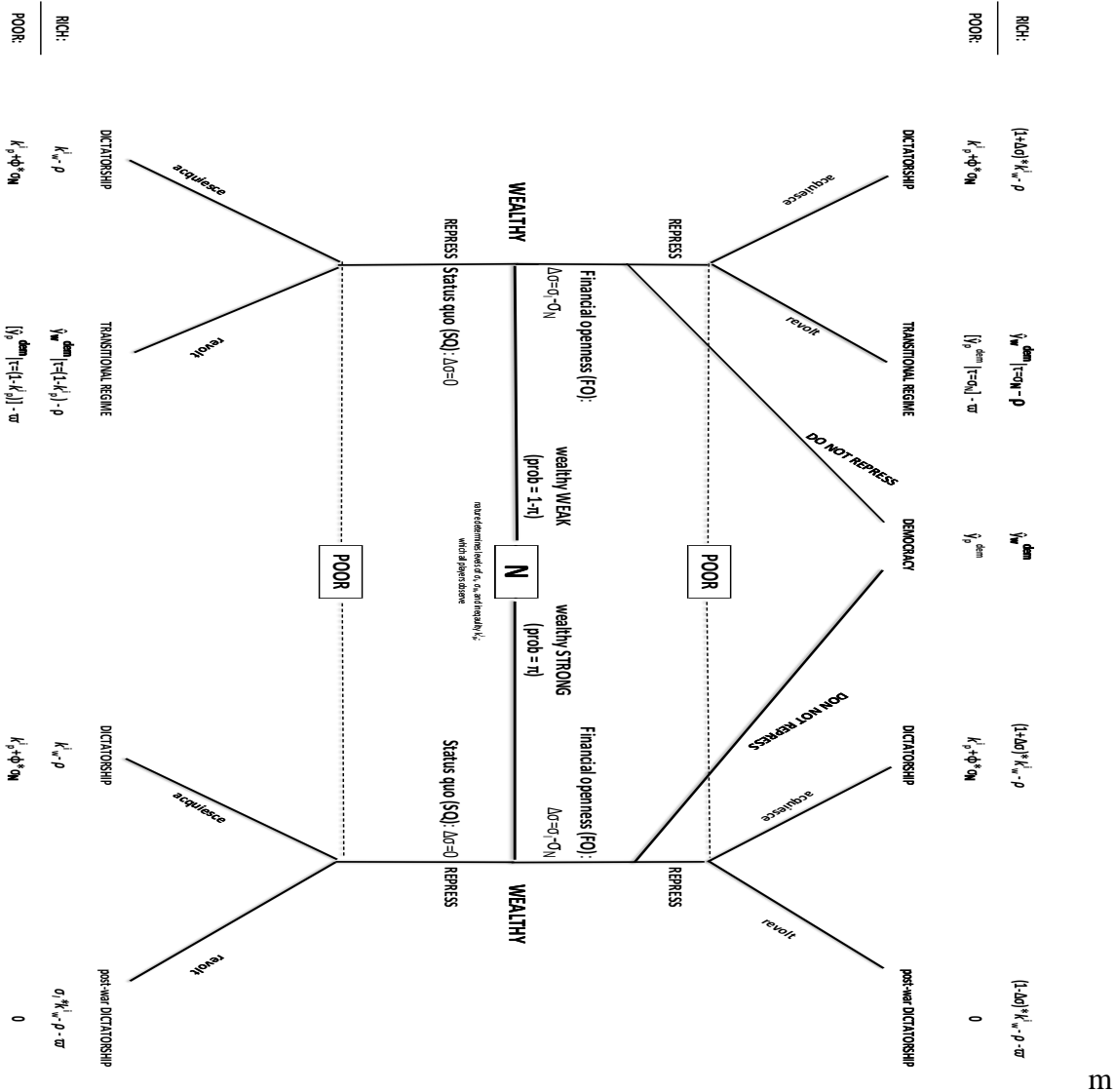
Player payoffs

1) Wealthy offer $\Delta\sigma = (\sigma_I - \sigma_N)$ (*FO*: greater financial openness):

If the poor respond with "acquiesce," the wealthy (both when "strong" and "weak") receive a "bonus of openness" minus the cost of repression, resulting in:

$$\hat{y}_w = (1+ \Delta\sigma)\, k^i_w - \rho;$$

The poor simply get to keep their income, plus the transfer payment $\phi^*\sigma_N$

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of transition based on the interplay between overall levels of asset specificity and income inequality. But this is a topic for a different paper.

$$\hat{y}_p = k^i_p + \phi * \sigma_N$$

When the poor rebel against the wealthy who are strong after *FO*, the wealthy keep the authoritarian regime, but they pay a "penalty of openness" equal to $\Delta\sigma * k^i_w$ in addition to the costs of suppression ρ and the collective action costs of the poor ϖ:

$$\hat{y}_w = (1 - \Delta\sigma) * k^i_w - \rho - \varpi;$$

A revolt of the poor – under the conditions of an open financial system - leads to capital outflows, jittery foreign investors, and occasionally even sizeable drops in the stock market and currency crises.[8] All of this adversely affects the valuation of the assets of the wealthy, who lose a fraction of their wealth that is increasing in $\Delta\sigma$. The poor in this case are left with nothing: $\hat{y}^{dict}_p = 0$.

When the poor rebel against the wealthy when they are weak and are offering greater financial openness, a "transitional regime" (TR) is established. Taxes paid under this arrangement are the same as those paid under democracy (see Table 1), only the poor have to absorb the cost of collective action ϖ.

[**Table 1**: Payoffs Under Democracy]

Payoffs under democracy

	PAYOFF	
tax rate (τ) scenario	Wealthy ($\hat{y}_w^{dem}$)	Poor ($\hat{y}_p^{dem}$)
(1) $\tau = (1 - k^i_p)$	$k^i_p * k^i_w + 1 - k^i_p - (1 - k^i_p)^2/2$	$(k^i_p)^2 + 1 - k^i_p - (1 - k^i_p)^2/2$
(2) $\tau = \sigma_N$	$(1 - \sigma_N) * k^i_w + \sigma_N - \sigma_N^2/2$	$(1 - \sigma_N) * k^i_p + \sigma_N - \sigma_N^2/2$
(3) $\tau = \sigma_I$	$(1 - \sigma_I) * k^i_w + \sigma_I - \sigma_I^2/2$	$(1 - \sigma_I) * k^i_w + \sigma_I - \sigma_I^2/2$

2) Wealthy offer $\Delta\sigma = 0$ (*SQ*)

The payoffs under this scenario are the same as under (1), only the wealthy receive neither the bonus nor accrue the penalty of openness (See the extensive form of the game for payoffs in Figure 2).

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[8] A number of empirical studies confirmed the association between political uncertainty and capital flight (Lensink et al. 2000; Hermes & Lensink 2001; Collier et al. 2001; Ndikumana & Boyce 2003; Le & Zak 2006; Cerra et al. 2008). "Political uncertainty" is a nebulous terms that cannot be measured directly, so scholars have used a variety of proxies, such as high budget deficits, inflation, assassinations, capacity to tax, political and civil rights, war-proneness, corruption, protests, suppression of protests and others.

Solutions

(1) Democratization and Financial Openness

In this section I concentrate primarily on the connection between financial openness and durability of authoritarianism. Before I proceed further, I briefly outline an implication of the model related to the possibility of transition to democracy.

Recall that the model has novel implications, only when lowering of asset specificity parameter binds the taxation decisions of the poor under democracy:

$$\sigma_N < 1 - k^i_p$$

How plausible is this assumption? In authoritarian regimes with fairly high levels of inequality and country-specific wealth, even relatively small $\Delta\sigma$ can alter the calculations of the poor. In an economy with high σ_I (lets say $\sigma_I = .69$), offer of $\Delta\sigma = .1$ from the wealthy may be binding on the tax rate under democracy. Let's consider an economy where "the poor" constitute 80% of the population and control 32% of the wealth assets.[9]

$$k^i_p = k_p/\alpha = .32/.8 = .4,$$
$$\tau^* = 1 - k^i_p = 1 - .4 = .6 \text{ (democratic tax rate)};$$

Recall that income of the wealthy is $k^i_w = (1-k_p)/(1-\alpha) = .68/.2 = 3.4$, and so the democratic tax rate under this scenario would yield $\hat{y}^{dem}_p = .56$ and $\hat{y}^{dem}_w = 1.88$, implying a 40% boost for the poor and a 44% loss for the wealthy when the transitional regime is introduced (less the costs of putting down the rebellion for the wealthy and the collective action for the poor).

