

Political Allocation of Bank Finance

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12th of May 2009

Abstract

Politicians influence the allocation of finance directly, via state banks, or indirectly by regulatory choices. In this paper we model banks' regulatory and control structure as a political choice taken under influence of entrepreneurs seeking preferential access to finance.

We show that when political accountability is low, politicians prefer direct bank control to extract political rents. As state banks are less efficient, high levels of accountability induce private bank ownership. This transition occurs at intermediate levels of accountability when politicians allow private banks to be captured by entrepreneurs. These entrepreneurs lend to themselves on preferential terms, inducing potential bank failure. Politicians ultimately separate bank from firm control when accountability is high, imposing arm's length lending. Interestingly, the model implies that financial instability is likely to be largest for intermediate levels of political accountability. We provide suggestive empirical support on bank control.

Keywords: Political Economy, Bank Control, Lobbying, Instability

JEL Classifications: C70, D72, G28

[Acknowledgements] We would like to thank discussants and participants at seminars at the Australian National University, the EFA 2008, European University Institute Florence, Erasmus Universiteit Rotterdam, IESE in Barcelona, IIES in Stockholm, London School of Economics, Universiteit van Amsterdam and the Université de Toulouse for help and useful suggestions. Marcel Vorage acknowledges financial support from the Marie Curie Research Training Network through the 6th framework of the European Commission.

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1 Introduction

Politicians may influence the allocation of finance directly via control over banks or by extending financial guarantees. Recent empirical work shows that state banks offer preferential access to connected firms (Sapienza, 2004; Khwaja and Mian, 2005; Claessens, Feijen and Laeven, 2006; Faccio, 2006). Even when banks are privately owned, political choices on financial regulation influence access to finance (Kroszner and Strahan, 1999; Rajan and Zingales, 2003; Perotti and Volpin, 2007). Established interests may lobby to limit bank regulation and bank competition, in order to capture access to finance and undermine newcomers.

This paper models banks' regulatory and control structure as a political choice taken under influence of interest groups seeking preferential access to finance. We show that politicians capture more rents when they retain discretion in allocating loans (state banking) or assign bank control to an interest group (captured banking) than when they are lobbied over regulation (independent banking). State and family banks enable politicians to assign funding to any citizen independently of wealth, thus maximising competition among interest groups. In contrast, when lobbying over regulation the coalition of richer citizens has a strategic advantage, resulting in more modest political rents.¹

Because higher entry induces lower prices, social welfare increases in entry. Therefore, access to finance (given bank control) broadens with political accountability, being the ability of citizens to question and challenge political decisions.

The model predicts that politicians choose state control under low accountability, enabling them to obtain large political contributions. As state-controlled banks are less efficient than private banks, politicians in countries with sufficiently high accountability shift to private bank control.²

¹The reason is that all (poorer) coalitions need better regulation than the rich coalition, which therefore can free ride on any competing offer.

²State banks across Eastern Europe incur higher costs as share of total assets (Fries and Taci, 2005). State banks in Argentina have worse financial performance than their private counterparts, and those with the worst performance were privatised first (Berger, Clarke, Cull, Klapper and Udell, 2005).

For intermediate levels of accountability, lobbying induces banks to be captured by entrepreneurs who lend to themselves. Because these entrepreneurs fail to internalise the full effects of bank default, captured banking is accompanied by low collateral and high bank default. As accountability increases, more entry and lower firm profits lead to ever increasing funneling and default risk (the entrepreneurs cum bankers have less to lose). As banking crises have political costs, politicians opt for regulated lending without insider control when accountability is high. This offers greater financial stability but generates lower political rents.³ Ultimately, access to finance, bank control and instability all crucially depend on political accountability.

Interestingly, the model can account for higher incidence of banking crises in countries with intermediate accountability. Anecdotically, larger crises seem to occur in middle income countries, often where the role of the state has been reduced by a process of liberalisation and privatisation. Our approach suggests that reforms reducing the direct role of the state occur *deliberately* at an institutional stage when regulatory institutions are still quite vulnerable to capture by special interests. Indeed, existing evidence suggests that financial instability is not correlated with formal measures of tight regulations (Barth, Caprio and Levine, 2005). Volatility following liberalisation is distinctively worse in countries with worse political institutions (Bekaert, Harvey and Lundblad, 2006). Major banking crises, such as in Chile (1981), Mexico (1994), Asia (1997) and Russia (1998) have been deepened by massive default on connected lending by private banks (Perotti 2002; Claessens, Djankov and Klapper, 2003; Gombert and Maurer, 2005).

The paper proceeds as follows. In section 2 we review related literature, in section 3 we present an empirical motivation for the model, in sections 4 and 5 we set up and solve the model. In section 6 we conclude.

³We allow for imperfect regulated lending in which some funneling is possible and some instability remains.

In addition, state banking sometimes 'returns' to stabilise captured banks, before turning to independent banking.

2 Related literature and evidence

Lobbying by special interests is constrained by formal accountability mechanisms such as elections, and informal ones such as scrutiny by the media (Besley, Burgess and Prat, 2006). Recent evidence indicates that financial access and competition are more limited when citizens have fewer democratic rights (Benmelech and Moskowitz, 2008), less access to information (Perotti and Volpin, 2007) and when wealth is more unevenly distributed (Rajan and Ramcharan, 2007). Regulatory capture is more severe when a small elite enjoys limited competition (Engerman and Sokoloff, 2002; Acemoglu, Johnson and Mitton, 2007).⁴

Grossman and Helpman (1994) model lobbying by interest groups to influence politicians' choice of trade policy. Mitra (1999) endogenises the creation of interest groups with industry-specific preferences. In these models the composition of interest groups is exogenous. Perotti and Volpin (2007) endogenise the size of the winning interest group in a sequential lobbying context on entry. The size of the winning lobby balances lower social welfare and larger rents resulting from limiting entry. This paper extends their framework in two ways. Firstly, the politicians choose the framework under which lobbying takes place. We show how state control over lending grants politicians more bargaining power, as no interest group has a strategic advantage in the lobbying game. Second, politicians decide on a twodimensional regulatory framework, covering bank control and lending.

Our empirical implications are as follows: private banks are prevalent beyond a certain level of accountability and are likely to be captured at intermediate accountability. In the case of great instability of independent banks, the state resumes bank control for high accountability. Given bank control, higher political accountability is associated with broader access to finance. Funneling and bank default risk can be highest at intermediate levels of political accountability, when the shift to liberalisation and bank privatisation occurs. Finally, on

⁴For a broad overview of the literature on politics and finance, see Haber and Perotti (2008).

average more inefficient state banks are more unstable.

The evidence indicates that state control of banks generates an inefficient financial allocation (La Porta, Lopez-de-Silanes and Shleifer 2002) favouring politically connected firms (Sapienza 2004; Khwaja and Mian 2005; Claessens, Feijen and Laeven 2007). Favoured firms receive larger loans and pay comparable interest rates as comparable unconnected firms, even though they are less likely to repay (Khwaja and Mian, 2005; Faccio, 2006).

Secondly, state control of banks is lower in countries with more accountable political systems (LLS, 2002; Bortolotti, Fantini and Siniscalco, 2003; Barth, Caprio and Levine, 2005).

Thirdly, political accountability is associated with less restricted entry into banking and less constrained access to finance (Barth, Caprio and Levine, 2005; Perotti and Volpin, 2007).⁵ As such, both a stable democracy and free and widely accessible media stimulate financial development and entry (Rajan and Zingales, 2003; Bordo and Rousseau, 2006; Perotti and Volpin, 2007). More corrupt countries also exhibit lower entry (Klapper, Laeven and Rajan, 2006). Even across the United States, historical financial regulation supporting entry has been associated with stronger political and suffrage rights (Benmelech and Moskowitz, 2007) and less concentrated land ownership (Rajan and Ramcharan, 2007).

