Bank Instability, Conflict of Interests, and Institutions

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Abstract

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I consider bank instability as the outcome of the conflict of interests a bank faces acting as financial intermediary between borrowers and depositors. Banks engage in two principal-agent relationships – one with borrowers where it acts as principal and one with depositors where it acts as agent. As such, a bank necessarily finds itself in competing and potentially compromising relationships. Because bank activities take place within the tangible and intangible structure of institutions and because behavior is affected by the incentives or disincentives they create, institutions – legal, political, sociologic, economic, and banking – can shape, in part the outcome of the transactions. I explore the role played by these institutions in moderating the conflict of interests and thus bank instability. I find that bank regulation and supervision measures as well as corruption and ethnic heterogeneity impacts bank instability.

No man can serve two masters: for either he will hate the one, and love the other; or else he will be devoted to the one and despise the other. You cannot serve both God and money.
Matthew 6:24

I.   Introduction

The scandals of Enron and WorldComm corporations are real world examples of how a potential conflict of interests present in any principal-agent relationship can turn into a real event that destabilizes the acting firm and can confer instability on the entire business sector. The principal-agent relationship is not just a paradigm for businesses; it can be one for banks, too. The American Bar Association's Code of Professional Responsibility explicitly recognizes the potential 'dilution of loyalties' faced by a lawyer representing both the borrower and lender in a transaction and warns against involvement in such dual representation. Yet banks, which find themselves as intermediaries between borrowers and depositors are in the business of doing just that.

Banks, acting as intermediaries between borrowers and lenders (depositors) can be thought of as engaging in two principal-agent relationships – one with its borrowers where it acts as principal and one with its depositors where it acts as agent. As an intermediary, a bank wears two hats and necessarily finds itself in competing and potentially compromising relationships. Indeed, the whole of bank regulation and supervision is designed to ameliorate the potential conflict of interests in both banking relationships so that bank instability can be avoided.[i] The Basel Accord also gives a set of international banking guidelines for the express purpose of avoiding bank instability that can emerge when banks act as borrower and lender.

The consequences of bank instability are not new and are not pretty. Glick and Hutchison (1999) count ninety banking crises between 1975-97. Hutchison and McDill (1999) report losses in output on average of 7.3% and time to recovery on average of 3.3 years. Caprio and Klingebiel (1999) report crisis duration of up to seven years, as in the case of Ghana.

These are not the only consequences of banking sector distress. Brewer, et. al. (2002) also recognize that bank failures have adverse effects on customer firms. Firms of failed banks may temporarily lose an ongoing source of funding and encounter search and information costs of securing another lender. Kaminsky and Reinhart (1999) show that, in many cases, banking crises precede currency crises. Bordo and Eichengreen (2002) show the costs of "twin crises" are about two-three times a banking crisis alone. Banking crises also interrupt financial development and capital inflows and thus, economic progress, too.

I view bank instability, in part, as the material outcome of the propensity for the potential conflict of interests between principal and agent (be it depositors and banks or banks and borrowers) to turn into an actual conflict of interests within a given institutional structure. Caprio (1998) has argued that information and incentive problems are the fundamental determinants of financial crises. These are part and parcel of the principal-agent problem. To be sure, banks acting as intermediaries between disperse savers and borrowers alleviate information and incentive problems. However, banks face the principal-agent problem themselves when acting as intermediary. Banks serve as principal for borrowing firms yet as agent for depositors. In each of these relationships lies a potential conflict of interest.

What role do institutions play in moderating the conflict of interests – in helping to align interests – so that instability in the banking system is reduced? To be sure, bank regulation and supervision is a primary 'institution' affecting bank behavior and directed at eschewing a conflict of interests. But there are others. A country's 'social infrastructure' – its legal, political, sociologic, and economic institutions may also impact the behavior played out in any principal-agent relationship including banking relationships. Since stability in the banking system has positive consequences for economic growth, the answers may help contribute to economic growth.

I measure bank instability not with banking crises data, but with aggregate data on nonperforming loans as well as with bank-specific data across countries. The data enables me to

avoid problems associated with the dating of banking crises and with characterizing banking crises as zero-one events which obfuscates the magnitude of the crisis. I also rely on several new databases on institutions to capture a spectrum of financial, economic, legal, political, and sociologic factors that surround the principal-agent relationship for banks.

A preview of the strongest, most persistent findings, whether at the aggregate or bank-specific level, includes: (1) a higher degree of corruption raises bank instability; (2) deposit insurance raises bank instability; (3) a higher degree of ethnic heterogeneity is associated with higher bank instability; (4) restrictions on bank participation in securities activities reduce bank instability; and at the bank-specific level, disclosure of offbalance sheet items, disclosure of risk management practices, and the imposition of sanctions on bank management and directors for infractions of cease and desist-type orders reduce bank instability. The findings provide strong support for the hypothesis that institutions that help to suppress the potential conflict of interests between banks and depositors and borrowers and banks leads to a reduction in bank instability.

The remainder of the paper is organized as follows. Section II reviews the literature on institutions and bank instability. Section III presents the principal-agent relationship applied to banks. A simple model is also presented. Section IV discusses the data on bank instability and institutions and presents simple correlations. Section V reports the empirical findings and Section VI concludes.

II.   Institutions and Bank Instability

Banking sector instability harms countries, particularly developing and emerging countries where reliance on bank credit is central for investment – a key to economic growth. Because problems in the banking sector can interfere with progress on economic growth, it seems natural that recent research on the effect of institutions on economic growth is being carried over to help understand bank instability. Beginning with the seminal work of Barro (1991) who

showed that countries with political instability are likely to experience lower rates of economic growth, the nexus between economics, finance, law, politics, and sociology in understanding success in economic growth are being studied. Factors like financial liberalization, legal origin, rule of law, corruption, property rights, democracy, social cohesion, and trust are being considered for their contribution to economic growth.[ii]

Not surprisingly, the latest developments in the literature on financial development and crises are beginning to highlight the role played by "institutions".[iii] Institutions, broadly speaking, affect transactions costs as pointed out by Fukayama (1995), expected payoffs, perceptions of risk, and information shared by the contracting parties. According to Lin and Nugent (1995), institutions are defined broadly as "a set of humanly devised behavioral rules that govern and shape the interactions of human beings, in part by helping them to form expectations of what other people will do." Implicit in this definition is the notion that uncertainty is prevalent in interactions. In fact, uncertainty is featured to some degree or another in every transaction and every decision.[iv] Whether obvious or not, uncertainty is attempted to be overcome, reduced, or its effects shared through legal structures, social norms, rules of the game, or an accepted modicum of trust. These are what Rodrik (1999) refers to as 'non-market institutions'. He says "…the market economy is necessarily 'embedded' in a set of non-market institutions." In Hall and Jones (1999) terminology, this would be "social infrastructure" and in Knack and Keefer's (1997) terminology "social capital." While institutions may be state-dependent, they are not time-dependent. That is, a characteristic of institutions is their relative permanence. Month-to-month, even year-to-year variation is not a feature of institutions.

Given Lin and Nugent's definition of institutions and their relative permanence, there are many facets of the financial, economic, legal, political, and sociologic landscape that can be construed as institutions. For example, finance institutions range from deposit insurance schemes, to regulation and supervision of the banking system, to measures of financial liberalization. These affect how banks interact with depositors and borrowers and what

borrowers and depositors expect from the bank. Economic institutions may include the tax system and how it is financed, the degree of competition, the independence of the central bank, the extent of government interference in the market place, and so on. Legal institutions may include the legal origin of the country, property rights, shareholder and creditor rights, adherence to the rule of law, contract enforcement, and even justice. Political institutions can mean the quality of bureaucracy, the extent of democracy, political cohesion, representation and voice, and accountability, whereas sociologic institutions would be factors like trust, ethnicity, education, and income polarization.   Any or all of these[v] may directly or indirectly affect how banks or bank management interacts with its customers – be they depositors or borrowers – and how customers interact with banks.

Since the seminal work of La Porta, et. al. (1997, 1998), numerous contributions linking institutions to aspects of financial development and financial stability have begun to appear. La Porta, et. al. (1997) show that legal origin, investor protection, and the quality of law enforcement affect the size of capital markets. Demirguc-Kunt and Detragiache (1997) finds that banking crises may be adversely impacted, not only by poor macro fundamentals, but by deposit insurance schemes as well as weak law enforcement.   Levine (1998) considers the role of legal origin and contract enforcement in bank development and relates it to economic growth. La Porta, et. al. (1998) find that government ownership of banks is negatively correlated with measures of financial development (significantly so, in some cases) and positively correlated with banking crises, though not significant. Hutchinson and McDill (1999) report evidence that financial liberalization and explicit deposit insurance increase the probability of banking crises whereas central bank independence reduces it.