[**Figure 3**: Democratization Choice for the Wealthy]
(based on different levels of σ_N)
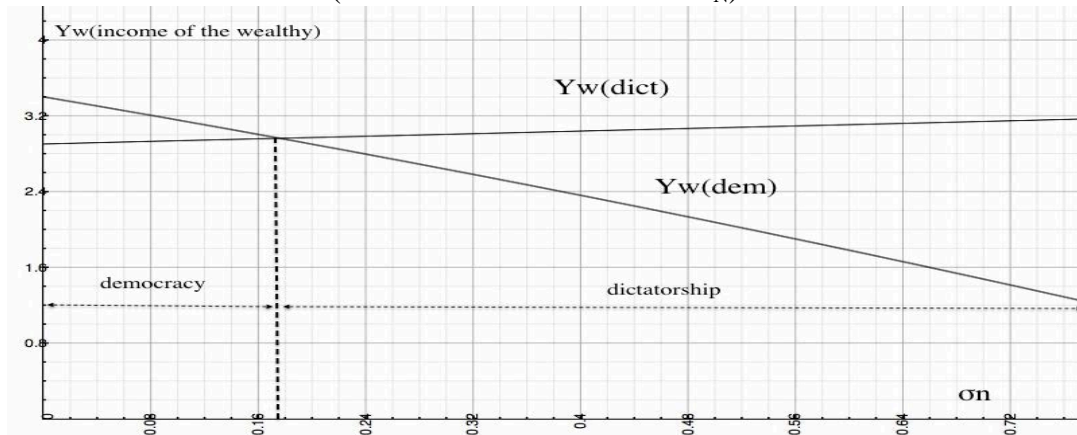
An offer of financial openness $\Delta\sigma = .1$ (given the initial overall openness of the economy of $\sigma_I = .69$ and natural level of asset specificity $\sigma_N = .59$) would actually affect the democratic tax rate by 1%, lowering real after tax-income of the poor in a democracy from $\tau = .60$ to $\tau = \sigma_N = .59$.

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[9] Although the mathematical manifestation of the concept of inequality used here likely captures asset inequality and not income inequality (work of Pablo Beramendi is especially useful on the distinction between the two), countries where bottom 80% of the population controls only 32% of the income are essentially non-existent. Even in the most unequal countries, like Brazil, CAR, Honduras, Panama, Colombia, bottom 80% of the population controls close to 40% of income. In China and Russia this number is in the range of 50-55%. However, we can be safe in assuming that levels of *asset* inequality far exceed those of *income* inequality, suggesting a range of $k^i_p < .5$ plausible.

In other words, the wealthy elites in charge of an economy composed mostly of immobile assets would benefit from greater financial openness, because this would lower the redistributive threat of democracy.

Under a democratic tax rate $\tau = .60$, the wealthy will receive $\hat{y}_w 1 = 1.78$ and the poor $\hat{y}_p 1 = .58$. However, tax rate $\tau = \sigma_N = .59$ the wealthy would receive $\hat{y}_w 2 = 1.8$, while the poor $\hat{y}_p 2 = .579$. In other words, greater financial openness lessens the democratic threat for the rich, making the hypothetical democracy more acceptable to the rich.

Still, a transition to democracy can only happen when levels of "given" asset specificity σ_N are very low. As Figure 2 demonstrates, the wealthy will choose to "not repress" and therefore allow democracy when the following condition holds:

$$[\hat{y}^{dem}_w | \tau^* = \sigma_N] > (1 + \Delta\sigma)^* \, k^i_w - \rho;$$

For what values of σ_N does the above condition hold? Consider the illustration in Figure 2 with the parameters of the illustration described above ($k^i_w = .68/.2 = 3.4$; $\rho = .5$; $\Delta\sigma = .1^*\sigma_N$ (meaning the *de jure* change in asset specificity $\Delta\sigma$ is only 10 percent of the natural level of asset specificity σ_N).

The comparative statics make clear that the wealthy will only select democracy for very low levels of σ_N (in this case $\sigma_N < .17$). Raising the costs of repression ρ from .5 to 1 will move the intercept to only .34, suggesting that even when the costs of suppressing the poor become very high, in economies heavily endowed in specific assets, the wealthy will elect to continue authoritarian rule.

(2) <u>Authoritarian Durability and Financial Openness</u>

In the rest of the paper, I concentrate on political economies with high levels of inequality and asset specificity, as well as repression costs that are acceptable to the wealthy. In this world the wealthy choose to repress, and the only "choice" is whether to do so along with financial openness or to retain the status quo.

I consider the weak sequential "pooling" equilibrium solution (WSPE)[10]. In a WSPE, both "types" of wealthy pick the same action. A "pooling" equilibrium is a "mixed-strategy" equilibrium in which the poor calculate their payoffs according to expected values of their payoff given on the beliefs they assign to the wealthy being "strong or "weak."

Proposition 1. A weak sequential "pooling" equilibrium with both types of wealthy picking "openness" and the poor choosing to "acquiesce" occurs when the poor assign a belief that the wealthy are "strong" with probability $\pi > 1 - (k^i_p + \phi^*\sigma_N)/ ([\hat{y}_p^{dem}/\tau = \sigma_N] - \varpi)$[11]; and strong with probability $q > 1 - (k^i_p + \phi^*\sigma_N)/ ([\hat{y}_p^{dem}/\tau = 1 - k^i_p] - \varpi)$ when they offer Status Quo and the poor acquiesce.[12]

<u>Lemma</u> Holding other parameters constant, there exists a range of values of σ_N such that both $\pi(\sigma_N)$ & $q(\sigma_N)$ decline, expanding the probability that the poor acquiesce to an offer of FO, even when the rich are "weak."

Given $\sigma_N < 1 - k^i_p$, $([\hat{y}_p^{dem}/\tau = 1 - k^i_p] - \varpi) = (k^i_p)^2 + 1 - k^i_p - (1 - k^i_p)^2/2$, $[\hat{y}_p^{dem}/\tau = \sigma_N] = (1 - \sigma_N) k^i_p + \sigma_N - (\sigma_N^2)/2$, (*scenarios 1&2* in Table 1), holding k^i_p, ϖ and ϕ constant we arrive at the estimate

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[10] Proof that the game does not have a sequential "separating" equilibrium is in the appendix. In a SSE, the wealthy select status quo when they are strong, and openness when they are weak. In turn the poor "acquiesce" when they observe an offer of greater openness and "rebel" when they observe "status quo."

[11] They are indifferent when $\pi = 1 - k^i_p/(\hat{y}_p^{dem} - \varpi)$, and prefer "rebel" when $\pi < 1 - k^i_p/(\hat{y}_p^{dem} - \varpi)$.

[12] Proofs of Propositions 1&2 are in the Appendix A.

of the probability of the poor acquiescing to offers of financial openness from both types of the wealthy.

$$\pi > 1 - (k_p^i + \phi * \sigma_N)/([\hat{y}_p^{dem}/\tau = \sigma_N] - \varpi)$$
$$q > 1 - (k_p^i + \phi * \sigma_N)/([\hat{y}_p^{dem}/\tau = 1 - k_p^i] - \varpi)$$

The poor cannot know the "type" of wealthy they are being oppressed by, but they can tell something about their type by whether they choose greater financial openness or the status quo. To better understand the relationship between initial levels of asset specificity and the prospects of financial openness under authoritarian rule, consider the following simulation (Figure 3). The y-axis is the probability π for which the poor are indifferent between rebelling and acquiescing when the wealthy choose openness. The x-axis tracks changes in σ_N.