A distinctive contribution is to explain how political institutions seem to affect financial stability, even after controlling for policy choices (Acemoglu, Johnson, Robinson and Thaicharoen, 2003). Bank privatisation has often lead to more financial instability and banking crises, especially when bank control has been restricted to influential domestic buyers. In general, more restricted access to the banking sector and concentrated ownership of banks compromise stability (Barth, Caprio and Levine, 2005; Laeven and Levine, 2009). In Russia, Mexico and Korea private control over the banking system was established without strengthening the legal and regulatory framework (De Luna-Martinez, 2000).

⁵Political accountability is higher with a well-informed electorate and free and regular elections (Adserà, Boix and Payne, 2003). Research on Brazil shows that the possibility of re-election and the availability of a local judge and local media increase accountability (Ferraz and Finan, 2007).

The Mexican government tolerated shockingly high rates of non-repayment of loans in privatised banks (Gomberg and Maurer, 2005), leading to massive losses largely due to related lending. During the 1997-1998 East Asian crisis, financial institutions connected to industrial groups or influential families continued lending to firms that were unlikely to repay (Claessens, Djankov and Klapper, 2003) and were subsequently more likely to default (Bongini, Claessens and Ferri, 2001). Other work shows that liberalisation is more likely to be followed by banking crises in countries exhibiting poor transparency and corruption (Mehrez and Kaufmann, 2000), and weak regulatory institutions (Demirgüç-Kunt and Detragiache, 1999). Financial liberalisation in emerging markets is followed by a larger amplitude of booms and crashes in the subsequent four years but stabilise in the long run. This liberalisation tends to happen before law and order improve, which could explain the short term turmoil (Kaminsky and Schmuckler, 2008). Interestingly, as predicted by the model there is no strong correlation between state ownership of banks and banking crises (Barth, Caprio and Levine, 2005).

3 Empirical motivation

This section serves as motivation for the theoretical model by empirically investigating the effects of political accountability on bank control. We use a country's Polity2-score as a measure of political accountability. To establish causality and address endogeneity concerns we instrument the Polity2-score. For a full description of the used variables, see Table 1.

Our bank control variable comes from Morck, Yavuz and Yeung (2009) and gives the ultimate ownership and voting rights of the 10 largest listed and unlisted banks in 44 countries at the end of 2001 and classifies banks as state-controlled, a family-controlled (i.e. captured) or independent.⁶ The descriptive statistics in Table 2 reveal that in our sample an average 26% of large banks'

⁶Due to missing values of Polity2, newspaper readership in 1996 and UN-staff parking violations we omit India, Hong Kong, Taiwan and the United States. Hence 40 countries remain in our sample.

assets was controlled by the state, 30% by a family or individual and 45% by an independent bank. There is great variation in the sample: in some countries bank assets are fully controlled by the state, in others by families and in yet others all large banks are independent. Despite there being more high accountability countries, its coverage is broad. Panel E shows that state control is higher in low accountability countries, while independent control is higher in high accountability countries while there is no significant difference for family control. This suggests that state control might be predominant for low, family control for intermediate and independent control for high accountability.

In Table 3 we investigate the influence of political accountability on bank control using IV-regressions.⁷ The results show that state control falls with accountability and independent control rises with accountability. Family control is more predominant when accountability is intermediate. These results persist when including GDP per capita as a control variable. Objections can be raised against the Polity2-score as it includes the component 'xconst', which has legal rather than political components.⁸ Unreported regressions show that the results are robust to eliminating the component 'xconst' from the Polity2-score.

Our model provides intuition for these effects of political accountability on endogenous bank control and generates additional empirical implications in line with existing evidence.

4 The model

4.1 Setup

We model a politician's choice for either state or private bank control and for either captured or regulated lending by banks.

⁷To separate intermediate political accountability from both positive and negative extremes, we construct the variable Polity2sq. Because Polity2 runs from -10 to 10, its square Polity2sq is U-shaped and runs from 100 to 0 and back to 100.

⁸The variable 'xconst' contains information on limitations of executive power by 'accountability groups' such as the legislature and political parties such as the ability of these groups to restrict executive action, initiate legislation or nominate candidates for important administrative posts.

Under state banking S and private captured banking PC the banker chooses the loan size, the identity of borrowers and funneling of bank funds. The politician thus selects entrants independent of w_i by directly choosing borrowers under S or by choosing whom to grant bank control under PC .⁹ We assume that direct control via state banks comes at an efficiency cost $E > 0$, born by citizens through lump-sum taxes.

With independent private banking PI , the banker no longer has the liberties described above and lends at arm's length. The politician sets the level of investor protection $1 - \delta \in [0, 1]$, which refers to the ability of firms to credibly commit to repay a loan L , i.e. the maximum enforceable repayment is $(1 - \delta)L$.¹⁰ As entry requires an investment of I , citizens with wealth $w_i \geq \delta I$ become entrepreneur. Given the distribution of w_i , δ determines entry by the n richest citizens. Similar to Perotti and Vorage (2009), entry is thus independent of w_i under S and PC , while it is dependent on w_i under PI .

Funneling is limited to positive $\lambda \in [\gamma, 1]$ under PI . Because funneling can take many forms such as larger loans, reduced repayment of loans, low interest rates and excessive remuneration of key bank directors, it is difficult to fully eliminate. This limited capacity of the politician to reduce funneling is captured by $\gamma \geq 0$.

When making a choice on bank control, the politician anticipates competition for preferential access to finance by endogenously formed interest groups. These groups of citizens specifically seek to influence bank lending, which we define as the size of loans and the identity of borrowers, and funneling of bank funds. For simplicity we assume that bank debt is the sole source of external finance and that banks can raise any amount of capital at zero interest.

A unit mass of citizens indexed by i differ by wealth w_i , uniformly distributed on the interval $[0, I]$. Any citizen can start a firm that produces a single unit

⁹We show that in equilibrium private bankers lend to themselves under PC .

¹⁰One might be concerned that financial rules are drafted by unaccountable regulators, even in the most democratic countries. However, Barth, Caprio and Levine (2005) argue that those regulators are not setting rules independently. They will abuse powers bestowed upon them unless kept in line by (accountable) politicians.

of final good by investing I , so any citizen i needs external finance of $I - w_i$ to start a firm. The endogenous share n of citizens who are member of the winning interest group raise I and become entrepreneur, while the remaining $1 - n$ citizens only consume.

Funneling is modelled by $\theta \in [0, 1]$, which is the share of total loans nI appropriated by the bank owners and thus not repaid. This funneling drains banks' funds and may lead to bank default. Nature draws economic conditions ε from a uniform distribution with support $[0, 1]$. If banks default when $\theta > \varepsilon$, the probability of default is θ .

4.2 Timeline

The timing is as follows:

At $t = 0$ the politician determines bank control. He either chooses state banking S , private captured banking PC or private independent banking PI . Therefore, the set of bank governance choices is $G = \{S, PC, PI\}$.

At $t = 1$ lobbyists sequentially form coalitions, until there are no further gains to organise a group. Each citizen is represented by at most one lobbyist.

At $t = 2$ each lobbyist (proposer) make an irreversible offer to the politician (responder) to set entry at equilibrium levels n_G for respectively $k_G(n_G)$. The politician chooses the offer that maximises his utility, or simply implements the social optimum by allowing full entry m . Citizens receiving finance set up a firm and produce one unit of final good.