Mehrez and Kaufmann (1999) consider the effects of transparency (lack of pure information) on banking crises in financially liberalized markets. A lack of transparency, which manifests as uncertainty, can lead to poor lending decisions which are the basis for the crisis. Empirically, they find that countries with low transparency are more likely to suffer banking

crises. Since they measure transparency from an index of corruption, it is also possible that corruption is the determining factor in banking crises.

Eichengreen and Arteta (2000, p. 20) empirically investigate numerous determinants of "crisis risk." They find evidence that "crises are more likely when domestic financial markets are liberalized." They find mixed evidence regarding whether capital account liberalization, deposit insurance, and law and order, separately affect banking system stability. According to Eichengreen and Arteta (2000, p. 3), the list of leading suspects in banking crises "are lending booms, the exchange rate regime, destabilizing external factors, precipitous financial liberalization, inadequate prudential supervision, and weaknesses in the legal and institutional framework." However, they go on to say that there is no consensus on these factors, in part due to divergent time frames, country groups, and explanatory variables used in the studies.

Hellmann, Murdock, and Stiglitz (2000) show that in an environment of financial market liberalization which fosters competition, banks are more likely to "gamble." That is, they are more likely to make risky loans. They state (p. 148) that "there is thus an inconsistency of [domestic] interest-rate liberalization and prudential bank behavior." They also demonstrate that capital requirements for banks can deter gambling. Calderon, Chong, and Galindo (2001) find evidence that trust is positively correlated with aggregate measures of financial depth, financial efficiency, and stock market development.

Related to the role of information in banking crises is Keefer (2001). Keefer (p. 16) argues that government policies play a significant role in determining whether banks choose prudent or imprudent strategies." As such, government policies can impact the magnitude of crises (as measured by their fiscal cost). Keefer goes further and asks "what impacts government policies?" He suggests more "policy distortions" arise when there are fewer veto players and when voters are less informed. He finds that the cost of banking crises are lower with more informed voters, a larger number of veto players, and how close elections are to the time of crisis.

Beck, et. al. (2002) includes the role of legal systems, disease, and geographical environment in relating financial development to economic growth. Grigoran and Manole (2002) in examining transitional economies find that foreign ownership increases bank efficiency while the effects of prudential tightening differ.

Banking sector fragility (and bank performance) is exhaustively studied by Barth, Caprio, and Levine (2002) who undertake a study of the banking systems of one-hundred seven countries using measures of regulation and supervision gathered in their earlier work. They examine whether a host of regulations on capital adequacy, supervisory power, regulations on mixing banking and commerce, and government ownership of banks, to name a few, affect bank fragility. They conclude (p. 40) that "regulatory and supervisory practices that (1) force accurate information disclosure; (2) empower private sector corporate control of banks; and (3) foster incentives for private agents to exert corporate control work best to promote bank performance and stability."

In a related paper, Barth, Nolle, Phumiwasana, and Yago (2002), consider whether the structure, scope, or independence of bank supervision affects the bank profitability. They find preliminary evidence that suggests little effect of the structure of supervision on bank profitability and suggest that these factors may be more important for bank safety and soundness as well as development of the banking system.

III.   Banks and the Principal-Agent Relationship

A simplistic example will suffice to draw attention to the main points of the principal-agent problem in the context of bank lending.[vi] The example will also highlight some of the scenarios most relevant to banking sector instability. The simple example can be used to illustrate two scenarios: (1) a bank's relationship with a borrowing firm; and (2) depositors' relationship with a bank. While the example is developed around monetary gifts that do not

require a payback as a loan would, the main points in the context of banking are still obvious. A brief discussion addresses the main points in the context of loans rather than monetary gifts. Generic conclusions will then be drawn about the principal-agent problem.

III.1. *Principal-Agent Relationships in Banking*

Assume a benevolent principal gives money to an agent to spend on a project the agent wants to undertake.[vii] The principal's interests is in ensuring the project's success whereas the agent's interest may or may not be the same. The agent's interest may be a desire for project success or it may be to use the money for purposes unrelated to the success of the project. Thus, the principal has uncertainty about whether the agent is a 'low type' interested in squandering the money, say for personal benefit, or a 'high type' with interests in securing the success of the project.

If the agent's interest is in using the money for personal benefit, the agent may bribe the principal (or a subset of the principals) by offering the chance to participate in squandering the money. Or, the agent may misrepresent to the principal how the money is being used. Without perfect knowledge about what type the agent is, monitoring and enforcement on how the money is spent will be necessary by the principal to help ensure the desired outcome. The threat of penalties and legal action may also suppress low-type behavior.

The incentive of the agent to act in the interests of the principal may also be impacted by, among other things, imposing a proviso that the money be paid back with interest. The introduction of payback features makes the example operationally closer to the case between a lender and a borrower. Given the agent must now pay back the money, it may be more willing to use the money in a way that satisfies the interests of the principal. The agent recognizes that paying back the money will be easier the more successful the project is. In this case, the payback feature creates an incentive-compatible constraint that helps align the interests of the agent with

the interests of the principal. In a repeated game context, the principal can further enhance this incentive-compatibility by making it known that the agent will receive fewer loans (or harsher terms) in the future should it fail to pay back the money.

In the example above, I have been deliberately oblique in identifying the principal as either the bank or as the depositors and the agent as either the borrower or as the bank. This is because the example illustrates both relationships the bank finds itself in. When lending to borrowers, the bank is the principal and the borrowers are the agent. When lending to banks, depositors are the principal and the bank is the agent.

Clearly, conflict of interests separates the actions of the agent from those desired by the principal and makes uncertain whether the outcome desired by the principal will be achieved. The fundamental question is, what generates the potential (or actual) conflict of interests? Why does the agent not share the interests of the principal? Why might borrowers not share the interest of lending banks and why might banks not share the interests of their depositors? The answer originates with human behavior which is in part influenced by institutions, the subject of the next section.

III.2. *The Role of Institutions in the Principle-Agent Relationship and Conflict of Interests*

It is imperative to remember that the entities – "banks", "depositors", and "borrowers" – are not aggregate abstractions. Banks (or better, bank management), depositors, and borrowers are, at the disaggregated level, a collection of humans endowed with wants and needs expressed through behavior. Such behavior may operate within the confines of well-defined institutions such as banking rules, regulation, and supervisory practices, or broad legal practices. For example, the presence of a deposit insurance scheme may cause the interests of the bank, as agent, to depart from the interest of its depositors (the principal). This is the well-known moral hazard problem of insurance. For another example, banks for which there are no limits on the

extent of ownership by a single individual/entity may be more likely to engage in self-interested behavior at the expense of the depositors. Equally, the degree to which a country's legal system embraces a well-defined set of property rights may impact the degree to which self-interested behavior by agents – borrowers or bankers – outside of contractual agreements materializes. A well-defined system of property rights may thus help mitigate conflict of interests.

While the behavior of bank management, depositors, and borrowers is circumscribed overtly by, e.g. banking[viii] and legal institutions, there are other 'institutions' that may affect the behavior of bank management, depositors, and borrowers. These institutions may be political, sociologic, or economic and they may determine how transactions are conducted between a principal and agent, within or outside of banking and legal institutions. Consequently, these institutions, too, may determine the degree of conflict of interests and thus the outcome of transactions between bankers and borrowers and bankers and depositors.

A few examples may suffice to give the general flavor of hypotheses linking political, sociologic, and economic institutions with conflict of interests. For example, in countries with greater voice in the political process, laws and regulations are more likely to be 'fair' in the sense that they do not cater to one group at the expense of another. Consequently, countries with greater voice are likely to see a smaller spread in interests between principal and agent. In a banking context, this means that the potential conflict of interests between depositors and bankers and bankers and borrowers will be smaller.

For an example of a sociologic institution, consider the degree of ethnic fractionalization. In a country with a high degree of ethnic fractionalization, the probability of a banker and a borrower sharing the same ethnicity is lower. In countries where 'ethnicity' is synonymous with 'oppression,' both parties may act in ways contrary to what is contracted. Thus, the ex post behavior of the banker and the borrower may be less efficient than were ethnicity the same. For an example of an economic institution, consider a country with a high degree of government intervention, say in the form of wage controls. The stricture of wage controls may incite bank

management to feel conduct outside of any agreed contract with depositors is justified when their salaries are suppressed.[ix] Consequently, conflict of interests between banker and depositors may be wider in countries with wage and price controls than without. Equally, the extent of corruption pervasive in a society may impact the degree to which self-interested behavior by agents will prevail resulting in a greater spread in interests between principal and agent.