[**Figure 3**: Poor acquiesce to an offer of *FO*]

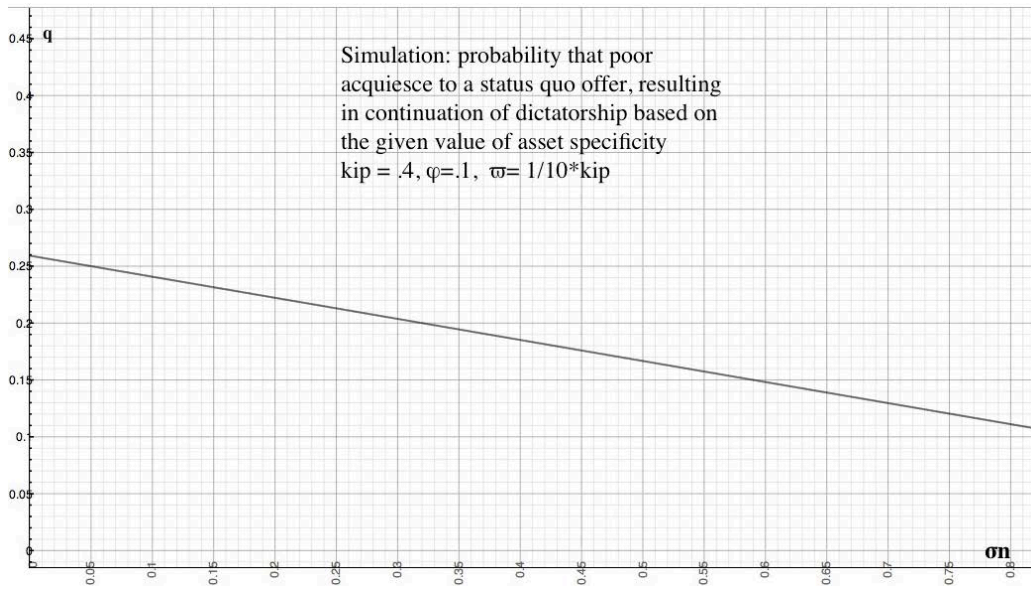[Simulation of $\pi(\sigma_N)$]
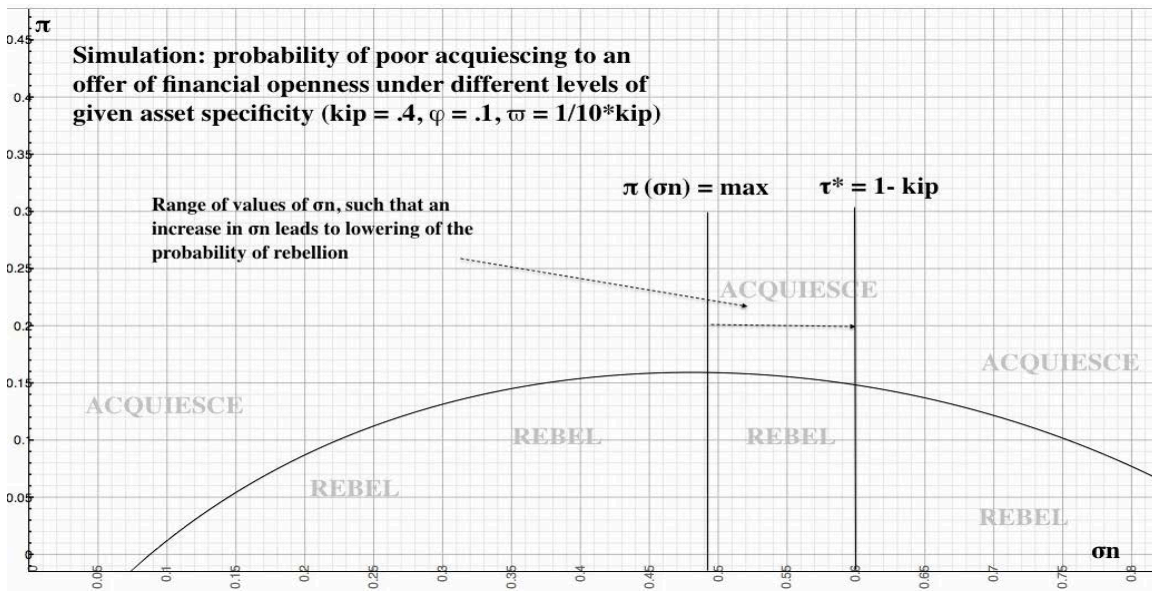
Inequality k_p^i is held constant at .4; the cost of collective action at $\varpi = .1 * k_p^i$ (the poor have to devote 10% of their income to collective action in order to overthrow the dictatorship) and the transfer parameter ϕ is held constant at .1 (the poor receive 10% of the immobile asset/natural resource base under dictatorship).[13] The probability space above the curve shows where the poor acquiesce and the space under the curve shows where the poor rebel. You can see that the probability of rebellion increases in the levels of given asset specificity σ_N, until it reaches the maximum point. After that, as the asset base of the economy continues to become more and more country-specific, the probability of the poor acquiescing to an offer of financial openness increases.
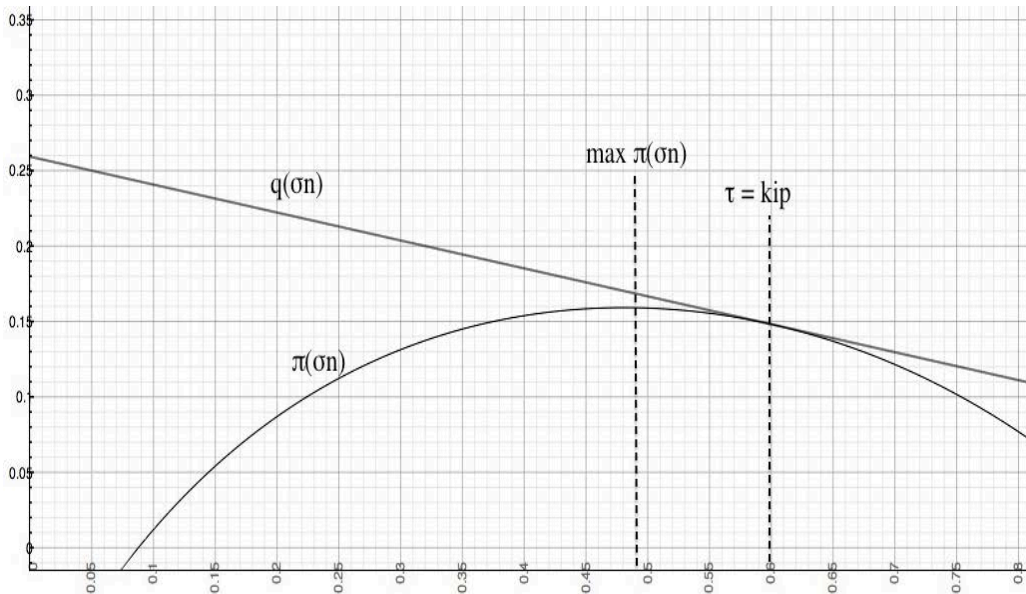
Similarly, the probability of the poor acquiescing to a *status quo* offer declines in σ_N for all values of σ_N, holding the same parameters constant (see Figure 4). The wealthy select *FO*, knowing that the poor select *acquiesce* in the bottom information set.

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[13] It can be easily demonstrated that the probability of the poor acquiescing, and the dictatorship continuing increase in k_p^i, ϕ and ϖ.

[**Figure 4**: Poor acquiesce to an offer of *SQ*, leading the wealthy to select *FO*]
(Simulation of $\pi(\sigma_N)$)

Simulation: probability that poor
acquiesce to a status quo offer, resulting
in continuation of dictatorship based on
the given value of asset specificity
kip = .4, φ=.1, ϖ= 1/10*kip

[**Figure 5:** Both $\pi(\sigma_N)$ & q(σ_N) decline in σ_N]

The first clearly evident pattern suggests that there exists a point after which increases in asset specificity increase the chances of greater financial openness. Larger natural endowment σ_N results in higher chances of the poor acquiescing to an offer of financial openness, even from a

weak regime. Weaker regimes, rich in mineral wealth can stave off rebellion by opting for greater financial openness, by lowering levels of inequality and by redistributing greater amounts of non-tax revenues.