At $t = 3$ the politician sets funneling θ under S while private bank owners collectively choose θ under PC and PI . Under PI , θ is limited to λ .

At $t = 4$ nature draws ε from a uniform distribution with support $[0, 1]$. If $\theta > \varepsilon$ banks default, such that the probability of default is θ . When banks default, both the bank owner and the politician have zero utility.

At $t = 5$ the market for the final good is open and its price $p(n_G)$ is determined. Consumers buy the final goods and political contributions are paid.

4.3 Citizens

Citizens consume both numeraire and final goods, and have utility from consumption

$$E[U_i] = x_i + ac_i - \frac{1}{2}c_i^2 \quad (1)$$

where x_i and c_i are respectively the consumption of a single numeraire and a single final good and a is the strength of demand, with $a > 2I$.¹¹ Individual income equals a constant endowment ω plus any firm profits $\pi_e(n)$, such that $x_i = \omega + n\pi_e(n) - c_i p(n)$, with $p(n)$ being the price of the final good.¹² To assure that $x_i \geq 0$ we assume that disposable income $\omega \geq \frac{1}{4}a^2$.

Social welfare equals the total utility of consumption, defined as

$$s(n) = \sum^i U_i + k(n) \quad (2)$$

where $k(n)$ are the contributions paid to the politician by entrepreneurs. This social welfare function is free of distributional concerns and simply sums the utility of consumption of all agents, including the politician.

If a citizen i becomes an entrepreneur e , she sells one unit of output on the final goods market and makes profits of

$$\pi_e(n_w) = \begin{cases} p(n_w) - I - \frac{k(n)}{n_w} & \text{if } e \in n_w \\ 0 & \text{if } e \notin n_w \end{cases} \quad (3)$$

where $\frac{k(n)}{n_w}$ are the political contributions paid per entrepreneur in a winning coalition n_w . By assuming that the lobbyist can force each coalition member to pay an equal share of the contributions we abstract from coordination problems within coalitions.

¹¹This utility function is widely used in the literature as it greatly simplifies the analysis. Krugman (1992) derives it in a political economy model in a general equilibrium framework.

The condition $a > 2I$ guarantees that entry is profitable and is not driven by the prospects of funneling.

¹²The individual income ω can not be used to start a firm, for example because it is received after firm creation.

4.4 Lobbyists

Each lobbyist j forms a coalition of citizens Q_j of size n_j and offers the politician contributions $k(n_j)$ in return for entry n_j by the coalition's members. The lobbyists maximise the expected sum of profits of their coalition's members

$$\Pi_j = \begin{cases} n_j \pi_e(n_j) & \text{if the offer by group } j \text{ is accepted} \\ 0 & \text{otherwise} \end{cases} \quad (4)$$

We assume that each lobbyist j can commit to paying $k(n_j)$ after the politician has delivered the agreed upon policy.

4.5 The politician

The politician's utility is a weighted average of social welfare minus any efficiency cost (with weight β) and political contributions (with weight $1 - \beta$). Political accountability $\beta \in [0, 1]$ determines the politician's willingness to serve the public. When there are no efficiency costs, namely under *PC* and *PI*, the politician maximises

$$U_p(n) = (1 - \theta) [\beta s(n) + (1 - \beta) k(n)] \quad (5)$$

Under *S*, we introduce efficiency costs E to get

$$U_p(n) = (1 - \theta) [\beta s(n) - \beta E + (1 - \beta) k(n)] \quad (6)$$

Politicians are lobbied by groups of agents seeking preferential access to credit. The politician accepts the political contributions from a single coalition in exchange for favouring its members in the financial allocation. The coalitions are created by identical lobbyists entering sequentially. Lobbyists charge a fraction of the net rents captured by the coalition members. For simplicity, we assume this fraction is infinitesimal, so that it does not affect entrepreneurial payoffs.

Overview 1: Characteristics of the three governance structures

Bank Control	Banker	Efficiency costs	Wealth w_i	Funneling
State (S)	Politician	$E > 0$	Irrelevant	Tolerated
Private Captured (PC)	Private	0	Irrelevant	Tolerated
Private Independent (PI)	Private	0	Relevant	Limited

4.6 Group formation and offers

The group formation process is exactly the same as in Perotti and Vorage (2009). Lobbyists $j \in \{1, 2, \dots, J\}$ sequentially enter and form groups (or coalitions) containing a subset n_j of potential entrepreneurs, subject to $\pi_e \geq 0$. New lobbyists enter as long as $\Pi_j > 0$, resulting in an equilibrium coalition structure $Q_j = (Q_1, Q_2, \dots, Q_J)$.

Every group j offers political contributions $k_j (n_j) \geq 0$ in exchange for entry n_j leading to the contingent entry structure $N = (|Q_1|, |Q_2|, \dots, |Q_J|) = (n_1, n_2, \dots, n_J)$ and contribution structure $K = (k_1, k_2, \dots, k_J)$.

An equilibrium group formation and accompanying political contributions (Q, K) is individually rational

$$\Pi_j \geq 0 \forall j \quad (7)$$

and incentive compatible. Every group j

$$\max_{n_j, k_j} \Pi_j |n_l, k_l \forall l \neq j \quad (8)$$

The offer of group j is chosen by the politician if it is individually rational (better than allowing free entry)

$$U_p(n_j) \geq U_p(m) \quad (9)$$

and incentive compatible (better than the offer of any other group)¹³

$$U_p(n_j) > U_p(n_k) \forall l \neq j \quad (10)$$

The equilibrium choice of entry and political contributions (n_G, k_G) satisfies (9) and (10) given (Q, K) , which satisfies (7) and (8).

¹³For simplicity, we assume that the politician prefers the offer with the largest political contributions in case two offers result in equal utility. If two offers are exactly equal the politician randomly picks one.

5 Solving the model

We first briefly treat the product market equilibrium, then we proceed with equilibrium entry and funneling under state, private captured and private independent banking. Subsequently, we compare these different types of bank control.

5.1 Product market equilibrium

From (1) and (2) it follows that $s(n) = \omega + \frac{1}{2}n^2 + n(m - n)$ which is maximised by allowing full entry $n = m$. Higher production leads to higher per citizen consumption at a lower unit price, an effect which outweighs lower firm profits. Entrepreneurs' income from production $n(m - n)$ is maximised by limiting entry at $n = \frac{1}{2}m$.

5.2 State banking

Under state bank control, lobbyists try to convince the politician to directly provide finance to members of their group. Citizens incur efficiency costs E through taxation.

Proposition 1 *Under state banking:*

(a) *Entry n_S is increasing and funneling θ_S is nonincreasing political accountability β .*

(b) *Equally sized groups have an equal chance of being financed.*

Proof. Because the politician can assign a loan of size I to any citizen, there is perfect competition for finance between interest groups. As a result, lobbyists spend any potential profits on bribes to convince the politician.¹⁴

Using the product market equilibrium we can then rewrite (6): ■

¹⁴We restate the proof from Perotti and Vorage (2009).