To be sure, institutions may help resolve a conflict of interests and reduce uncertainty but they also may contribute to a potential conflict of interests through the 'grabbing hand' of politicians or regulators. In the next section, I provide a rudimentary model that summarizes the spectrum of institutions that may either contribute to a potential conflict of interests between banks and depositors and between banks and borrowers or that may moderate the potential conflict of interests. I argue that the potential conflict of interests makes contract failure between principal and agent more likely and thus increases the chances of bank instability. I also present the hypotheses relating institutions to conflict of interests and bank instability.

III.3. *Modeling Bank Instability, Conflict of Interests, and Institutions*

I present a simple model of bank instability (BI) where bank instability depends on the degree of potential conflict of interests (DPCI) between the principal and the agent – that is between banks and borrowers and between banks and depositors – and where the degree of potential conflict of interests (DPCI) depends on institutions (X). The presence of a potential conflict of interests means that there exists the potential for contract failure whether because of agents breaking contracts or because of a lack of monitoring and oversight by the principal. Whatever the case, in banking relationships, contract failure leads to less efficient (unproductive) outcomes. This, in turn, can make a bank subject to instability.

Whether the bank acts as principal or agent, the degree of conflicting interests in either relationship will affect bank instability. Consequently, I model bank instability as being affected

collectively by the degree of conflicting interests across both relationships in which the bank engages. Since other factors besides DPCI may affect bank instability (such as macroeconomic conditions), I model these as well using 'Z'. So,

(1)   BI = f(DPCI, Z)

where dBI/dDPCI > 0 and dBI/dZ > = < 0 depending on Z.

I characterize institutions relevant to a bank's relationship with its depositors and borrowers along banking (B), legal (L), political (P), sociologic (S), and economic (E) dimensions. Each of these are hypothesized to impact the degree of potential conflict of interests (DPCI) between parties and consequently bank instability (BI). I model these relationships as:

(2)   DPCI = g(X)
       X = [B, L, P, S, E]

where dDPCI/dX > = < 0 depending on X.

Substituting (2) into (1) gives:

(3)   BI = f ((g(X)), Z).

where dBI/dX > = < 0 depending on X. Equation (3) shows that bank instability depends on banking, legal, political, sociologic, and economic institutions in addition to other factors. The generality of equation (3) admits the possibility of nonlinearities and interactions. I do not include bank-specific factors in X because of their potential endogeneity. For example, net interest margin or return on assets could just as well be the 'left hand side' variable.

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The hypotheses from the model relating institutions to conflict of interests to bank instability is long and encompasses more than the examples introduced in the previous section. Rather than go through each hypothesis separately, I present the full list of hypotheses and the directional effect of each institution on bank instability in Table 1. A rationale for each hypothesis is provided. In some cases, the factor has implications not only for the degree of conflicting interests between the bank and depositor but between the bank and borrower. For example, as discussed in Table 1, requiring an auditor to communicate to the supervisory agency any presumed illegal behavior by bank directors or senior managers may suppress bank management acting out of self-interest and in disregard for its depositors. It may also encourage bank management to thwart self-interested behavior by borrowers.

To summarize, I hypothesize that banking, legal, political, sociologic, and economic institutions that reduce the gap in interests between principal and agent, i.e. that promote shared interests, help reduce bank instability.

IV.   Data on Institutional Dimensions and Banking Sector Instability

In putting together a database on banking outcomes and institutions, I relied on several databases. Data on bank instability come from two sources. Aggregate bank instability comes from Barth, Caprio, and Levine's (1999) database *"Bank Regulation and Supervision."* Bank-specific measures of bank instability come from BankScope – a database which provides balance sheet and income statement information on individual banks around the world. Measures related to regulation and supervision of the banking system, which I have referred to as "banking institutions" also come from Barth, Caprio, and Levine's (1999) database. These variables quantify the institutional aspects of the structure of a country's commercial banking system and provide information on banking system instability.

A variety of other databases are engaged for data related to other institutional aspects of a country. These include: (1) La Porta, et. al.'s (1998) dataset on legal origin which I supplement with data from the CIA World Factbook; (2) International Country Risk Guide for data related to law and order, government stability, corruption, and others; (3) Alesina, et. al.'s (2002) database on ethnic, linguistic, and religious fractionalization; (4) Kaufmann, Kraay, and Zoido-Lobaton's (1999, 2001) data on governance from which I use 'voice'; (5) Heritage Foundation's Index of Economic Freedom for data on property rights, wage and price controls, and fiscal burden; (6) World Development Report's measures of income (consumption) inequality based on Gini coefficients; (7) Reinhart and Rogoff's (2002) database on de facto exchange rate regimes[x]; and (8) the CIA World Factbook's database on GDP per capita in purchasing power dollars.

Since the focus is on explaining bank instability and data on bank instability largely comes from 1999 and early 2000, I choose other time-relevant data to be one year prior when available. In some instances, data was only available two years prior. Consequently, for the most part, all data are for 1997, 1998, or 1999.

Tables 2A-2B present information related to bank instability, banking, legal, political, sociologic, and economic institutions across 87 countries. For purposes of comparing data across countries based on a widely-used descriptor, I also report GDP per capita in purchasing power dollars from the CIA World Factbook. These figures are reported in Table 2B. Indeed, GDP per capita may be an encompassing variable to the extent that it is an outcome of the configuration of institutions a country has (or had) in place. Notes at the end of each table provide brief descriptions of the data. Data on every variable is not always available for every country as the row "*Count*" indicates near the bottom of each table.

IV.1. *Bank Instability*

One widely used measure of bank instability is the percentage of the assets of a country's banking system that are classified as 'nonperforming.' In general, this means that borrowers are behind in payments on their loans.[xi] Data on nonperforming loans as a share of total assets (Aggregate ShareNPL) for the banking systems of each country are reported in Table 2A. These are aggregate measures from the Barth, Caprio, and Levine database. There are twelve countries for which Aggregate ShareNPL is not reported. For these countries, I construct an aggregate measure of Aggregate ShareNPL using data from BankScope. These figures are in bold. Since BankScope's coverage of the banking system is approximately 85%, these figures are estimates.

Aggregate ShareNPL ranges from 0.2 for Luxembourg to 43.07 for Bangladesh with the mean at 7.76 and the median at 4.90. The correlation between Aggregate ShareNPL and GDP per capita is -0.388 suggesting that less developed countries tend to have a higher proportion of problem loans as might be suspected.

I also report bank instability based on an average of nonperforming loans as a share of bank assets (Average ShareNPL) from banks reporting this information to BankScope. These figures are reported in Table 2A. I also provide the number of banks across which the average is calculated. Not all banks in every country report information on nonperforming loans and in some countries, none of the banks provided any information. I decided to include data on Average ShareNPL only when four or more banks provided information on nonperforming loans. Average ShareNPL ranges from 0.31 for Finland to 46.58 for Thailand. The correlation between Average ShareNPL and Aggregate ShareNPL is 0.587. The average and aggregate measures for ShareNPL are reasonably close in all cases but a few – Russia, Venezuela, and Vietnam.

IV.2. *Banking Institutions*

The set of banking institutions considered is long and ranges from market structure to rules and regulations to deposit insurance provisions. Broadly speaking, these institutions affect

the incentives of the bank to oversee its borrowers and to uphold the interests of its depositors –
the details of which are provided in Table 1.

A look at the cross-country average of the five bank concentration ratio which measures
the fraction of deposits held by the five largest banks is 64.84% with the median at 68.10%. Of
the 87 countries, only eighteen have concentration ratios less than 50% which indicates that
banking systems around the world are in general, heavily concentrated or oligopolistic.[xii]

Regarding restrictions on bank ownership by a single entity, there are thirty-seven (37)
affirmatives responses to the question "is there a maximum percentage of bank capital than can
be owned by a single owner?" For most of the countries, the limit is no higher than 25% with
some countries imposing much lower limits of 2% (Qatar) and 4% (Korea). India is an exception
with the maximum percentage set at 60%.[xiii] Nearly all of the countries imposing limits on
percentage ownership by a single entity, save Australia, Canada, and Luxembourg, would be
categorized as developing countries. All other developed countries respond "no". However, the
table shows that many of the countries responding 'no' would also be classified as developing.
Regarding government ownership of banks, the data indicate that across countries, an average of
22% of banking system assets are in banks that are 50% or more government-owned.[xiv] Twenty-
one countries report that zero percent of the banking system's assets are in government-owned
banks. These countries range from developing to developed.