2. Model illustration

The primary implication of the model is that natural resource-rich dictatorships will opt for greater financial openness as they become more dependent on immobile assets. The reverse is also true – authoritarian regimes will choose to put up more barriers to capital flows as the economy becomes less based in specific assets. This connection between endogenous financial openness decisions and exogenous asset specific endowments may explain why the oil-rich Gulf States (Qatar, Saudi Arabia, Kuwait, United Arab Emirates) represent consistent exceptions to the pattern of non-democracies (anocracies + autocracies) having more capital controls than democracies (as measured both by Quinn and Toyoda (2008), and Chinn and Ito (2007) indices) (see Figure 6). At the same time one can see that transitional regimes and democratizing states (polity score above 5) have fewer capital controls. As the wealthy make a decision to give up the reigns of the state (due to rising costs of repression, or declining costs of collective action of the poor), they are usually compelled to remove capital controls, making it easier for them to take their wealth abroad.

[**Figure 6**: Capital Account Openness and Retime Types]
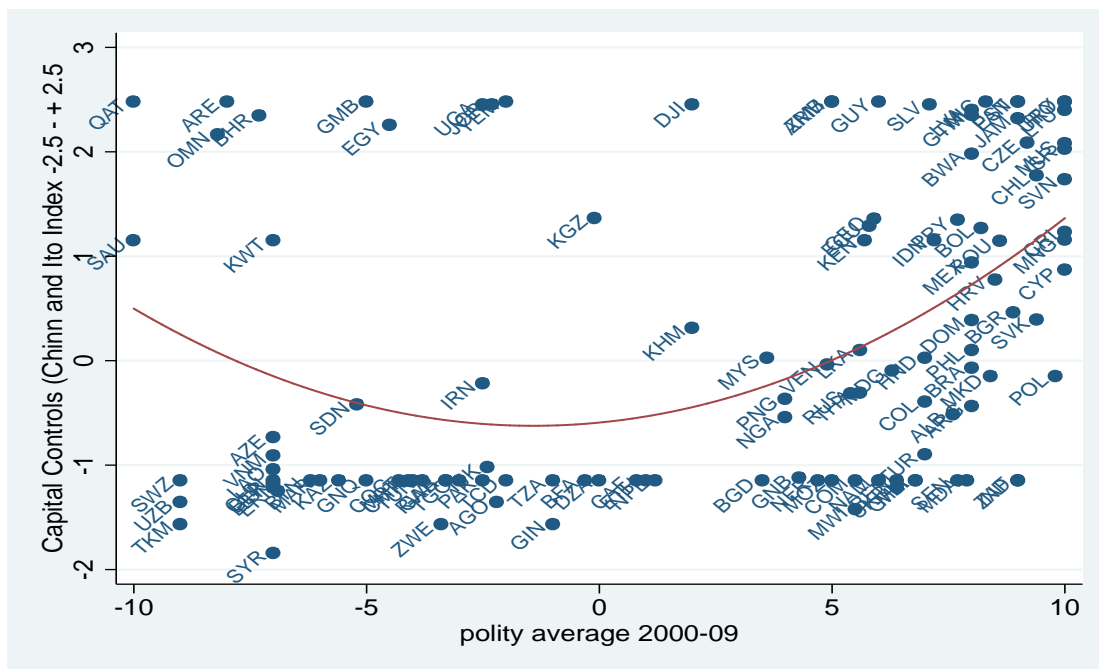
In the rest of the paper I illustrate the model with data from the Russian capital account reforms that took place during the last decade. I show that an exogenous rise in the value of specific assets due to a boom in global commodious prices has led to an emergence of "state

capitalists" - a class of the "wealthy" who control the state – who spearheaded the implementation of these reforms.

Capital account liberalization in Russia

On July 1, 2006 the Russian government officially removed all remaining restrictions on the cross-border movements of capital. The Central Bank of Russia stopped requiring exporters to sell dollar-denominated proceeds of foreign sales. Residents and nonresidents were no longer required to reserve a portion of the cross-border capital transfers with the Central Bank of Russia. Most importantly, the government removed the controls on borrowing of Russian companies abroad, residents' purchases of securities abroad, or the purchases of Russian securities by nonresidents (newsru:2006b).[14]

The 2006 reforms were preceded by other important regulatory changes. As early as 2002, the government announced plans to introduce (at least in the *de jure* sense) full ruble convertibility. Then-deputy head of the Ministry of Economic Development Arkady Dvorkovich proclaimed government's intentions to considerably pull back from regulating the foreign exchange market. As proposed then, the law would allow nonresidents to freely trade ruble-denominated securities within Russia (newsru:2002). In 2006 the government united the market for Gazprom shares (previously they were large price discrepancies between Gaprom's ADRs and locally traded shares). After the reforms went into effect on July 1, 2006, the government-owned Rosneft (by then Russia's largest oil company) underwent IPO, raising over $10 billion in the sale of 15% of its shares.

While capital account deregulation was one of the priorities of the Russian government, the most dramatic changes took place in the liberalization of the domestic equity markets. Consider the decline in the barriers to foreign entry into the Russian equity market according to the Edison and Warnock (2003, updated through 2006) "FORU" measure. Edison and Warnock base their indicator on two indices compiled by the International Finance Corporation and Standard and Poor's. The Global Index (IFCG) captures the breadth of the market (60-75% of the domestically trades stocks by capitalization are included). The Investable index (IFCI) represents the subset of the IFCG open to foreign investors. The stocks are screened based on investable capitalization (>$50 million) and total annual trading (>$20 million). The index itself is calculated by subtracting the ratio of IFCI and IFCG from one (FOR= 1- IFCI/IFCG).[15] According to the FORU indicator, as of 2006 the Russian authorities no longer imposed any restrictions on the flows of portfolio capital.[16]

[**Figure 7:** Restrictions on foreign ownership of equities]
(Source: Edison and Warnock 2003 & later updates)

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[14] Interviewees Z.18.H, Z.15.E, X.12.B, Z.14.D, Z.17.G identified these reforms directly as a watershed moment in the history of financial regulation in Russia.

[15] "Openness is determined first at the market level, based on the ability of foreign investors to buy and sell shares and repatriate capital, capital gains, and dividend income. Next, the extent of industry, corporate by-law, and corporate charter limitations of foreign ownership is determined. Based on the market's openness and the stock- and industry-specific limitations, and overall openness factor for the stock is calculated" (Edison and Warnock 2003, p. 83-84).

[16] Full timeline of important financial regulatory changes in Russia is provided in Appendix B

Russia

Removal of capital controls took place in the middle of Putin's second term (2004-2008), which was characterized by extreme political centralization in the Kremlin at the expense of regional elites and nationwide opposition movements. Elections of the regional governors were abolished in 2004, the president acquired the legal right to appoint regional heads of police and prosecutors, electoral threshold for political parties attempting to gain representation in the legislature was raised from 5 to 7 percent, the new party registration rules effectively barred the opposition parties from gaining representation, and most forms of political protest were effectively banned. Following the 2003 parliamentary elections, Russia essentially became a one-party state. Abroad, the infamous Khodorkovsky case and the seizure of the main national opposition TV channel NTV secured Putin's reputation as an autocrat (Treisman 2012). Along with political centralization, the regime fully embraced state capitalism as the mode of economic development. Benefiting from enormous inflows of revenues from mineral rents, the Russian government's political and economic autonomy was at the post-Soviet high.