Because $m < \frac{1}{2} : \exists Q_j, Q_h \in Q : Q_j \cap Q_h = \emptyset$. For these disjoint groups j and h it holds that if $n_S = n_j \rightarrow \pi_{e \in Q_h} = 0$. As a result, lobbyist h is willing to spend any potential profits on bribes to convince the politician. The reverse holds for lobbyist j if $n_S = Q_h$. Thus, any group $k = j, h$ tries to outbid the other by maximising (6) subject to (7).

$$U_p(\theta, n) = (1 - \theta) \left[\beta \left(\frac{1}{2} n^2 + n(m - n) \right) - \beta E + (1 - \beta)(n(m - n) + n\theta I) \right] \quad (11)$$

Proof. We maximise (11) over entry n and funneling θ , resulting in

$$\theta_S = \max \left\{ \frac{2(1 - \beta)I - m}{3(1 - \beta)I}, 0 \right\} \quad (12)$$

and

$$n_S = \begin{cases} \frac{2[(1 - \beta)I + m]}{3(2 - \beta)} & \text{if } \theta \geq 0 \\ \frac{m}{2 - \beta} & \text{if } \theta \leq 0 \end{cases} \quad (13)$$

It is easy to show that $\frac{\partial \theta_S}{\partial \beta} = -\frac{m}{3(1 - \beta)^2 I} < 0$ for $\theta_S > 0$ and that $\frac{\partial n_S}{\partial \beta} \geq 0$. Substituting (13) and (12) in (11) yields the politician's utility given the level of accountability β , strength of demand a , investment I and efficiency costs E .

As a minimum of two equally-sized groups exists and each of them pledges all potential profits as political contributions, the politician is indifferent between them. ■

Entry n_S is increasing over accountability β , because social welfare increases in entry. Funneling θ_S falls with β , because the politician values income from funneling less the higher β . When β is high enough, θ_S drops to zero.

5.3 Private captured banking

Under *PC* no efficiency costs are incurred as bank control now lies with a group of entrepreneurs. The private bank owners are individually able to choose the identity of borrowers and funneling θ_{PC} .

Proposition 2 *Under private captured banking:*

- (a) *Entry n_{PC} and funneling θ_{PC} are increasing in political accountability β .*
- (b) *Equally sized groups have an equal chance of controlling banks and having access to finance.*

Proof. To find the level of funneling θ_{PC} we need to maximise the bank owners' expected profits $\Pi_{PC} = n_{PC}\pi_e(n_{PC})$ over θ .¹⁵ Because gaining control over a private bank allows financing to any citizen independent of wealth, there is strong competition between citizens (like under S). Therefore we maximise the politician's utility $U_p(\theta, n)$ over n given θ_{PC} .

We have

$$\Pi_{PC} = (1 - \theta) n [n(m - n) + \theta n I] \quad (14)$$

and

$$U_p(\theta, n) = (1 - \theta) \left[\beta \left(\frac{1}{2} n^2 + n(m - n) \right) + (1 - \beta) (n(m - n)) \right] \quad (15)$$

Maximising (14) over θ and (15) over n results in

$$\begin{aligned} \theta_{PC} &= \frac{n_{PC} - m + I}{2I} \\ &= \frac{1}{6(2 - \beta)I} [4(2 - \beta)I - 2(1 - \beta)m - \rho] \end{aligned} \quad (16)$$

and

$$n_{PC} = \frac{1}{3(2 - \beta)} [(4 - \beta)m + (2 - \beta)I - \rho] \quad (17)$$

with

$\rho = \sqrt{(4 - 2\beta + \beta^2)m^2 + 2(2 - 3\beta + \beta^2)mI + (4 - 4\beta + \beta^2)I^2}$. Derivations are in appendix A, in which we also show that $\frac{\partial \theta_{PC}}{\partial \beta} > 0$ and $\frac{\partial n_{PC}}{\partial \beta} > 0$. It is easy to see that funneling is increasing over entry n , i.e. $\frac{\partial \theta_{PC}}{\partial n_{PC}} > 0$. ■

Entry n_{PC} increases in accountability β . The private bank owners collectively set funneling at θ_{PC} , which rises in n_{PC} . The reason is that total firm income $n_{PC}(m - n_{PC})$ falls over β , implying that the bank owners' losses at bank default also fall over β . As the potential gains from funneling stay the same, θ_{PC} increases over β . Thus, private captured banks are more fragile the higher β . Anticipating that θ_{PC} increases in n_{PC} , the politician chooses an $n_{PC} < n_S$ to reduce private bank owners' incentive to raise θ_{PC} .

¹⁵It is easy to see that the politician passes control of banks to a lobby group containing future entrepreneurs, as they have most to lose in case of a bank default. This limits funneling, and increases the politician's utility in (15). Hence, the bank owners' income $\Pi_{PD} = n_{PD}\pi_e(n_{PD})$

5.4 Private independent banking

Under private control of banks groups of citizens influence the politician's decision on investor protection $1 - \delta$. Given $1 - \delta$, only citizens with wealth $w_i \geq \delta I$ can become entrepreneur. As I is uniformly distributed entry is $(1 - \delta)m$. The politician also selects a limit on funneling $\lambda \in [\gamma, 1]$, where $\gamma \geq 0$ is the lowest level he can enforce.

Proposition 3 *Under private independent banking:*

(a) *Entry n_{PI} is increasing in political accountability β . Funneling is $\theta_{PI} = \lambda = \gamma$ and thus independent of β .*

(b) *The first lobbyist always wins by forming a 'rich' coalition of the wealthiest citizens with size n_{PI} , chosen such that all other groups can be outbid.*

Proof. Suppose that the bank is controlled by private citizens outside the winning coalition. Every bank owner $k \in K$ does not care about social welfare or firm profits and maximises his income π_b from 'selling' loans to entrepreneurs:

$$\pi_b = (1 - \theta)(p_k + \theta I)n_k \quad (18)$$

where p_k is the price of a loan and n_k is the number of loans sold by banker k , with the level of entry being $n = \sum_{k=1}^K n_k$. ■

Bank owners can fully appropriate the market by undercutting their rival(s) such that $p_k = 0$ and $n_k = n$, making money by trying to set $\theta = 1$. As the politician does not get any of the rents from funneling he maximises (5) by limiting θ_{PI} to γ .

Proof. We now calculate the equilibrium in the lobbying game, which coincides with the one under regulated entry in Perotti and Vorage (2009).

Suppose that the first lobby, or rich lobby, contains the Q_1 most wealthy entrepreneurs and offers (n_1, k_1) . The second lobby, or the counterlobby, contains an optimal share of the remaining $m - Q_1$ citizens and offers (n_2, r_2) with $n_2 = Q_1 + Q_2$ (as it can not block entry for Q_1).

To outbid the second lobby, the rich lobby needs to offer

$$k_1 \geq k_2 + \frac{\beta}{1-\beta} [s(n_2) - s(n_1)] \quad (19)$$

If equilibrium outcome $n_P = n_1 \vee n_P = m$, then $\pi_{e \in Q_2} = 0$. Therefore, the counterlobby offers all its potential profits to the politician, i.e. $k_2 = (n_2 - n_1)(m - n_2)$. To maximise the RHS of (19), $n_2 = \frac{m+n_1(1-\beta)}{2-\beta}$. Then, $\max_{n_1} \Pi_{Q_1}$ as in (4) subject to (19) yields entry of

$$n_1 = n_P = \frac{1 + (2 - \beta)(1 - \beta)}{1 + 2(2 - \beta)(1 - \beta)} m \quad (20)$$

To show that this is the equilibrium we prove in the appendix B that:

(i) the counterlobby is the biggest threat to the rich lobby:

$$U_p(n_2) \geq U_p(m) \text{ and } U_p(n_2) \geq U_p(n_j) \forall j > 2$$

By beating the counterlobby the IR-constraint in (9) and the IC-constraint in (10) are satisfied. Moreover, lobby groups $j > 2$ are 'irrelevant'.

(ii) the rich lobby prefers to outbid the counterlobby instead of free-riding on the counterlobby's offer:

Proof. $[\pi_{e \in Q_1} | n_P = n_1, k_1 > 0] > [\pi_{e \in Q_1} | n_P = n_2, k_1 = 0]$ ■

which is necessary for the IR-constraint in (8).