Data on how restrictive bank participation is in securities activities (Restricts. on SEC),
where a 0 indicates unrestricted participation and a 3 indicates prohibited, show a mean score of
0.78 indicating relatively unrestricted access to bank participation in the securities market.
Indeed, thirty-seven (37) of eighty-seven (87) countries report their banks are unrestricted in
activities related to securities. When it comes to restrictions on involvement in real estate
(Restricts. on Real Estate) where the scores again range from 0 (unrestricted) to 3 (prohibited),
the mean score is 1.87 indicating higher and more restrictions on bank participation in real estate

activities than in securities activities. In this case, only twelve (12) countries report unrestricted access to real estate activities.

When it comes to bank audits, fifty-three (53) legally require auditors to communicate illegal activities of bank directors and managers (Auditor Report) whereas fifty (50) impose civil and penal sanctions (Sanctions) on bank directors or managers when cease and desist-type orders are issued.[xv] Sixty-six (66) countries require banks to disclose off-balance sheet items (Offbalance Disclosure) to the public whereas twenty-six require banks to disclose risk-management (Disclose Risk Mgmnt.) practices to the public. Thirty-five countries have explicit, verifiable and quantifiable guidelines regarding asset diversification of banks (Asset Diversif.).

As for deposit insurance, fifty-two (52) of the eighty-seven countries have explicit deposit insurance (Deposit Insurance) schemes. Finally, twenty (20) countries report that bank supervisors are 'frequently' employed by the banking industry once they quit their service as bank supervisors (Supervisor. Employ.).

IV.3.   *Legal, Political, Sociologic, and Economic institutions*

Legal, political, sociologic, and economic institutions are considered in Table 2B. The institutions are considered for their role in helping to reduce the gap between the interests of the agent (borrower or bank) and the interests of the principal (bank or depositors).   Based on the model, those institutions that help reduce the spread in conflicting interests will lead to lower bank instability.

IV.3.a. *Legal Institutions*

The legal institutions considered are legal origin, property rights, and law and order. Common law countries tend to favor shareholder and creditor rights over management. To that extent, behavior by agents that is not taken in the principal's interest is likely to suffer worse

consequences. This should act as a deterrent to self-interested behavior by the agent.

Consequently, the gap between the principal and the agent's interests should be lower in common

law countries. Stronger property rights should also serve to reduce the conflict of interests

between principal and agent. With stronger property rights, agents are more likely to appropriate

the benefits of trustworthy behavior and more likely to be penalized for untrustworthy behavior.

Similarly, a higher observance of law and order suggests that agents are more likely to abide by

explicit or implicit contractual terms. Thus, interests between principal and agent are more likely

to be shared rather than conflicting.

With legal origin classified as either 'common law' or 'civil law', the table shows that

civil law countries dominate the panel with fifty-seven (57) so classified and the remaining thirty

(30) as common law.[xvi] Twenty-four (24) of the civil law countries have GDP per capita less than

$6,000 and of common law countries, about half have GDP per capita less than $6,000. 'Property

rights,' which ranges from 0-4 with lower scores indicating stronger property rights, shows an

average across countries of 2.27 with lower scores typically going to more developed countries.

'Law and order' averages 4.54 and is based on a 1-6 scale with higher scores indicating higher

observance of law and order. Twenty-two countries score a six (6) with the large majority of

these industrialized nations from Europe and North America.

IV.3.b. Political Institutions

Two indicators related to political institutions are government stability and voice. I use

these to assess (1) the degree to which citizens can expect the government to continue operating

as planned and (2) the degree to which they have had a say in who runs the government and how

its affairs are conducted. The former helps align the interests of the agent with the interests of the

principal by deterring agents from 'gambling' and acting contrary to the principal on the chance

that rules and regulations might change. The latter helps align the interests of the agent with the

interests of the principal by making it more likely that institutions do not cater, unfairly, to one group over another.

'Government Stability' measures how well a government executes its programs and how long it is able to retain power.   It is scored on a 1-12 scale with higher scores indicating greater government stability. The scores have a wide variation across countries rated by GDP per capita in part because countries ruled by authoritarian regimes, which are more common in developing countries, score high on office staying power. 'Voice' is an aggregate indicator measuring "aspects of the process by which those in authority are selected and replaced." The voice variable is more comprehensive than traditional measures of democracy because it incorporates additional subcomponents like free press, independent media, and so on. The index is centered at 0 and ranges from -2.5 to + 2.5 with higher numbers indicating more open and democratic outcomes. Given the way these statistics are constructed, small differences are not indicative of significant differences. However, the farther apart scores are from each other, the more likely the difference in 'voice' is. For example, Indonesia scores -1.13 whereas and the United Kingdom scores 1.52, a good indication of differences in which citizens have voice in the choice of governments.

IV.3.c. *Sociologic Institutions*

I next consider three sociologic institutions. I consider sociologic institutions to be those institutions that may affect the way in which people relate to each other socially or professionally. The variables I use to quantify sociologic institutions are: ethnic fractionalization, corruption, and income polarization (as measured by Gini coefficients for income/consumption inequality). In general, a higher degree of ethnicity and income polarization will manifest as a larger spread in interests between principal and agent and indeed may be used by agents' to justify behavior that does not serve the principal. Regarding corruption, a higher degree reveals a willingness of individuals to act in self-interested ways against implicit or explicit agreements.

Because ethnic fractionalization is measured as the probability that two random draws from the population will be of different ethnicity, it ranges from zero to one with values closer to zero indicating ethnic homogeneity and vice versa. This ethnicity variable is based on ethnic and linguistic differences with more weight given to ethnic/racial characteristics than language. Many African and emerging East Asian countries have ethnic fractionalization scores in excess of 0.50. A few developed countries in which two languages thrive also score relatively high. For example, Canada scores 0.71, Switzerland scores 0.53, and the United States scores 0.49. In total, there are thirty-two (32) countries with scores of 0.50 or higher.

'Income inequality' is measured by Gini coefficients (using consumption data, where income data is unavailable). The cross-country average is 37.42 with a median of 35.75. The Gini coefficients cluster in the twenties for the Nordic and Northern European countries as well as for former Soviet-bloc countries. Countries that score 45 or above are predominantly South American and African. The correlation coefficient between income inequality and GDP per capita (not reported in the Tables) is -0.408 which suggests that countries with higher income inequality also tend to have lower GDP per capita.

'Corruption' averages 3.44 based on a scale of 1-6 with higher scores indicating less corruption. 'Corruption' is a measure of the extent of corruption within the political system in the form of cronyism, nepotism, and bribes. Less corruption (scores of 5-6) occurs in the Northern European and Nordic countries as well as Canada, Australia, and New Zealand. Higher levels of corruption as indicated by scores of 1-2 in general correspond to countries with GDP per capita less than $6,000 with Argentina, Japan, Panama, Qatar, Saudi Arabia, Thailand, and Turkey exceptions.

IV.3.d. *Economic Institutions*

I next consider economic institutions such as wage and price controls, fiscal burden, and the exchange rate regime. Wage and price controls, the extent of taxation (as measured by 'fiscal

burden'), and a fixed exchange rate may distort the incentives of borrowers and bankers as agents so that they act in ways contrary to the principal's interest. Contrarily, greater economic freedom is more likely to incline agents to act consistent with the interests of the principal. In a sense, this argument is akin to Hall and Jones' (1999, p. 96) claim that "the suppression of diversion is a central element of a favorable social infrastructure."

For the wage and price control indicator, the average is 2.54 and for the fiscal burden indicator is 3.51. The indicator is scaled to range from 1-5 with '1' indicating "a set of policies most conducive to economic freedom." These measures show that taxation and government spending present a greater hindrance to economic freedom on average across countries than wage and price controls. Three countries score '1' for wage and price control – Bolivia, Denmark, and Sri Lanka whereas scores of '4' universally go to economically repressed countries. Regarding fiscal burden, developing African countries find themselves in good company with developed European and Nordic countries – typically scoring 4 or higher. Indicators on the exchange rate regime show that a vast majority of the countries, sixty-three of the eighty-seven, maintain some degree of exchange rate fixity. There appears no commonality across exchange rate fixers in terms of GDP per capita or even legal origin.