The move towards financial openness by Russian authorities is peculiar for at least two reasons. First, the politicians at the helm of the Russian state in the early 2000s must have been freshly aware of the dangers of engaging with global finance based on the experiences of the 1990s, which culminated in the August 1998 crisis and Russia's default on its sovereign debt (Jonson 2000, pp. 212-16). As one senior government official noted in an interview, "August 1998 was a watershed moment, both because controls were introduced to stem the crisis and because the Putin timeline really began."[17]

Putin made the contrast between the "stability" of the 2000s with the "chaotic" 1990s into a rhetorical, legitimating foundation of his rule. Around the announcement of the capital account deregulation in 2006, he was quick to reassure the public in his commitment to financial stability. He announced, "… after a prolonged period of life in conditions of budget deficits and sudden fluctuations in the ruble exchange rate, situation is changing drastically. It's imperative that we safeguard the attained financial stability as one of the baseline conditions of increased trust of people toward the government" (newsru:2006b). As Haggard and Maxfield rightly point out, "increased financial integration holds governments hostage to foreign exchange and capital markets, forcing greater fiscal and monetary discipline than they might otherwise choose" (1996,

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[17] Interview Z.18.H, Washington D.C., April 2011.

p. 36). Exposure to external financial pressures could severely harm " the baseline conditions" of people's trust - a potentiality Putin well understood.

Secondly, on the surface the expansion of state participation in the national economy was at odds with the campaign of financial liberalization. When Putin assumed the presidency, privately held firms took up 8 of the 10 top spots in the list of the companies with largest capitalization in Russia. The government did not even hold a majority stake in Gazprom, and was in an open conflict with its management and the minority stakeholders. A decade later, only five of the top 10 companies were privately owned, and the three largest by capitalization: Gazprom, Rosneft and Sberbank were all under government control (*Expert Rating*; raexpert.ru). In a 2006 survey, OECD reported 29 major state takeovers in industries ranging from natural resource extraction to media (OECD Economic Surveys: Russian Federation in 2006 "Sustaining growth in the Russian Federation: Key Challenges" quoted in Chernykh 2011. p. 1238). According to the financial firm Troika Dialog,[18] share of the state-owned companies in the total capitalization of the Russian stock market increased from 24% (2004) to 29.6% (2006) to 40% (2007) (Troika Dialog 2008).

The nationalization of the Yukos oil company and the imprisonment of its founder and primary owner Mikhail Khodorkovsky received wide coverage in the international media. But the Russian government made a number of other less visible, but no less significant acquisitions of previously privately held assets (or large stakes in them). After the government acquired a controlling stake in Gazprom in 2005, it purchased the oil company Sibneft for $13 billion. In 2006, Gazprom bought out the Royal Dutch Shell out of its stake in the lucrative Sakhalin II project for over $7 billion. State-owned Rosneft quickly became the largest Russian oil company after it acquired the assets of Yukos. In 2007, Putin initiated a program of creating enormous state-owned corporations, each responsible for a particular sector or project. (Treisman 2012, p. 116). State corporations, such as Rostechnologii and Rosoboronexport began consolidating holdings in heavy manufacturing, transportation, and other lucrative sectors[19] (Woodruff 2007). In 2012, Rosneft reached an agreement to buy a 50 percent stake in TNK-BP, the second largest private oil producer in Russia.

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[18] Ironically, it was later acquired by state-owned Sberbank.

[19] IPOs of some of these state corporations were only delayed due to the 2008-09 financial crisis and the subsequent troubles in Europe.

[**Table 2:** Nationalizations in Russia (2003-08)]
(Majority stakes only)

Target	rank by 2003 sales	Industry	Date	Control attained	Acquiring entity
Gazprom	1	oil and gas	6.05	majority	Federal Government
Yukos	5	oil and gas	12.04	majority	Rosneft
Sibneft	9	oil and gas	10.05	majority	Gazprom
AvtoVAZ	13	engineering	10.05	majority	Rosoboronexport*
United Heavy Machinery	62	engineering	11.05	majority	GazpromBank
Irkut	66	engineering	6.08	majority	United Aircraft Corporation*
Itera	70	oil and gas	12.06	majority	failed takover
UMPO	87	engineering	12.08	majority	Rostechnologii*
VSMPO-Avisma	121	non-ferrous metals	10.06	majority	Rostechnologii (Rosoboronexport)*
Promstroibank	142	banking	12.05	majority	VTB (state-owned bank)
Ulan-Ude Aviation Plant	166	engineering	7.05	majority	Rostechnologii (Oboronprom)*
Kazan Helicopter Plant	170	engineering	3.07	majority	Rostechnologii (Oboronprom)*
Saturn	172	engineering	12.08	majority	Rostechnologii (Oboronprom)*

source: Chernykh 2011, various newspaper sources, RA Expert rating agency http://www.raexpert.ru/ratings/expert400   * "State Corporation"

The two inconsistencies (between liberalization on in the international level and the *etatization* of the domestic economy; and between the regime basing its legitimacy on economic stability and the potential exigencies brought about by financial internationalization) appear as contradictions only when considered individually. Once the Russian state is understood "as the primary competitor for assets, rather than simply a corruptible facilitator of exchange" (Barnes 2007, p. 53), one can see the benefits that greater financial openness can bring about, especially in the context of rising prices of commodity assets.

The model parameter of "exogenous asset specificity" (σ_N) has skyrocketed during Putin's rule. While oil and gas accounted for half of Russia's exports at the end of the 1990s, in 2012 they comprised two-thirds and close to 90 percent when semi-processed metals and chemicals were included in the calculation (UN Statistics Division). According to the 2006 International Energy Agency report, Russia's natural gas production increased by 13 percent and oil production shot up by 60 percent increase in the Russian oil production between 1999 and 2006.[20] The yearly basket price of oil increased from $12 in 1998 to nearly $70 in 2007, amounting to more then a seven-fold increase (opec.org). Gas contracts are not negotiated based on spot prices, but for an indication the Wellhead price calculated by the U.S. Energy Information Administration and the "German Border Price" both tripled between 2000 and 2008 (EIA.gov, Melling 2010). Even assuming a uniform taxation regime during this period[21] on extraction and export of energy (given largely deregulated domestic petroleum market) a basic multiplication would yield over a ten-fold increase in energy revenues alone for the Russian government between 1998 and 2007. Value of mineral rents as a percentage of GDP increased from just 20% in 2000 to 150% in 2006 (Figure 10).

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[20] Source: EIA, http://www.eia.doe.gov/emeu/cabs/Russia; In 1999, Russia exported about 3.2 million barrels of oil per day. By 2006 this number exceeded 7.5 million. For both crude and natural gas, domestic consumption saw only marginal increases although more for the former then the latter.
[21] A generous assumption, since by all accounts tax collection, especially in large corporations improved greatly during this time (Chernykh 2011, p. 1240).

[**Figure 10:** Mineral Rents in Russia]
*Source*: World Bank
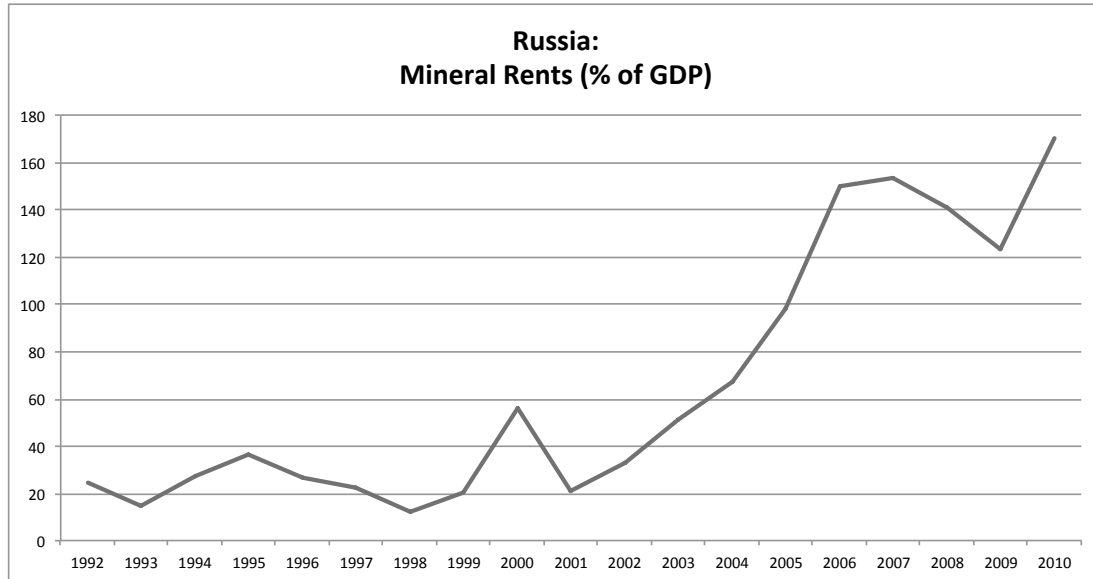
Incidentally, it is this rise of "state capitalists" in Russia that makes the assumption of "the wealthy" acting as a unitary actor in the model plausible. Without a doubt, individual members of the government benefited from greater financial liberalization, which produced enormous payouts for the connected state capitalists (Figure 8-9). In late March of 2012, the *Financial Times,* the *Wall Street Journal* and a reputed Russian daily Internet newspaper *Gazeta.ru*, reported on the scandal involving Igor Shuvalov, (the deputy Prime Minister of the Russian government), and his involvement in the purchase and sale of Gazprom shares around the time of the government's decision to open the domestic equity market for foreign participants in 2005-06 (Belton:2012; Kanaev:2012; White:2012). The reporting alleged that a Bahamas-registered holding company Sevenkey, which manages assets of Mr. Shuvalov (who claims to have made considerable fortune in legal practice before becoming a government official) bought $18 million worth of Gazprom shares before the government liberalized trading in Gazprom shares.[22] Putin and a close network of people he trusted were made heads of major state-run companies many of which were leading international players. The goal was to "… legalize wealth through reprivatization and share offerings, and to diversify through Western asset purchases" (Treisman 2012, p. 117). As the model predicts, the decision about financial openness was made by the authoritarian regime to take advantage of the "bonus of financial openness," as asset specificity in the overall economy increased in an unprecedented way.