(iii) the IR-constraint in (7) is satisfied:

$$[\pi_e(n_P = n_1)] \geq 0 \quad \blacksquare$$

Under *PI* the richest citizens form a coalition pursuing low investor protection in order to block entry by poorer citizens and ensure high profits. Their lobbyist anticipates counteroffers and chooses a coalition size (and thus entry level) which allows him to outbid competing lobbyists. Entry n_{PI} increases in β because higher accountability β moves the politician's preferences closer to social welfare. The independent citizens that control banks try to funnel maximally, while ceading the generated rents to the entrepreneurs in an attempt to undercut competitors. The politician limits funneling to $\theta_{PI} = \gamma > 0$, and instability remains. Because bank control is in the hands on citizens outside the rich coalition, *PI* corresponds to independent banks empirically.

5.5 Comparing governance structures

In this section we compare the politician's utility, entry and funneling under state, private captured and private independent bank control for $m = \frac{1}{2}$, $I = \frac{1}{3}$, $\lambda = 0$ and $E = \frac{1}{30}$. Under any governance structure entry n is increasing in β , while funneling θ is nonincreasing in β under S , increasing in β under PC and independent of β under PI .

In figures 1a till 3 the dashed black line refers to state banks S , the solid grey line to private captured banks PC and the solid black line to private independent banks PI . Bold line segments are part of the equilibrium.

5.5.1 Politician's utility

The politician's utility of opportunistic behaviour reflects the excess utility a politician gets by accepting a lobby group offer, beyond the utility from implementing the social optimum through state banks. Therefore, it is $O_p = U_p - \beta s(n) + \beta E$.

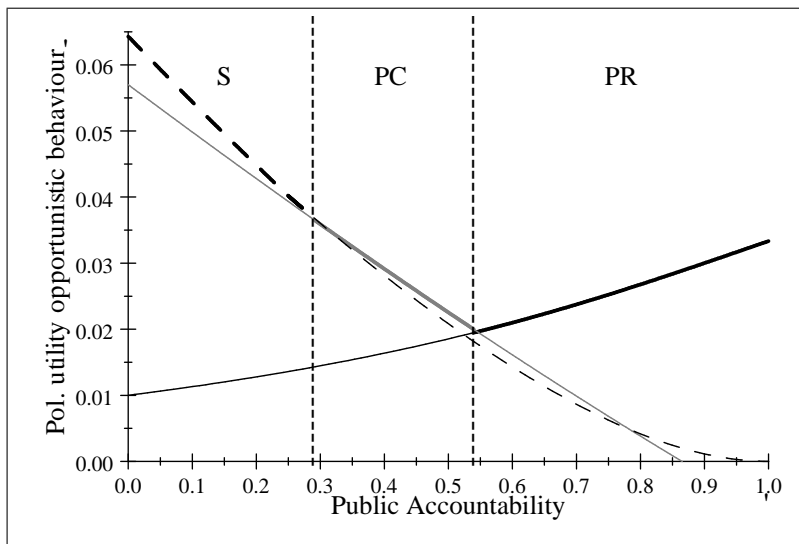


Figure 1a: Utility for $m = \frac{1}{2}$, $I = \frac{1}{3}$, $\lambda = 0$, $E = \frac{1}{30}$.

5.5.2 Funneling

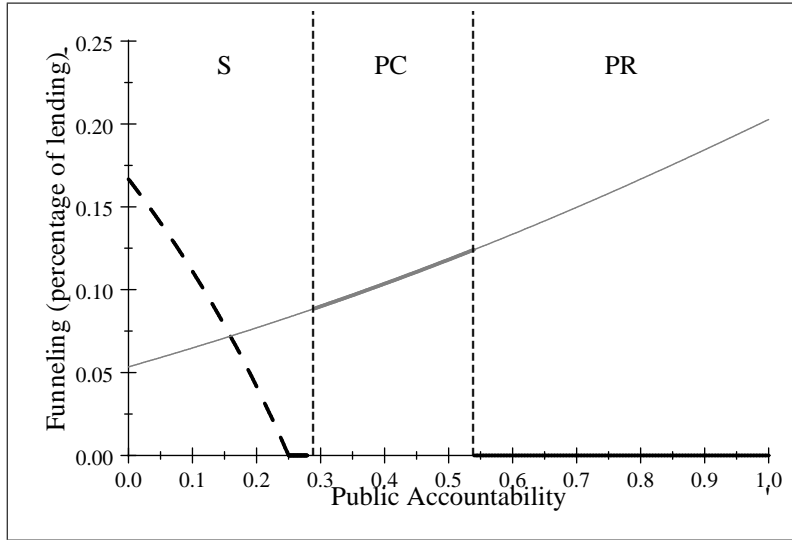


Figure 1b: Funneling for $m = \frac{1}{2}$, $I = \frac{1}{3}$, $\lambda = 0$, $E = \frac{1}{30}$.

5.5.3 Entry

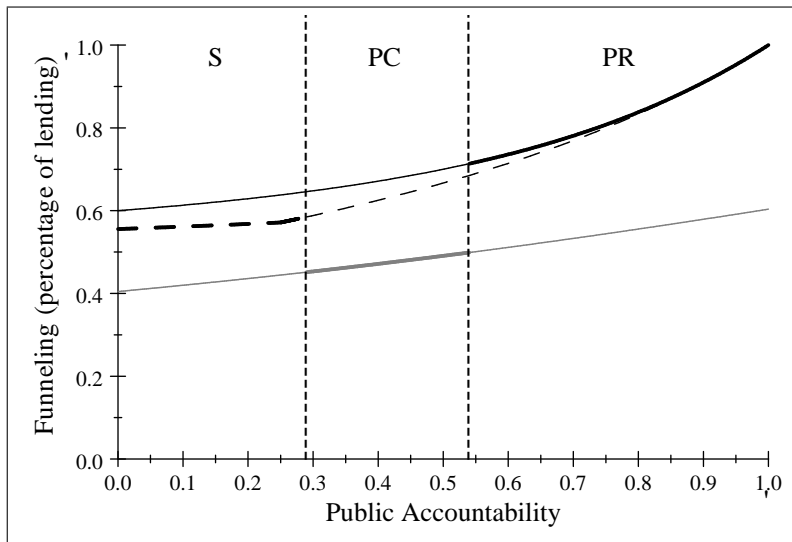


Figure 1c: Entry for $m = \frac{1}{2}$, $I = \frac{1}{3}$, $\lambda = 0$, $E = \frac{1}{30}$.

5.5.4 Intuition and main predictions

For political accountability β close to zero, the politician cares mainly for political rents, which are most effectively extracted under S . However, when accountability β or efficiency costs E are sufficiently high, bank governance shifts to PC . This still allows for high political rents, but forces the politician to delegate direct control over banks to entrepreneurs. These entrepreneurs funnel more funds out of banks the larger β , because entrepreneurs have less and less to lose upon bank default (their profits decrease in n , and thus in β). The political costs of a continuously rising θ_{PC} finally induce the politician to choose PI , which guarantees $\theta_{PI} = 0$ in this benchmark case ($\gamma = 0$). PI results in relatively high entry n_{PI} , but generates lower political rents. Figure 1c. shows that in contrast to a shift to PI , a transition from S to PC actually narrows access to finance and thus reduces competition in the market for final goods. The reason is that higher entry leads to greater banking instability under PC . Anticipating this, the politician prefers to reduce entry to a lower level.

Given that funneling θ_S falls with β and θ_{PC} rises with β , the average default rate under S is higher the faster the politician switches to PC , that is in those countries with higher efficiency costs E . The shift from line 0 to line 1 in Figure 2 illustrates this prediction.