IV.4.   Correlations between Bank Instability and Institutions

As a preliminary to the regression analysis, I report the simple correlation coefficients between each variable in Tables 2A and 2B with bank instability, as measured by Aggregate ShareNPL. These correlations are found in the last row of Tables 2A and 2B.[xvii] Overall, the signs on the correlation coefficients for the banking institutions are in accordance with the hypotheses (where unambiguous) except for 'single owner', 'deposit insurance,' and 'sanctions.' It was expected that limits on single ownership (as indicated by a '1') would reduce bank instability so that a negative relationship would materialize. To the contrary, a positive

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correlation coefficient is produced. This result may arise because a number of the countries that impose limits also suffered banking crises in the recent past. The correlation coefficient for 'deposit insurance' is negative but very close to zero. Its magnitude suggests little relationship with bank instability, at least at this cursory level. The correlation coefficient related to imposition of sanctions on illicit activities by bank management is the wrong sign.

The signs of the correlation coefficients for legal, political, sociologic, and economic institutions in general are also in accordance with the hypotheses set out in Table 1. There are three factors though that have signs contrary to the hypotheses. The correlation coefficient on legal origin is negative suggesting that civil law countries tend to have lower bank instability than common law countries.[xviii] The correlation coefficient for fiscal burden is negative instead of positive. One explanation could be that countries with a greater fiscal burden are also countries which are economically developed (a large number scoring 4 were European/Nordic). A higher level of economic development could be associated with lower bank instability (as the correlation between GDP per capita and bank instability shows). It was expected that countries with fixed exchange rate regimes would be more subject to bank instability but the contrary shows up. The correlation coefficient associates countries that float their exchange rate with higher bank instability though the magnitude is closer to zero than many of the other correlation coefficients relating to legal, political, sociologic, and economic institutions.

V.   **Analyzing Bank Instability and Institutions**

With the aggregate and bank-specific data available on ShareNPL, I analyze bank instability in two ways – one related to explaining aggregate bank instability using Aggregate ShareNPL and a second related to explaining bank-specific instability using ShareNPL reported by each bank. A higher level of aggregate bank instability can arise in a few ways. One way is when many banks collectively have a high proportion of nonperforming loans to assets. A second

is when only one or a handful of large banks have a high proportion of nonperforming loans so that the banking system's share of assets that are nonperforming is high. So, aggregate bank (banking system) instability can be explained as a consequence of behavior by one, a few, or many banks. In contrast, when bank-specific data on nonperforming loans are used, the behavior of individual banks in response to institutions are considered.

The variables used to explain bank instability are those listed as banking, legal, political, sociologic, and economic institutions in Tables 2A and 2B. The model of bank instability presented in Section III makes allowances for factors besides institutions to impact bank instability. To capture this, I include the percentage change in real GDP over the 1998-99 period as a 'macroeconomic' variable that may also explain ShareNPL. [xix] In all, there are twenty-four explanatory variables twelve of which relate to banking institutions.

Ordinary least squares estimation is used to estimate the model of aggregate bank instability. For the bank-specific data, I considered both OLS and random effects estimation. I determine the appropriate estimation method by computing Breusch and Pagan's (1980) LM test where the null hypothesis is "no random effects." Since I have differing numbers of banks per country, my data is unbalanced and so I modify the Breusch-Pagan test according to Baltagi and Li (1990).[xx] Across all specifications tested below and all country samples, I am unable to reject the null hypothesis at the 1% level of significance. So, I use OLS estimation for the bank-specific data.

Because some of the institutional variables are highly correlated (in excess of 0.50), I will estimate various specifications where one or more of the correlated variables are omitted from the specification. Finally, because observations on income inequality were the fewest, its inclusion as an explanatory variable restricts the estimation to a smaller panel of countries than if it were excluded. Thus, I also report results for all of the specifications addressed above when income inequality is excluded.

I also repeat the above protocol with a dataset that excludes East European/Eurasian "countries in transition".[xxi] As Grigorian and Manole (2002) note, these countries' banking systems are in the early stages of development. Thus, bank instability may arise for reasons beyond those purported in my model. While Grigorian and Manole characterize a larger set of East European countries as "in transition", I opt to exclude a smaller subset keeping the Czech Republic, Hungary, Poland, and Slovenia in my data set. These countries are more advanced in terms of banking development (based on deposit money assets to GDP) and in terms of GDP per capita.

The complete data set on which the analysis is conducted is substantially less than presented in Tables 2A-2B. Since I want to keep the number and set of countries constant across specifications for aggregate and bank-specific instability measures, I am restricted to a sample of fifty-two (52) countries for which there is a complete set of the variables listed in Tables 2A-2B.[xxii] With the bank-specific data, across the fifty-two countries, there is a total of 1,881 banks. Table 2A provides the number of banks reporting non-performing loans in each country. When 'income inequality' is excluded from the analysis, the sample increases to fifty-seven countries and the bank-specific data increases to 1,985.[xxiii] The data sets based on excluding East European countries in transition number forty-five (45) when income inequality is used as a regressor and fifty (50) when income inequality is omitted as a regressor. In the bank-specific data set across the forty-five countries, there are 1,781 banks and across the fifty countries, 1885 banks.

V.1   *Empirical Results with Aggregate Data on Bank Instability*

Tables 3 present results of the estimation for the full model (labeled as '1') using aggregate bank instability as the dependent variable. Heteroskedastic-consistent standard errors are computed (not reported) and associated p-values are reported in parentheses underneath the coefficient estimates. Bolded cell entries indicate marginal significance levels of 10% or better. Models labeled '2,' '3,' and '4' omit voice, property rights, and both variables respectively

because of their high correlation with other explanatory variables and each other. The second set of results reported in Table 3 is based on estimation excluding 'income inequality' as an explanatory variable.

Some general conclusions emerge. These are: (1) deposit insurance is significant in all specifications and positive with coefficient estimate ranging from 5-6. The finding suggests that deposit insurance increases nonperforming loans as a share of bank assets by 5-6 percentage points. The finding is consistent with work by Demirguc-Kunt and Detragiache (1997) and supports concerns about the moral hazard aspect of insurance schemes; (2) Corruption is significant in all specifications and positive. The results show that one unit more of corruption increases the share of bank assets that are nonperforming loans by 2-3 percentage points. These results are consistent with other research on the negative consequences of corruption for economic outcomes;[xxiv] (3) limits on the maximum percentage of bank capital that can be owned by a single owner perversely increase bank instability. This effect comes through in all specifications. The empirical result may be an artifact of the subset of countries that impose such limits. In the fifty-two (fifty-seven) country data set, eighteen (nineteen) impose limits. Of these, Korea, Mexico, Philippines, Russia, Taiwan, and Thailand have each experienced a banking crisis since 1994 and four of them, Belarus, the Czech Republic, Hungary, and Slovenia, would be characterized as 'transition economies' by Grigorian and Manole (2002). However, of those that do not impose limits, none have suffered banking crises and Croatia, Estonia, Moldova, Poland, and Romania, which do not impose limits, would also be characterized as 'transition' economies; (4) Restrictions on bank participation in securities activities shows some evidence of reducing bank instability, achieving significance at the 10% significance level in several of the specifications; (5) Ethnic fractionalization is significant at the 10% level in some specifications where increases in ethnic fractionalization raise bank instability, as hypothesized; and (6) macroeconomic performance as measured by real GDP growth negatively influences bank instability, in the model excluding income inequality. The coefficient estimates suggest that a 1

percentage point reduction in real GDP growth will raise bank instability by 0.5 percentage points.

The omission of 'voice' and 'property rights' separately or together from the model does not alter the flavor of the conclusions. In general, conclusions from Table 3 support many of the hypotheses relating how (aggregate) bank instability may be affected through institutions and the role they play in ameliorating or attenuating a conflict of interests between banks and borrowers and banks and depositors.

Results from Table 4 which exclude East European countries in transition are based on the same specifications as those presented in Table 3. Deposit insurance and corruption remain significant with the same sign across all specifications and growth enters negatively and significantly in the model excluding income inequality. However, the single ownership variable loses its significance across all specifications. This may be due to the exclusion of the East European transition economies, about half of which impose limits and half of which do not. Other differences from Table 3 are that 'ethnic fractionalization' now enters all specifications, instead of a few, as significant and with the hypothesized sign. The effect is about double the impact on bank instability in the smaller subset of countries than the larger. Also, 'income inequality' shows up as significant and with the hypothesized sign. An increase in income inequality is associated with higher bank instability. Finally, in contrast to the results from Table 3, the coefficient estimate on the exchange rate regime is negative and significant in all specifications except the last one. The result is puzzling because it suggests that a fixed exchange rate regime reduces bank instability, at least for the sample that excludes East European countries.