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[22] Moreover, the *Financial Times* claimed that the transaction was carried out through a company belonging to Suleiman Kerimov - one of Russian's richest men. Kerimov made some $15 billion in the stock market before 2008, using favorable loans from the state-owned Sberbank that exceeded $4 billion. The *Wall Street Journal* report also claimed that Sevenkey took part in another transaction involving the purchase of a struggling British steel company with the help of another oligarch Alisher Usmanov, netting more than $1 billion for Usmanov and $120 million for Shuvalov (Belton:2012; White:2012).

[**Figure 8:** Gazprom Capitalization]
Source: RA Expert rating agency http://www.raexpert.ru
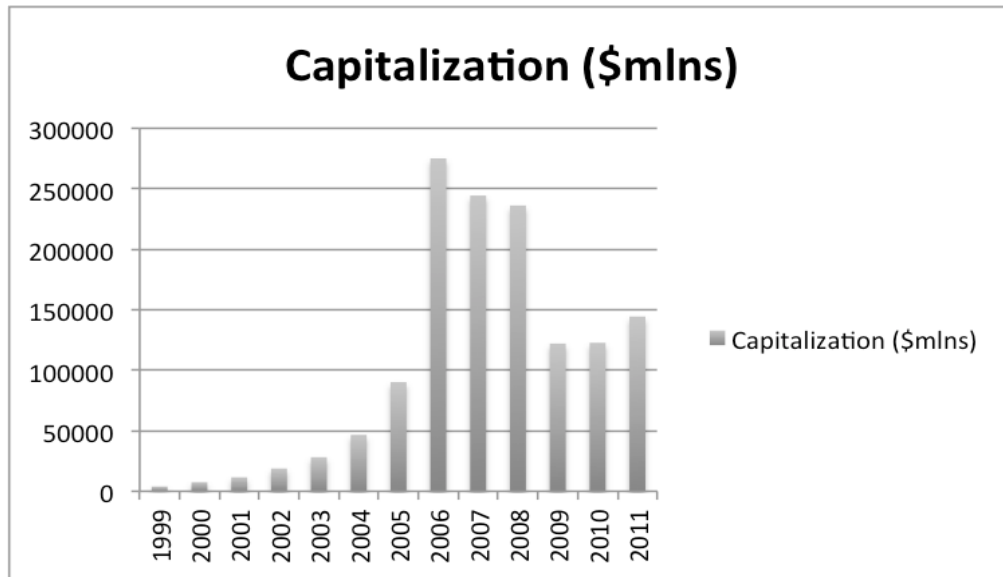
[**Figure 9:** Rosneft Capitalization]
Source: RA Expert rating agency http://www.raexpert.ru

Changing composition of capital flight and the rise of state capitalism in Russia

I explore this question in greater detail in another chapter of my dissertation, but financial openness under authoritarian rule produces an important implication that concerns the composition of capital flows. According to data from Global Financial Integrity (a Washington D.C. think tank) between 1994 and 2011 the Russian economy lost $782.5 billion in capital

flight. Of that sum, illicit outflows amounted to $211 billion (Kar and Freitas 2013). A closer look at the data shows a remarkable transformation of the composition of capital flows *in* and *out* of Russia. While the official outflows have remained sizable, the share of unrecorded (and therefore likely illicit) outflows has plummeted since the middle of the last decade.

During the 1990s and the early 2000s, illicit outflows constituted a sizable share of total capital flight. From 1995 to 2005 illegal outflows averaged 3 percent of GDP on the annualized basis, but from 2006 to 2011 that number plummeted to less than one percent of GDP. Half of all capital flight in 2001 was unaccounted for in official statistics, but only 10 percent of it was unrecorded a decade later. Other authoritative sources point to similar trends. According to the numbers published by the Central Bank of Russia (which uses a different methodology), between 1995 and 2005 capital flight measured 4-5 percent of GDP, but it dropped to 2.5 percent during 2006-10. A recent study conducted jointly by the Russian Direct Investment Fund, Ernst & Young and the Center of National Intelligent Reserve at the Moscow State University claimed that even those numbers have been vastly exaggerated (Ernst & Young 2012).

So, what accounts for this extraordinary legalization of Russian capital flight? Certainly, a multitude of factors have played a role, including an indisputable maturation of the corporate sector, the rise of Russia-based multinational corporations, and a deepening of financial integration with world markets. But the weightiest reason why unofficial capital flight has declined has to do with the liberalization of capital controls. It made many illicit cross-border transactions simply superfluous.

Big business supported and welcomed easier access to a global financial system that was founded on the principles of hyper-mobile, unregulated and under-taxed capital. On this, the interests of state capitalists and the oligarchs coincided neatly. Alongside the more favorable tax laws of Panama and the Cayman Islands, and a reliable court system of the United Kingdom and Netherlands, this arrangement provided the moneyed elites with an insurance policy against governmental expropriation. After all, their wealth was just as tenuously based on the ill-defined property rights of the 1990s, as was the fortune of their former colleague Mr. Khodorkovsky. Incorporation in foreign jurisdictions, listings on foreign exchanges and occasional purchases of famous sports team legitimized oligarchs' wealth while placing them outside of the Kremlin's reach. At the same time, by the late 2000s the state-owned corporations – which became behemoths by this point - were using offshore locations to run their financial operations not only outside, but also (and most strikingly) within Russia itself.

One would encounter considerable difficulty in locating a Russian oligarch who does not use foreign dominions to run his finances. One of Russia's richest men Oleg Deripaska controls "Basic Element" (which employs perhaps a quarter-million workers around the world) through the British Virgin Islands and RUSAL (the largest aluminum producer in the world) via the Island of Jersey. The English Channel is the place Mikhail Prokhorov's Polyus Gold also calls home. Viktor Vekselberg, whose worth was estimated to be $12 billion last year, buys Faberge eggs through his Panama-based Lamesa outfit, while running his Renova Group via the Bahamas. Gennady Timchenko's - one of Russia's newest oligarchs - Volga Resources is registered in Luxemburg, while Gunvor is incorporated in Switzerland.