Increasing initial investment I has two effects, both inducing higher financial fragility and making PC less likely. First of all it enables bank owners under S and PC to gain more from funneling, leading to a rise in funneling θ_S and θ_{PC} (and in entry levels n_S and n_{PC}). The rise in I results in higher default rates under PC especially. To limit the chance of default, S is optimal for higher political accountability β and PI is optimal for lower β . This effect results in a shift in equilibrium control from lines 0 to lines 1 in Figure 3. Secondly, because $m = a - I$, a larger I directly reduces firms' profitability. Therefore bank owners have less to lose from bank default and therefore funnel even more. This results in an even smaller region of β where PC is chosen, given by lines 2 in Figure 3.

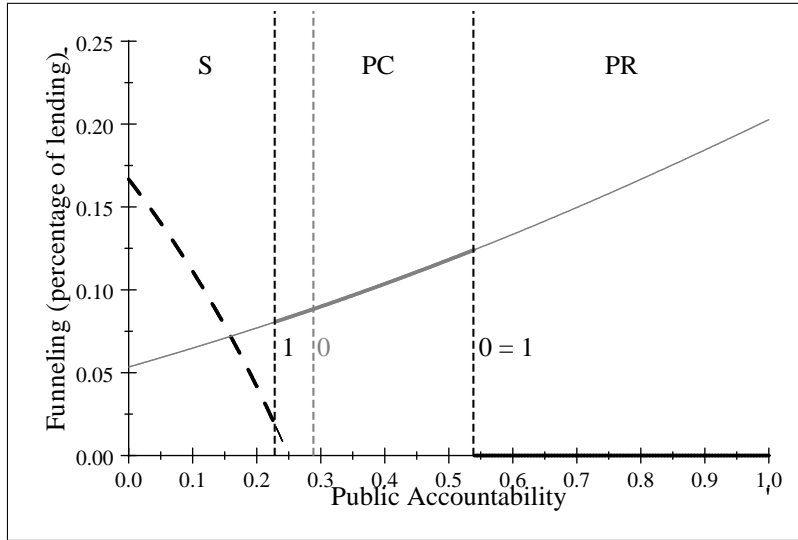


Figure 1: Figure 2: Funneling for $m = \frac{1}{2}, I = \frac{1}{3}, \lambda = 0, E = \frac{1}{30}$.

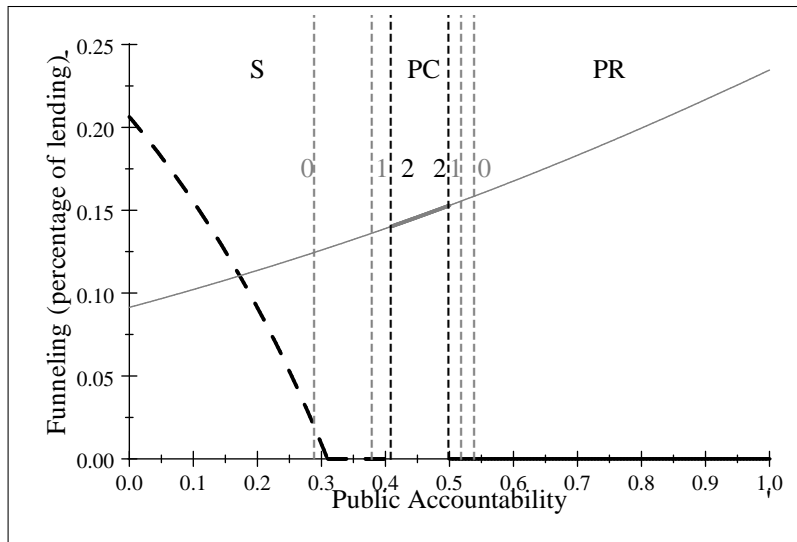


Figure 3: Funneling for $m = \frac{58}{120}, I = \frac{7}{20}, \lambda = 0, E = \frac{1}{30}$.

We finish by examining the effects of a reduction in the ability of the politician to reduce funneling under *PI*, i.e. a rise in γ . The rise in instability under *PI* induces the politician to allow *PC* for higher levels of β , as shown in Figure

4. For even higher β both *PC* and *PI* result in such high levels of funneling and instability, that the politician reinstates state control of banks *S* with zero funneling for an interval of high β , as shown in Figure 4.

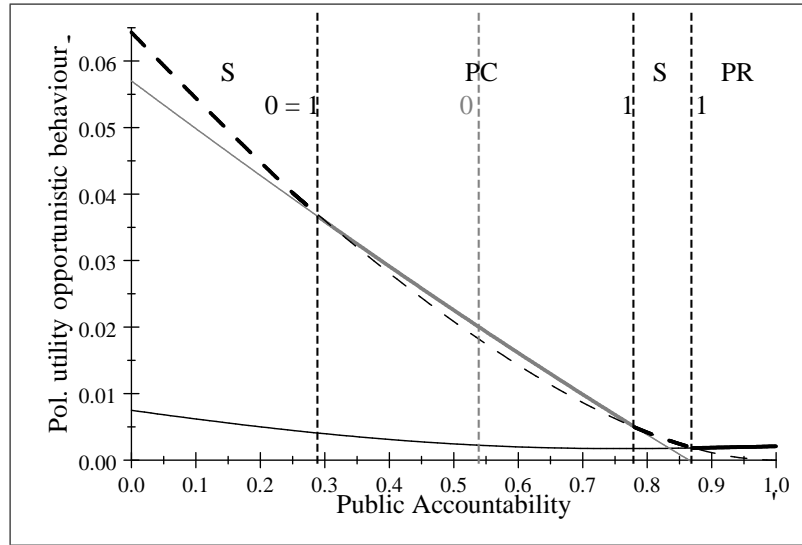


Figure 4: Utility for $m = \frac{1}{2}, I = \frac{1}{3}, \lambda = \frac{1}{4}, E = \frac{1}{30}$.

5.6 Summary of the model's implications

The testable implications of the model are:

(i) state control of banks is predominant for low, private captured control (family banks) for intermediate and private regulated control (independent banks) for high levels of political accountability. Potentially there is state control for high accountability in countries where the politician's capacity to reduce funneling in private banks is weak.

(ii) in countries with predominantly state and especially private captured banks there is low entry and hence slower economic development.

(iii) banking crises are more likely when political accountability is low or intermediate, and especially in family banks. This effect is stronger the greater the politician's capacity to limit funneling in independent banks.

(iv) the larger state bank inefficiencies, the lower the accountability levels

for which state banks persist. Interestingly, these state banks are more fragile on average.

In section 3 we provided evidence for prediction (i), which can be found in Table 3. Using the same bank ownership data, Morck, Yavuz and Yeung (2009) empirically investigate the effects of bank ownership on a range of economic variables. They show that capital allocation efficiency (the elasticity of capital spending with respect to value added) is decreasing in the share of family banks. Economic growth is lowest under family, intermediate under state and highest under independent banking. These results are consistent with prediction (ii). In addition they find that the share of nonperforming loans is increasing in the share of family banks and that banking crises are most likely with family banks, less likely with state banks and least likely with an independent banking sector as predicted in (iii). In recent times politicians have been unable to sufficiently reduce the risk of default in independent banks and have placed some of them under state control.

6 Conclusion

This paper investigates a politician's choice for state, captured private or independent private control of banks, anticipating how this choice influences activities by special interests seeking exclusive access to finance. In state and private captured banks bankers can freely channel funds to any citizen and negotiate the repayment of the loan, in private independent banks they can not. Moreover, state banks are less efficient than private banks. We show that these differences can substantially affect the formation of interest groups, the allocation of finance, competition on the final goods market and the incidence of banking crises.