V.2 Empirical Results with Bank-Specific Data on Bank Instability

Table 5 presents the results from estimation using bank-specific data for bank instability. For the panel of fifty-two (fifty-seven) countries, there are 1,881 (1,985) banks in the sample. (The number of banks from each country is listed in Table 2A). The results echo some of the

findings from the aggregate bank instability regressions. In all of the specifications, deposit insurance is significant and positively related with bank instability with coefficient estimates ranging from approximately 2.5 – 5; economic growth is also significant and negatively related to bank instability. The magnitude of real GDP growth on bank instability is 2-3 times higher than reported in Tables 3 and 4. Other findings similar to those from Tables 3 and 4 are that higher levels of corruption are also associated with higher levels of bank instability with about the same order of magnitude, though this finding is not produced across all specifications. Also, restrictions on bank participation in the securities market now shows up as uniformly significant and negative suggesting that tighter restrictions on securities activities of banks are associated with reduced bank instability. This supports the hypothesis that by permitting bank participation in the securities market, banks open the door to problems associated with asset bubbles. The finding contradicts the hypothesis that by allowing banks to participate in the securities market, they are better able to diversify their asset base. Ethnic fractionalization, which also appeared as significant in some of the specifications in Table 3 and in all of the specifications in Table 4 appears significant and has the hypothesized sign across all specifications using bank-specific data.

A number of other variables that did not appear as significant in the aggregate bank instability equations become significant when the dependent variable is bank-specific rather than aggregated. As might be expected when using bank-specific data, more of the 'banking institution' variables show up as significant. Many of these support the hypotheses: requiring banks to disclose offbalance sheet items reduces bank instability by 8-12 percentage points; and imposing sanctions on bank management and its directors in the event of infractions of cease and desist orders reduces bank instability by 2-3 percentage points. In some of the specifications, the disclosure of risk management practices reduces bank instability by approximately 4 percentage points and in some specifications, in countries where bank supervisors are 'frequently' employed by banks once they quit their service, bank instability is higher, as hypothesized.

The results of Table 5 also show that, contrary to restrictions on securities activities, tighter restrictions on real estate activities by banks significantly raises bank instability. This is true across all specifications. The finding supports the hypothesis that when it comes to restrictions on real estate activities, allowing more participation, perhaps through diversification of bank assets contributes to a reduction in bank instability. The results also show that, in two of the specifications, a higher concentration ratio in the banking industry is significantly associated with higher bank instability though the effect is small. The finding suggests that reduced competition may cause banks to be less vigilant over their borrowers and/or less concerned about the interests of the depositors.

A few other results emerge related to banking institutions. In banking systems where a higher proportion of bank assets are in banks that are 50% or more government owned, bank instability is lower, though the magnitude of the effect is small. The finding contradicts the hypothesis that greater government ownership will contribute to greater bank instability. While the hypothesis may be appropriate to aggregate bank instability, it may not be as appropriate when bank-specific data is used. Ideally, government ownership of each bank should be used as the explanatory variable.

Results from Table 5 that are at odds with those from Tables 3 and 4 relate to 'single ownership' which is significant and positive in all model specifications excluding income inequality and is significant and positive in one model specification when income inequality is included as an explanatory variable.

Regarding the effect of those non-banking institutions that achieve a significance level of 10% or better, the results show that in countries where wage and price controls are more prevalent (i.e. that the government is more interventionist) banks exhibit higher instability, as hypothesized. This finding holds across all specifications. On the other hand, the results show a negative coefficient on Legal Origin which perversely suggests that civil law countries tend to have lower bank instability though this result is not consistent across the panels.[xxv] Also, the

results show that across all specifications, countries with a higher fiscal burden have lower bank instability. The finding may be due to the way in which 'fiscal burden' is measured. It includes progressivity of the tax system and expenditures of government as a fraction of GDP in addition to the tax burden on the private sector. Countries with bigger taxable bases, more progressive tax systems and that are able to fund a larger share of government spending tend to be developed countries. In fact, many of the countries scoring high on fiscal burden are European and Nordic countries. So, the negative relationship may arise because more developed countries tend to have lower bank instability.

Law and Order shows up a significant in a few of the specifications in Table 5 but it does not support the hypothesis. The coefficient estimates suggest that a higher observance of law and order is associated with more bank instability. The property rights, government stability, and voice variables, though significant in one or a few specifications, also have the 'wrong' sign.

Table 6 provides results from the same estimation as conducted in Table 5 except that East European countries in transition are excluded from the sample. Perusing the results from Table 6 and comparing them to Table 5 shows broad similarities and stronger support for many of the hypotheses related to banking and sociologic institutions but much weaker support for institutions related to law, politics, and economics.

I would be remiss not to mention the overall explanatory power of the model using the bank-specific measure of bank instability. The adjusted R^2 ranges from 0.03 – 0.04. Thus, while many variables achieve significance in the model and have a sizable impact on bank instability, the overall explanatory power of the variables is low. One reason this likely occurs is all of the explanatory variables are country-specific whereas the dependent variable is bank-specific. A richer model would include bank-specific variables that could be considered as "exogenous."

VI.   Concluding Remarks

Bank instability has afflicted countries around the world – industrialized, emerging, and developing. No country is immune to instability in the banking system because banks are managed by self-interested people and banks serve self-interested people. Where self-interested people come together in transactions, a potential conflict of interests, and its sister, uncertainty, is likely to be present. For banks who intermediate between borrowers and lenders (depositors) and who serve a central role in the allocation of resources, the potential conflict of interests can comprise banks' function and so, too, economic progress and stability.

Because transactions take place within the tangible and intangible structure of institutions and because people's behavior is affected by the incentives or disincentives they create, institutions – legal, political, sociologic, economic, and banking – can shape, in part, the outcome of the transactions.

I consider these institutions and their impact on bank instability using aggregate and bank-specific data on nonperforming loans as a share of bank assets. In general, the empirical results support the hypothesis that institutions that ameliorate the potential conflict of interest between banks and borrowers and banks and depositors reduce bank instability, and vice-versa. The findings suggest that it is not banking regulation and supervision alone that impacts bank instability. Other institutional factors such as corruption and the degree of ethnic heterogeneity can also be important. While economic principles are used to guide the design of banking policies, these results suggest that institutional aspects of a country and their impact on bank instability be considered, too. Indeed, the IMF and World Bank have already undertaken agendas examining the importance of governance and anticorruption policy measures to economic stability and growth.

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Table 1: Hypotheses about Bank Instability and Institutions

Factor	Effect on Bank Instability	Rationale
Limits on Single Ownership	Negative	Limits on single ownership help reduce the power a single individual has over taking actions for its own benefit. This helps align interests of depositors with interests of bank. It may also help limit bribes from borrowers to bank owners since more than one owner may have to be bribed.
Bank Industry Concentration	Ambiguous	A higher concentration ratio could mean less competition or greater economies of scale. If the former, bank instability may be higher because with less competition, banks may exercise less oversight over borrowers and less caution with deposits. If the latter, market structure may have either a negative or no effect on bank instability.
Government ownership of banks	Positive	Borrowers of government-owned banks may be more likely to pursue their own (over project) interests expecting that government bailouts will be forthcoming. Also, management of government-owned banks may similarly expect bailouts and thereby pursue interests that comprise those of its depositors. Also, in government-owned banks, bank management may not be as adequately compensated, in terms of salary, as its private sector counterparts. Thus, bank management of government-owned banks may be more willing to accept bribes from borrowers. Because government-owned banks are more likely to engage in investments in inefficient or corrupt projects, higher bank instability may result.
Restricted activity in securities market	Ambiguous	Whether restrictions on bank participation in activities in the securities market raises or lowers bank instability is debated. Some argue that unrestricted participation allows banks to diversify their asset portfolio and achieve risk reductions. This enhances bank stability. Others argue that unrestricted participation encourages banks to engage in markets where asset bubbles can have harmful effects through encouraging riskier lending as the bubble increases and then wiping out capital when the bubble bursts.
Restricted activity in real estate market	Ambiguous	Same as above.
Auditor reports to bank supervisor in the event of illicit activities, etc.	Negative	When an auditor is required by law to communicate to the supervisory agency any presumed illegal behavior by bank directors or senior managers, they may be less likely to engage in self-interested behavior at the expense of the depositors and more likely to thwart self-interested behavior by borrowers. Thus, bank instability should be lower.
Guidelines for asset diversification	Negative	Guidelines for asset diversification may help to promote bank behavior that serves the interest of its depositors and places more oversight on borrower behavior. Thus, bank instability should be lower.
Deposit insurance	Positive	Deposit insurance offered to banks reduces the downside risk of depositor losses. Thus, banks are less likely to serve the interest of the depositors (and, in fact, may be more willing to accommodate the interest of borrowers). Thus, deposit insurance increases bank instability.
Disclosure of offbalance sheet items	Negative	A requirement that banks disclose offbalance sheet items to the public encourages them to act in the interests of their depositors and to exercise greater prudence in choosing borrowers as well as to be less willing to engage in activities that support the borrower's self-interest. Thus, bank instability may be lower.
Disclosure of risk management practices	Negative	Same as above.
Sanctions imposed on bank mngmnt for illegal activities, etc.	Negative	The threat of sanctions on bank directors or managers for illicit behavior encourages them to act in the interests of their depositors and to be less likely to become captive to the interests of borrowers. Thus, bank instability may be lower.
Likelihood that bank supervisors will be employed by a bank	Positive	Individuals in supervisory and regulatory roles over banks (where pay is typically lower than in the private sector) may subsequently be employed by the banks they oversaw. Knowing this, supervisors may be more willing to overlook imprudent bank behavior. Thus, bank instability may be higher.