But this has been a *modus operandi* for Russian oligarchs going back to the 1990s. More recently, it was the state corporation that began to rely on offshore financing to run operations within and outside of Russia. Gazprom relied on its Dutch subsidiary to complete the acquisition of Mr. Abramovich's Sibneft in 2005. State-owned VTB used a Belize-based company to finance another state-owned corporation "RusAgroProm." GazpromBank (majority-controlled by

the government), for example, controls part of Rostelecom (another majority state-owned company) though a Cayman Islands subsidiary. Rosneft's acquisition of a 50 percent stake in TNK-BP – if it's to go through – will likely be conducted through an outlet in the British Virgin Islands (See Table 3).[23]

[**Table 3:** Sample of offshore operations of the Russian big business]

Corporation	Industry	Primary owner	Off-shore location	Details
VTB	Banking	Russian government	Belize	Second largest bank in Russia used Belize-based Dalford Consultants for tax minimization and financing of "RusAgroProm" for $225 milion.
Rostelecom	Telecommunication	Russian government	Cayman Islands	GazpromBank (state-owned) controls 10.5% of Rostelecom via Universal Telecom Investment Strategies Fund SPC registered on the Cayman Islands.
Lamesa Holdings	Investment	Viktor Vekselberg	Panama	Personal investment vehicle of one of the wealthiest Russian oligarchs Viktor Vekselberg.
Renova Group	Minerals, energy, investment	Viktor Vekselberg	Bahamas	Vekselberg owns a trust TZ Columbus Services Ltd which controls Renova Group, whose major past and current investments include aluminium assets, and part ownership of TNK-BP, along with various other investments.
TNK-BP	Oil	Russian government + private owners	British Virgin Islands	TNK-BP Ltd - half of which is about to be acauired by Rosneft, Russian state-owned oil champion - is registered here.
Basic Element	Diversified investment group	Oleg Deripaska	British Virgin Islands	Deripaska controls "Basic Element" through A-Finance, registered on the British Virgin Islands.
Polyus Gold	Gold mining	Mikhail Prokhorov and Suleiman Kerimov	Jersey	Polyus Gold was registered here before being listed on the LSE.
UC Rusal	Aluminum	Oleg Deripaska	Jersey	World's largest aluminum producer is incorporated in Jersey.
Alfa Group	Diversified investment group	Mikhail Fridman	Gibraltar	CTF Holding Ltd is the financial hub of Alfa-Group, which owns or controls through its affiliates 25% of TNK-BP, 48% of Vympelkom (telecom), 48% of X5 Retail Group (retail) and the Alfa Bank itself.
Volga Resources	Diversified investment group	Gennady Timchenko	Luxemburg	Volga resources owns 23% of Novatek (Russia's largest independent producer of natural gas), and 37.5% of Sibur - largest petrochemichals manufacturer in Russia and Eastern Europe.
Evraz Group	Metallurgy	Roman Abramovich	Luxemburg	Roman Abramovich acquired 41% of Evraz via his holding company Millhouse Capital, itself registered in the UK.
Nordcom	Titanium	Russian government + private owners	Cyprus	Top managers of VSMPO-Avisma (world's largest prducer of titanium) control the majority stake in the company through this outlet since the end of 2012.
Gazprom Schweiz (Gazprom), Litasco (Lukoil), Gunvor	Oil and gas traders	Russian government + private owners	Switzerland	Most of Russian oil, gas and minerals gets traded through Swiss trading firms.
Gazprom Finance B.V.	Oil and gas	Russian government + private owners	Netherlands	Gazprom used its Dutch subsidiery Gazprom Finance B.V. to acquire Sibneft from Roman Abramovich in 2005. According to Russian Forbes, $3 billion were paid by Gazprom to Millhouse Capital via this firm, avoiding taxation by the Russian government.

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[23] Source: Russian Forbes [add full citation]

Caveats

1.   The model assumes that increased financial openness $\Delta\sigma$ in increases the valuation of specific assets, most of which are controlled by the "wealthy" $((1+\Delta\sigma)* \ k^i_w - \rho)$. There are generally two ways to understand "financial openness"[24]: either in its *de jure* (DJ) or *de facto* (DF) facets. Measures of DF openness aim to capture the actual extent of financial integration between a given country and the world. For example, the most widely used measure of DF openness is Lane and Milesi-Ferretti's (2006) "TOTAL" indicator which sums total assets and liabilities of the country and adjusts them by a country's GDP. In this way researchers can ascertain the extent to which the country is integrated into the international capital markets in real terms.

        The concept of DJ openness addresses the officially decreed legal restrictions on the movement of capital – and it is this concept that the *FO* decision represents. Still, the two types of indices are theoretically distinct (Quinn et al 2010, pp. 14-16). The relationship between DJ and DF openness is rather tenuous, since an economy may not attract capital despite being fully DJ-open, while a relatively DJ-closed economy, like China, may attract a great deal of capital despite high barriers to entry. Use of DF and DJ indicators, according to one recent comprehensive review, produces different results, "because de facto measures likely reflect the influences of many political and economic factors, of which legal restrictions of the capital accounts, as indicated by the de jure measures, are but one" (Quinn et al 2011, p. 517). DF openness is an important component of the story, but the extent of DF financial openness is usually a consequence of factors that are not directly related to political issues, but rather determined by factor endowments, size, manufacturing profile of the economy, and other features of the economy.

2.   The model assumes that the wealthy act as one unitary actor, and I believe this assumption is defensible in the context of state capitalism – where the state acts as a primary competitor for assets in the economy. The interests of the oligarchs – the other "wealthy" group – coincide with the goals of financial liberalization vis-à-vis the state. Greater mobility of capital, more flexible "exit" options, opportunities for diversification, and access to foreign financing increase the value of oligarchs' assets.[25]

3.   The model also assumes no independent role of the state. Outside of the income maximization interests of the wealthy (who control the state), the state itself is not accounted for. It is clear however that a political struggle for the control of the state is always ongoing between different moneyed elites. Those in control of the state often try to enhance its powers, and those on the outside want to limit its influence.

        In the sociological tradition, the state is understood to be "an administrative and legal order" with "binding authority" over "the area of its jurisdiction" (Weber 1978, p. 56). The order is "administrative," meaning that it's "made up of and limited to those individuals who are endowed with society-wide decision making authority" (Nordinger 1981, p. 11). If the state is nothing but public officials with "society-wide decision making authority," then for the model to

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[24] Which could be understood as the extent of "integration of equity, bond and money markets, as well as direct ownership of foreign capital or foreign direct investment" (Kose et al 2009, p. 9).

[25] In a different chapter of the dissertation, I outline the reasons why those interests were actually divergent during the era of low commodity prices – which led to an arrangement where *de facto* integration of the economy was channeled through illicit flows.

maintain validity the state has to have a minimal amount of autonomy to assure that the wealthy can be (1) free to remain in office without external support (political autonomy to maintain authoritarianism); and (2) endowed with resources to exercise that authority (economic autonomy). Both of those are reflected in the parameter ρ, which is given exogenously in the model.[26] So long as the state has enough autonomy to control tax revenue streams, non-tax revenues, reserve assets, state-owned enterprises (SOES), the model remains useful. I agree with Chaudhry, who identified government ownership as a sign of "administrative weakness…" (Chaudhry 1993, p. 247). Still, state strength or capacity can remain very low, but in the presence of large payoffs generated by increasing mineral rents, decisions about financial openness would still be made in the same way. In other words, when the endowment of natural resources is high even a weak state, can "bluff" its way into financial openness and the "poor" classes will likely acquiesce to the continuation of authoritarianism.

Conclusion

Living in a non-democratic regime, the wealthy anticipate that democracy may come about in the future - and in anticipation, increase the financial openness of the economy in order to be able to take their money abroad and avoid higher tax rates under democracy. They are more likely to do so, as the resource endowment in the economy increases, allowing them to redistribute some of the proceeds from greater openness to the poor and therefore staving off the rebellion. Greater mobility of capital means that when democratic rule comes about (for reasons that are exogenous to this process) the rich would be able to credibly threaten to take their wealth abroad, which would lead the median voter to institute a lower tax rate than he would prefer otherwise. As Bates and Lien (1985) point out, this connection has been long noted (among others) by Montesquieu who wrote in *The Passions and the Interests* that "… the richest trader had only the invisible wealth which could be sent everywhere without leaving any trace . . . Since that time, the rulers have been compelled to govern with greater wisdom than they themselves have intended" (Quoted in Bates and Lien (1985, p. 13))

In Russia, the capital account liberalization policies, including the equity market liberalization for foreign participants, went hand-in-hand with the government's state-capitalist policies that included both above-board acquisitions and outright nationalizations of several large privately owned companies. Russian SOEs, while continuing asset acquisition, began tapping international markets for capital in order to finance those purchases. By opening domestic equity markets to foreign investors and entering foreign markets Kremlin was able to raise valuation of the assets it controlled, obtain additional financing for new acquisitions and to give a stamp of legitimacy to its flagship SOEs.