Abuse of political power is constrained by the ability of citizens to question and challenge political action, i.e. political accountability. We predict that state control of banks is more likely in countries with lower political accountability. When accountability increases, the efficiency costs in state banks induce politicians to privatise banks. At intermediate levels of political account-

ability, private banks are allowed to be captured, such that substantial rents can be extracted. As political accountability rises further, excessive funneling and subsequent bank default induce politicians to regulate lending and constrain opportunism through independent banking. However, as some diversion of funds is also present in private independent banks, the state may retake control of banks even for relatively high accountability.

The approach suggests some novel empirical implications. In general state banks are dominant for low, private captured banks for intermediate and private independent banks for high political accountability. Secondly, costs in state banks induce politicians to privatise state banks. Thirdly, it is in the politician's interest to tolerate funneling in private captured banks and rule it out (as much as possible) in private independent banks. Fourthly, a transition to private captured banks narrows rather than broadens access to finance and can increase the incidence of banking crises. A shift to private independent banks however is beneficial for social welfare as it broadens access to finance. Finally, when initial investments are higher, captured private control induces higher bank default. To reduce bank defaults, captured private banks are replaced by state or private independent banks, depending on accountability. We have reviewed existing and presented some new support for these predictions.

The model may be completed and extended in various directions. A question we do not address directly is what the impact of political institutions is on the stock of funding available. Since North and Weingast (1989) and La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998), we know that financial market development depends on minimum political and legal guarantees for investors.

An important conclusion of the model is that bank privatisation may reflect a risky political choice, as it is likely to take place under condition of limited accountability. The results suggest that the political incentives in such cases are likely to produce poor regulation and may lead to greater instability due to related and corrupt lending. In particular, adequate capitalisation may be a necessary demand to avoid opportunistic related lending, as in Mexico prior to the 1994 or in Russia prior to 1998.

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Appendices

A. Private captured lending

Now the bank owner decides upon θ , and the politician upon n . We maximise (14) over θ . Finally, we need to maximise (15) over n given θ :

$$E(\pi_e) = (1 - \theta) [(m - n) + \theta I] \quad (21)$$

Taking the first order condition results in:

$$\begin{aligned} \frac{\partial \pi_e}{\partial \theta} &= (n - m + I - 2.0\theta I) = 0 \\ \Leftrightarrow \theta_{PC} &= \frac{1}{2I} (n - m + I) = \frac{1}{2} - \frac{m - n}{I} \end{aligned} \quad (22)$$

We plug (20) in (15):

$$\begin{aligned} U_p(\theta, n) &= (1 - \theta) [\beta s(n) + (1 - \beta) r(n)] \\ &= (1 - \theta) \left[\beta \left[\frac{1}{2} n^2 + n(m - n) \right] + (1 - \beta) n(m - n) \right] \\ &= \left(1 - \frac{1}{2I} (n - m + I) \right) \\ &\quad \left(\beta \left(\frac{1}{2} n^2 + n(m - n) \right) + (1 - \beta) n(m - n) \right) \end{aligned} \quad (23)$$

This gives us

$$\begin{aligned} \frac{\partial U_p}{\partial n} &= \frac{1}{4I} (2mI - 4nI - 3n^2\beta - 8mn + 2m^2 + 6n^2 + 2mn\beta + 2n\beta I) = 0 \\ \Leftrightarrow n_{PC} &= \frac{1}{3(2 - \beta)} [(4 - \beta)m + (2 - \beta)I - \rho] \end{aligned} \quad (24)$$

with $\rho = \sqrt{(4 - 2\beta + \beta^2)m^2 + 2(2 - 3\beta + \beta^2)mI + (4 - 4\beta + \beta^2)I^2}$.

Substituting this into (22) yields

$$\theta_{PC} = \frac{1}{6(2 - \beta)I} [4(2 - \beta)I - 2(1 - \beta)m - \rho] \quad (25)$$

Taking derivatives results in

$$\frac{\partial n_{PC}}{\partial \beta} = -\frac{m}{3(2 - \beta)^2} \frac{(2 + \beta)m - (2 - \beta)I - 2\rho}{\rho} > 0 \text{ and } \frac{\partial \theta_{PC}}{\partial \beta} = -\frac{m}{6I(2 - \beta)^2} \frac{(2 + \beta)m - (2 - \beta)I - 2\rho}{\rho} > 0.$$

B. Private regulated lending

(i) *the counterlobby is the biggest threat for the rich lobby*

For the politician, $U_p(n_2) > U_p(m)$ if

$$\begin{aligned} & \beta s(n_2) + (1 - \beta) r_2 \geq \beta s(m) \quad (26) \\ \Leftrightarrow & 1 + \frac{(1 - \beta)^4 (2 - \beta)}{\beta (1 + 2(1 - \beta)(2 - \beta))^2} \geq 1 \text{ for all } \beta \in [0, 1] \end{aligned}$$

The counterlobby thus makes an offer superior to the social optimum.

The politician's utility from offer (n_j, r_j) with $r_j = n_j(m - n_j)$ is

$$U_p(n_j) = \beta s(n_j) + (1 - \beta) n_j (m - n_j) \quad (27)$$

Taking a derivative yields $\frac{\partial U_p(n_j)}{\partial n_j} = m - (2 - \beta)n_j \leq 0 \Leftrightarrow n_j \geq \frac{m}{2 - \beta}$. This condition is satisfied for $n_j \geq n_1 \geq \frac{m}{2 - \beta}$. Therefore, $U_p(n_2) \geq U_p(n_j) \forall j > 2$, i.e. lobbyists $j > 2$ never win.

(ii) the rich lobby prefers to outbid the counterlobby instead of free-riding on its offer

We show that if the counterlobby would allow free-riding by the rich lobby, the rich lobby's profits are lower than by outbidding the counterlobby. Although the counterlobby is not even always willing to let the rich lobby free-ride, this situation represents the best situation the rich lobby could ever achieve by free-riding.

We will start with the third lobby, then treat the counterlobby and finally reach the rich lobby.

The poor lobby has zero profits if not outbidding the counterlobby and is thus willing to spend all potential profits on lobbying. It maximises the threat to the counterlobby:

maximise

$$\max_{n_3} r(n_2) = (n_3 - n_2)(m - n_3) + \frac{\beta}{1 - \beta} (s(n_3) - s(n_2)) \quad (28)$$

yielding $n_3 = \frac{m + (1 - \beta)n_2}{2 - \beta}$.

Then, the counterlobby is formed by

$$\max_{n_2} (n_2 - n_1)(m - n_2) - r(n_2|n_3) \quad (29)$$

resulting in $n_2 = \frac{3(1 - \beta + \beta^2)m + (1 - \beta)(2 - \beta)n_1}{1 + 2(1 - \beta)(2 - \beta)}$.

The rich lobby's size is determined to maximise its income

$$\max_{n_1} n_1(m - n_2) \quad (30)$$

which gives $n_1 = \frac{1}{2}m \Rightarrow n_2 = \frac{1}{2} \frac{2+3(1-\beta)(2-\beta)}{1+2(1-\beta)(2-\beta)}m \wedge n_3 = \frac{1}{2} \frac{2+(1-\beta)(7-3\beta)}{1+2(1-\beta)(2-\beta)}m$ such that $n_1 < n_2 \leq n_3 \leq m$.

When the counterlobby is willing to let the rich lobby free-ride, the rich lobby has profits of $n_1 (m - n_2) = \frac{1}{4} \frac{(1-\beta)(2-\beta)}{1+2(1-\beta)(2-\beta)}m^2$.