Table 1, continued.

Factor	Effect on Bank Instability	Rationale
Legal Origin	Positive	Civil law countries afford less protection to creditors and shareholders (principals). Thus, borrowers and bank managers are more likely to act in ways that are self-interested. Thus, bank instability may be higher.
Property Rights	Negative	Stronger security of property rights encourages firms to seek out funding for projects that will be profitable and reduces the likelihood that these projects will fall prey to outside parties. Thus, stronger property rights helps to encourage borrowers to act in the interest of lenders (banks) and likewise that banks will act in the interest of depositors. Thus, bank instability may be lower.
Law and Order	Negative	More law and order suggests that borrowers will be more likely to abide by the terms of the loan contract. That is, borrowers are more likely to act in the bank's interest. The same is true of banks with respect to depositors. Thus, bank instability may be lower.
Government Stability	Negative	In countries with greater government stability, citizens expect that rules and regulations put in place are there to stay. Consequently, they are less likely to act contrary to them. But, where there is more uncertainty about the relative permanence of the rules, etc., banks and borrowers may be more likely to 'gamble' by acting outside of those rules. Thus, bank instability may be higher.
Voice	Negative	In countries with greater voice, rules, regulations, and policies will be the outcome of greater information-sharing and are more likely to achieve a reduction in the potential for conflict of interests. Thus, there will tend to be less unstable and more efficient outcomes in all transactions, including bank transactions. In this sense, bank instability will be lower.
Ethnicity	Positive	In countries that are more ethnically heterogeneous, the potential for conflict of interest between borrowers and banks and banks and depositors is greater. Thus, bank instability is likely to be higher.
Corruption	Positive	By definition, in countries with higher levels of corruption, there is more self-interested activity. For banks or borrowers, this increases the likelihood that they are not acting in the interests of the principal and consequently are likely to act in ways that increase bank instability.
Income Inequality	Positive	In countries where income inequality is higher, the potential for conflict of interest between borrowers and banks and banks and depositors is greater. Thus, bank instability is likely to be higher.
Wage and Price Controls	Positive	In countries with a higher level of control over wages and prices, the more likely its citizens are to feel justified in taking action to circumvent the controls. Consequently, the more likely they are to act in their own interests rather than the principal's interest. For banks and borrowers, this means they may be less willing to honor the interests of the depositors and banks, respectively. Thus, bank instability may be higher.
Tax burden	Positive	In countries with a higher tax burden, the more likely its citizens are to engage in behavior to circumvent the tax burden. Consequently, the more likely they are to act in their own interests rather than the principal's interest. For banks and borrowers, this means they may be less willing to honor the interests of the depositors and banks, respectively. Thus, bank instability may be higher.
Exchange Rate Regime	Positive	In countries with a fixed exchange rate system, banks may be more likely to engage in unhedged borrowing from foreign sources. Likewise, banks may not be as concerned with the unhedged positions of their borrowers. Consequently, bank instability may be higher.

Notes: In the 'rationales' is the implicit understanding that a reduction in the potential (or actual) conflict of interests (or, alternatively, an increase in shared interests) leads to a reduction in bank instability.

Table 2A: Bank Institutions

Country	Aggregate ShareNPL	Average ShareNPL	Number of Banks reporting NPL	Banking Institutions				
				Single Owner	Five-bank Concen. Ratio	Gov't Ownership	Restricts. on Real Estate	Restricts. on SEC
Argentina	9.4	7.30	77	0	48	30	1	1
Australia	0.9	1.01	27	1	72.5	0	2	0
Austria	2.2			0	38	4.1	0	0
Bahrain	12.8			1	70.53	3.7	3	0
Bangladesh	43.07			1	64.8	69.86	3	0
Belarus	**1.99**	2.18	9	1	83.4	67.3	2	2
Belgium	0.5477			0	74		2	1
Bhutan	12			1	100	60	3	2
Bolivia	5.7	5.19	12	0	68	0	3	1
Botswana	1.33			0	100	2.39	3	0
Brazil	3.4	3.25	161	0	57.6	51.5	2	1
Burundi	14			1	91.4	63	2	2
Cambodia	3.4			0	67	16	3	3
Canada	0.68	0.79	31	1	75.7	0	0	0
Chile	1.42	1.27	27	0	59.4	11.7	3	1
China	**10.03**	6.60	8	1	75		3	3
Croatia	15.5	7.85	16	0	57.32	36.99	1	1
Cyprus	**4.11**			1	80	3.3	0	1
Czech Republic	27	23.96	12	1	74	19	1	0
Denmark	0.1	0.48	22	0	78.64	0	1	0
Egypt	7.2			1	64.7	66.6	3	1
Estonia	2	5.66	8	0	95	0	1	1
Finland	0.9	0.31	11	0	96.5	21.9	0	0
France	6.55	5.18	130	0	70.1	0	0	0
Germany	0	1.43	5	0	12	42	0	0
Ghana	8.34			0	78.25	37.9	3	1
Greece	4	1.71	4	0	70	13	1	1
Guatemala	7.14	3.79	31	0	38	7.61	3	2
Guyana	14			1	13.6	19	2	0
Honduras	**5.82**	7.02	13	0	52	1.1	1	1
Hungary	8.2	2.61	9	1	**55.3**	2.5	1	1
Iceland	2.1	1.53	5	0	**98.1**	64	3	1
India	15	3.00	59	1	42	80	3	0
Indonesia	28.1	25.5	36	0	52.87	44	3	1
Ireland	**0.78**	0.46	6	0	**68.3**		0	0
Israel	3.8	2.15	21	0	80		3	1
Italy	11.9	5.11	100	0	25.1	17	3	0
Jamaica	2.8	6.15	9	0	73.5	56	2	2
Japan	3.9	4.64	277	0	31.1	1.15	2	2
Jordan	**3.59**	8.04	11	0	68.1	0	2	0
Kenya	35	22.56	38	1	62		2	1
Korea	8.6	12.87	12	1	47.5	29.7	1	1
Kuwait	10.1	7.22	6	0	**90.8**	0	3	0
Latvia	6	2.70	11	0	**60.2**		2	0
Lebanon	5.15			0	39.7	0	3	0
Lesotho	29			1	56	51	3	1
Lithuania	5	4.13	7	0	90	44	2	1
Luxembourg	0.2			1	27.25	5.03	0	0
Malawi	3.16			0	73.3	48.9	3	2
Malaysia	7.9	8.91	49	1	30	0	2	1
Malta	5.5	2.41	7	1	100	0	2	0
Mauritius	4.9			1	90.7	0	3	2
Mexico	17.5	7.84	41	1	80	25	2	2
Moldova	8.9	10.10	5	0	70.63	7.05	1	0
Morocco	7	7.21	11	0	75	23.9	3	1
Namibia	7.5			1	100		2	1
Nepal	2.1			1	55	20	1	0
New Zealand	0.45	0.34	11	0	91	0	0	0
Nigeria	8.18	9.46	46	0	51.18	13	1	1

Country	Aggregate ShareNPL	Average ShareNPL	Number of Banks reporting NPL	Single Owner	Five-bank Concen. Ratio	Gov't Ownership	Restricts on Real Estate	Restricts. on SEC
Oman	5.9	4.38	8	1	76.7	0	3	1
Panama	2.68	1.46	10	0	30.4	11.56	2	0

Table 2A, continued.