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[26] In reality ρ is increasing in σ_N, but introducing that assumption would only strengthen the results.

APPENDIX A

1) <u>Proof of Proposition 1</u>

   To see this consider the expected payoffs facing the poor, given that the nature picks the wealthy to be strong with probability π and weak with probability $1-\pi$.

$$EV_p \text{ (Acquiesce)} = \pi^* (k^i_p + \phi^* \sigma_N) + (1-\pi)^* (k^i_p + \phi^* \sigma_N);$$

$$EV_p \text{ (A)} = k^i_p + \phi^* \sigma_N$$

$$EV_p \text{ (Rebel)} = (1-\pi)^* (\hat{y}_p^{dem} - \varpi) + \pi^*(0);$$

"Acquiesce" is optimal for the poor when,

$$EV_p \text{ (A)} > EV_p \text{ (R)},$$

$$k^i_p + \phi^* \sigma_N > (1-\pi)^* (\hat{y}_p^{dem} - \varpi) - \pi^*0,$$

$$\pi > 1 - (k^i_p + \phi^* \sigma_N) / ([\hat{y}_p^{dem}/\tau = \sigma_N] - \varpi).$$

Otherwise, "Rebel" is optimal.

   When do the wealthy choose *Openness* given the poor's estimate of π? First, the payoff of the wealthy (weak or strong) after *Openness*, *Acquiesce* exceeds any payoff for the wealthy of in sub-history *Weak, Status Quo*. When the wealthy are strong, they prefer to offer *SQ* rather that *FO* if they poor were to rebel. Therefore, we need to make sure the poor acquiesce instead of rebel to offer of *SQ*. When do the poor acquiesce in status quo? Let's assume the poor assign probability q to the wealthy being strong, and (1-q) to them being weak. The poor acquiesce when EV(A) > EV(R).

$$EV_p \text{ (Acquiesce)} = q^* (k^i_p + \phi^* \sigma_N) + (1-q)^* (k^i_p + \phi^* \sigma_N);$$

$$EV_p \text{ (A)} = k^i_p + \phi^* \sigma_N$$

$$EV_p \text{ (Rebel)} = (1-q)^* ([\hat{y}_p^{dem}/\tau = 1 - k^i_p] - \varpi) + \pi^*(0);$$

"Acquiesce" is optimal for the poor when,

$$q > 1 - (k^i_p + \phi^* \sigma_N) / ([\hat{y}_p^{dem}/\tau = 1 - k^i_p] - \varpi).$$

2) The game has no pure strategy sequential separating equilibrium.

Proposition: The game has no pure-strategy weak sequential "separating" equilibrium where the wealthy pick "openness" when strong, "status quo" when weak; and the poor believe with probability = 1 that they are in history "strong" when the signal is "FO," so they "acquiesce;" and believe with probability = 1 that they are in history "weak" when the offer is "SQ," so they "rebel."

   The wealthy prefer openness to status quo when strong, only if the poor acquiesce. If the poor were to rebel, the rich would prefer the status quo outcome, since $\sigma_N^* k^i_w < \sigma_I^* k^i_w$ (given that $\sigma_I > \sigma_N$ by assumption). In other words, even if the wealthy are strong, it doesn't follow they would opt for greater openness. Similarly, the wealthy do not necessarily prefer status quo when weak, since they actually pay lower taxes under the transitional regime after sub-history *Openness* ($\tau = \sigma_N$) than under sub-history *Status Quo* (tax scenario (2), where $\tau = 1 - k^i_p$). For a separating equilibrium to be sustained, the wealthy cannot be tempted to select openness when they are in fact weak.

APPENDIX B

Timeline of important changes in financial regulations in Russia
1993 Russian Central Bank allows foreigners to set up two types of ruble-denominated accounts: one (T-account) for export-import activities and (I-account) for purchasing of currency in exchange for rubles and for repatriation of ruble profits (Katsman 1993).
1994 The Economist Intelligence Unit ranked Russia as the second riskiest country in the world to invest (after Iraq).
1994.03 Nonresidents allowed to purchase up to 10% of the issue of domestic treasury bills
1995 Duma passes a law making Central Bank independent (chairman is nominated for parliamentary approval by the president) (Treisman 2012, p. 209).
1995.05 Russian Trading System (RTS) - off exchange, Nasdaq-like system was created.
1997.03 Duma passes a law putting rescissions on foreign ownership of shares in telecommunications and energy companies
1996.10 MICEX (previously a currency trading platform) licensed for equity trades launched.
1997.05 President decrees a 9% limit on foreign ownership of Gazprom capital (which could only be done through ADRs)
1998.01 Foreign currency position of commercial banks is limited to 20%, and only 10% for an individual currency.
1998.08 Financial crisis. CB announced a 90 day moratorium on the repayment of foreign loans by the 20 largest Russians banks, amounting to $3.4B during this period (Johnson 2000, p. 216). Ruble devalued by 50%, foreign exchange trading on MICEX is stopped. Most private banks go bankrupt.
1998.10 New regulations on foreign currency trading. Exporters are required to sell 50% of proceeds on MICEX.
1999.01 Duma passes further restrictions in foreign ownership of Gazprom shares
2000.03-12 Putin elected. Government announces intentions for liberalization, including tax reform (corporate tax rate cut from 35% to 25%), investor protection, deregulation of rail and energy monopolies, banking and pension systems.
2001.03 Gazprom issues ADRs.
2002 Plans for full ruble convertibility announced (newsru:2002)
2003.03 Ministry of Finance lobbies for a full opening of the Russian insurance market to European competitors, angering many Russian companies.
2003.10.07 EBRS announced a plan to issue $150M ruble-denominated bonds.
2003.10.25 Mikhail Khodorkovsky, Russia's richest person and CEO of Yukos arrested.
2003.10-11 CBR's reserves continue to expand, foreign investment continues to come into Russia despite the Yukos affair.
2004.12 Rosneft (with foreign financing) buys Yuganskneftegas (Yukos's largest asset) from an opaque "Baikalfinancegrup" which previously bought the asset in a state-controlled auction (Treisman 2012, 95-95; Woodruff 2007).
2005.06 Government-controlled group Rosneftegaz bought 10.74 percent of Gazprom's shares for $7.1 billion, increasing the government's stake in the company to 50 percent plus one share. Rosneftegaz was able to qualify for a loan of $7.4 billion from a group of foreign banks, making it to-date the largest credit received by a Russian company (Derbilova et al 2005).

2006.01 Liberalization of trading in Gazprom shares "A government decision in December 2005 to lift a ban on foreigners investing in the domestically traded stock fuelled a strong surge in Gazprom's share price." (Belton:2012; Bloomberg:2006)

2006.07 Government no longer maintains any controls on the borrowing of Russian companies abroad, residents' purchases of securities abroad, or the purchases of Russian securities by nonresidents (newsru:2006b).

2006.07 Rosneft IPO. 15% of shares sold for a total of $10.7 billion. The company, which was outside of top 25 Russian companies in 2003, was the second-largest company in Russia, valued at $71 billion as of September 2010 (Kommersant:2010).

2012 Government announces plans to allow foreign settlement of local government bonds (OFZs). "By enabling its locally issued treasury bonds - known as OFZs - to be settled through international clearing houses, Russia is in the process of sweeping away regulatory barriers that have kept most foreign investors away. The liberalization means that Russia will belatedly tap into an international fashion for local currency debt, which has mushroomed in recent years as investors seek out alternatives to the low yields on dollar bonds" (Reuters:2012).

*Bekaert and Harvey (2002) are the source when the source is not given.

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