This is smaller than the profits of the rich lobby by optimally outbidding the counterlobby, which are $\frac{1}{2} \frac{(1-\beta)(2-\beta)}{1+2(2-\beta)(1-\beta)}m^2$, thus twice as high.

(iii) the individual rationality constraint of the members of both lobbies are satisfied

From point (ii) and knowing that $[\pi_{e \notin Q_1} | n_P = n_1] = 0$ we conclude that $\pi_e(n_P = n_1) \geq 0$.

Table 1. Variable Description			
	Variable	Source	Description
Panel A. Dependent Variable			
1	Bank Control	Morck, Yavuz and Yeung (2009)	Extension of data from Caprio, Laeven and Levine (2007) who trace back the ultimate ownership and voting rights of the 10 largest listed banks in 44 countries at the end of 2001. The new data includes unlisted banks and reclassify banks as state-controlled, a family-controlled or independent.
Panel B. Explanatory Variable			
2	Polity2	Marshall, Jaggers and Gurr	Combination of measures of autocracy and democracy in a given country, from -10 to 10. We take the average over the last five years (from 1997 to 2001), because transitions in bank ownership take time. See http://www.systemicpeace.org/polity/polity4.htm .
Panel C. Instruments for Polity2			
3	Newspaper, radio, television and computer diffusion.	World Development Indicators from the World Bank.	Newspaper circulation in 1996, number of radio's in 1997, number of televisions in 1997 and number of personal computers in 1997, all per 1000 people. Note: 1997 is the start of our Polity2-window (no data on newspaper circulation for 1997).
4	Ethnic, Language and Religious Fractionalisation	Alesina, Devleeschauwer, Easterly, Kurlat and Wacziarg (2003)	The fractionalisation score in a country j is $1 - \sum s_{ij}$ where s_{ij} is the share of a given group i in country j , that is one minus the Herfindahl index.
5	Latitude	CIA Factbook	Latitude of a country's capital city.
6	Parking Violations	Fisman and Miguel (2008)	Parking violations per UN-diplomat from Nov. 1997 till Nov. 2002, when stricter rules were introduced.
Panel D. Control Variables			
7	GDP	IMF	GDP per capita in US-dollars.
8	Legal Origin	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1999)	Division of countries in English, French, German, Scandinavian and Socialist legal origin.

Table 2. Descriptive Statistics						
Sample: is 44 countries from Morck, Yavuz and Yeung (2008)						
Dropped due to missing values for Polity2, newspaper readership in 1996 or parking violations: India, Hong Kong, Taiwan and the United States. Hence, our sample contains 40 countries.						
The variables 'State', 'Family' and 'Independent' refer to the fraction of votes in the ten largest banks in a country controlled by respectively the state, a family or individual and independent parties at the end of 2001.						
		Mean	Median	Standard Deviation	Minimum	Maximum
Panel A. Bank Control Indexes						
1	<i>State</i>	0.26	0.20	0.31	0.00	1.00
2	<i>Family</i>	0.30	0.18	0.31	0.00	1.00
3	<i>Independent</i>	0.45	0.38	0.39	0.00	1.00
Panel B. Political Accountability						
4	<i>Polity2 (5-year average)</i>	6.75	9.00	4.65	-6.00	10.00
Panel C. Instruments						
5	<i>Newspaper circulation in 1996</i>	187.60	136.50	160.74	0.00	588.00
6	<i>Radio ownership in 1997</i>	640.05	550.50	447.97	93.00	2146.00
7	<i>Television ownership in 1997</i>	353.85	331.00	210.37	19.00	708.00
8	<i>Computer ownership in 1997</i>	136.11	64.25	132.62	2.30	399.50
9	<i>Ethnic fractionalisation</i>	0.34	0.29	0.25	0.00	0.86
10	<i>Language fractionalisation</i>	0.30	0.18	0.28	0.00	0.89
11	<i>Religious fractionalisation</i>	0.41	0.37	0.24	0.00	0.86
12	<i>Latitude</i>	0.36	0.36	0.21	0.01	0.71
13	<i>Parking violations</i>	12.37	3.00	25.50	0.00	139.60
Panel D. Controls						
14	<i>Per capita GDP in \$, 2001</i>	13211	10719	11638	316	37840
15	<i>English legal origin</i>	0.33	0.00	0.47	0.00	1.00
16	<i>French legal origin</i>	0.45	0.00	0.50	0.00	1.00
17	<i>Scandinavian legal origin</i>	0.10	0.00	0.30	0.00	1.00
18	<i>German legal origin</i>	0.13	0.00	0.33	0.00	1.00
Panel E. Comparing Means of Bank Control depending on Political Accountability.						
		<i>Polity2 ≤ 0</i>		<i>Polity2 > 0</i>		
		<i>Mean</i>	<i>Stand. Dev.</i>	<i>Mean</i>	<i>Stand. Dev.</i>	<i>T-Test</i>
19	<i>State</i>	0.477	0.493	0.219	0.260	0.030**
20	<i>Family</i>	0.333	0.483	0.289	0.283	0.376
21	<i>Independent</i>	0.192	0.401	0.494	0.372	0.039**
		<i>Polity2 ≤ 6.75</i>		<i>Polity2 > 6.75</i>		
		<i>Mean</i>	<i>Stand. Dev.</i>	<i>Mean</i>	<i>Stand. Dev.</i>	<i>T-Test</i>
22	<i>State</i>	0.396	0.456	0.211	0.239	0.052*
23	<i>Family</i>	0.403	0.427	0.259	0.264	0.107
24	<i>Independent</i>	0.203	0.318	0.530	0.377	0.019**

*,** and *** denote significance at 10%, 5% and 1%.

TABLE 3

Political Accountability and Bank Control

The table shows robust cross-country IV-regressions. Dependent variables are in columns and instrumented explanatory variables are in rows. The variables 'State', 'Family' and 'Independent' refer to the fraction of votes in the ten largest banks in a country controlled by respectively the state, a family or individual and independent parties at the end of 2001. Other variables are as given in Table 1. P-values are in parentheses.

	% of State Controlled Banks		% of Family Controlled Banks		% of Independent Banks	
	(1)	(2)	(5)	(6)	(9)	(10)
Polity2	-0.038*** (0.001)	-0.030** (0.039)	0.044* (0.064)	0.044* (0.093)	0.053*** (0.000)	0.032** (0.046)
Polity2sq			-0.009*** (0.004)	-0.013*** (0.002)		
English legal origin	-0.125 (0.394)	-0.165 (0.268)	0.130 (0.384)	0.098 (0.573)	-0.105 (0.559)	-0.011 (0.950)
French legal origin	-0.044 (0.750)	-0.111 (0.465)	0.227 (0.109)	0.233 (0.188)	-0.306* (0.069)	-0.145 (0.396)
Scandinavian legal origin	-0.084 (0.632)	-0.064 (0.709)	0.077 (0.666)	0.113 (0.564)	0.004 (0.986)	-0.044 (0.819)
per capita GDP (in 10.000\$)		-0.055 (0.357)		0.387* (0.058)		0.132** (0.049)
per capita GDPsq (in \$100.000.000)				-0.091* (0.087)		
Constant	0.573*** (0.000)	0.630*** (0.000)	0.415** (0.021)	0.456** (0.023)	0.285 (0.150)	0.148 (0.433)
N	40	40	40	40	40	40
Sargan-statistic P-Value Chi-square	0.1169	0.1104	0.2054	0.4339	0.2797	0.1839

*, ** and *** denote significance at 10%, 5% and 1%.