Country	Aggregate ShareNPL	Average ShareNPL	Number of Banks reporting NPL	Banking Institutions				
				Single Owner	Five-bank Concen. Ratio	Gov't Ownership	Restricts on Real Estate	Restricts. on SEC
Peru	18.14	7.13	26	0	81.2	2.5	1	1
Philippines	13.83	8.40	32	1	45.59	12.12	1	0
Poland	4.7	5.24	30	0	57.2	43.7	2	1
Portugal	1.19	1.32	27	0	81.7	20.8	2	0
Qatar	**3.37**	4.70	5	1	76.4	43.4	2	0
Romania	4	2.83	10	0	59	70	3	1
Russia	20	2.13	45	1	80	68	0	0
Rwanda	30			0	100	50	3	1
Salvador, El	2.91	2.83	6	0	75	7	3	1
Saudi Arabia	3	5.87	8	0	69.3	0	3	1
Singapore	**6.68**	8.96	15	1	**54.99**	0	2	0
Slovenia	5.6	3.97	8	1	63.8	39.6	1	1
South Africa	4.47	3.20	5	1	85	0	2	1
Spain	0.1	0.75	17	0	49	0	2	0
Sri Lanka	**8.84**	9.62	10	1	**64.99**	55	1	0
Sweden	**1.39**	6.16	13	0	**67.9**	0	2	0
Switzerland	6			0	65	15	0	0
Taiwan (China)	**4.02**	9.68	35	1	15	43	3	0
Thailand	35.45	46.58	18	1	74.83	30.67	1	1
Trinidad&Tobago	2.1			0	75.3	15	1	2
Turkey	2.1	4.80	62	1	50	35	3	2
United Kingdom	2.2	7.49	32	0	**0.003**	0	0	0
United States	0.598	8.36	368	0	20.8	0	2	2
Venezuela	1.62	46.00	34	0	63.82	4.87	2	1
Vietnam	**4.59**	21.69	9	1	65		3	3
Zambia	2	4.73	5	1	83	23	3	0
Count	87	65	65	87	87	79	87	87
Average	7.76	7.20		0.43	64.84	22.41	1.87	0.78
Median	4.90	5.11		0	68.10	15	2	1
Corr.withAggregate ShareNPL	1	0.587		0.318	0.053	0.375	0.132	0.007

Note: *The questions from the Barth, Caprio, and Levine (2001) data set corresponding to variables in the table are:*
ShareNPL – what is the ratio of nonperforming loans to total assets (latest available)?
Single Ownership – is there a maximum percentage of bank capital that can be owned by a single owner? Yes = 1, No = 0.
Five Bank Conc. Ratio – of deposit-taking institutions in your country, what fraction of deposits is held by the five largest banks?
Gov. Ownership – what fraction of the banking system's assets is in banks that are 50% or more government-owned?
Restricts. on Real Estate– what is the level of regulatory restrictiveness for bank participation in real estate activities (the ability of banks to engage in real estate investment, development, and management)? 0 = unrestricted; 1 = permitted but all or some must be conducted by subsidiaries; 2 = restricted; 3 = prohibited.
Restricts. on SEC – what is the level of regulatory restrictiveness for bank participation in securities activities (the ability of banks to engage in the business of securities underwriting, brokering, dealing, and all aspects of the mutual fund industry? 0 = unrestricted; 1 = permitted but all or some must be conducted by subsidiaries; 2 = restricted; 3 = prohibited.
Data from BankScope:
AverageShareNPL – ratio of nonperforming loans to total assets averaged across the number of banks reporting data on nonperforming loans.

Number of Banks reporting NPL – the number of banks reporting a figure on nonperforming loans.

Table 2A, continued.

Country	Banking Institutions						
	Auditor Report	Asset Diversif.	Deposit Insurance	Offbalance Disclosure	Disclose Risk Mngmnt.	Sanctions	Supervisor. Employ.
Argentina	1	1	1	0	1	1	1
Australia	0	0	0	1	1	1	1
Austria	1	1	1	0	0	1	0
Bahrain	1	1	1	1	1	1	0
Bangladesh	1	0	1	1	0	0	0
Belarus	0	1	1	0	0	0	0
Belgium	1	1	1	1	0	1	0
Bhutan	0	1	0	0	0	1	0
Bolivia	0	0	0	1	1	0	1
Botswana	1	1	0	1	0	1	0
Brazil	1	0	1	1	0	1	0
Burundi	0	0	0	1	1	1	0
Cambodia	1	0	0	0	0	1	0
Canada	1	1	1	1	1	0	0
Chile	0	0	1	1	0	0	1
China	0	0	0	1	0		1
Croatia	1	1	1	1	**1**	0	1
Cyprus	1	0	1		1	0	0
Czech Republic	1	1	1	0	0	0	0
Denmark	1	0	1	1	0	1	0
Egypt	1	1	0	1	0	1	0
Estonia	1	0	1	1	0	1	0
Finland	1	0	1	1	1	1	0
France	0	1	1	1	0	0	
Germany	1	0	1	1	0	0	0
Ghana	1	0	0	0	0	1	0
Greece	1	0	1	1	0	0	0
Guatemala	0	0	1	0	0	1	0
Guyana	1	0	0	1	0	1	0
Honduras	1	0	1	1	0	0	1
Hungary	1	1	1	0	0	1	1
Iceland	1	0	1	1	0	1	0
India	1	0	1	1	0	1	0
Indonesia	0	0	1	1	0	1	0
Ireland	1	1	1	1	1	1	1
Israel	0	0	0	1	1	0	0
Italy	1	0	1	1	1	0	0
Jamaica	1	1	1	1	0	1	0
Japan	0	1	1	1	0	1	0
Jordan	1	1	0	1	0	0	0
Kenya	1	0	1	1	0	1	0
Korea	0	0	1	1	1	1	0
Kuwait	1	1	0	1	1	1	1
Latvia	0	0	1	1	0		0
Lebanon	1	0	1	1	1	1	0
Lesotho	0	0	0	0	0	0	0
Lithuania	0	0	1	1	0	0	1
Luxembourg	1	1	1	1	0	1	0
Malawi	0	0	0	0	0	1	0
Malaysia	1	1	0	1	0		0
Malta	1	1	0	1	1	1	
Mauritius	1	0	0	1	0	1	0
Mexico	0	0	1	0	0	1	0
Moldova	1	1	0	0	0	1	1
Morocco	1	0	1	1	0	1	0
Namibia	1	1	0	1	0	1	1
Nepal	0	0	0	1	0	0	0
New Zealand	0	0	0	1	1	0	0
Nigeria	0	0	1	1	0	1	0

Oman	0	1	1	1	0	1	0

Table 2A, continued.

Country	Banking Institutions						
	Auditor Report	**Asset Diversif.**	**Deposit Insurance**	**Offbalance Disclosure**	**Disclose Risk Mngmnt.**	**Sanctions**	**Supervisor. Employ.**
Panama	0	0	0	1	0	0	0
Peru	1	1	1	1	0	1	1
Philippines	0	1	0	1	1	1	1
Poland	1	0	1	1	0	1	0
Portugal	1	1	1	1	0	0	0
Qatar	0	1	0	1		1	
Romania	1	0	1	0	1	0	1
Russia	0	0	0	0	0	0	1
Rwanda	0	1	0	0	0	1	0
Salvador, El	1	0	1	1	0	0	1
Saudi Arabia	1	1	0	1	1	1	0
Singapore	1	0	0	1	1		1
Slovenia	1	1	0	0	0	1	0
South Africa	1	1	0	1	1	0	1
Spain	1	1	1	1	0	0	0
Sri Lanka	0	0	0	1	1	0	0
Sweden	1	0	1	1	**0**	0	0
Switzerland	1	1	1	1	1	0	
Taiwan (China)	1	0	0	1	1	1	0
Thailand	0	0	1	1	0	1	0
Trinidad&Tobago	0	0	1	0	0	1	0
Turkey	1	0	1	1	0	0	0
United Kingdom	1	0	1	1	1	1	1
United States	0	0	1	1	0	0	0
Venezuela	0	1	1	0	0	0	1
Vietnam	0	0	0		0	0	0
Zambia	0	0	0	1	0	1	0
Count	87	87	87	85	86	83	83
Average	0.61	0.40	0.60	0.78	0.30	0.60	1.95
Median	1	0	1	1	0	1	2
Corr.withShareNPL	-0.115	-0.059	-0.003	-0.169	-0.115	0.067	0.005

Note: *The questions from the Barth, Caprio, and Levine (2001) data set corresponding to variables in the table are:*

Auditor Report – are auditors required by law to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse? Yes = 1, No = 0.

Asset Diversif. - are there explicit, verifiable, and quantifiable guidelines regarding asset diversification? Yes = 1, No = 0.

Deposit Insurance – is there an explicit deposit insurance protection system? Yes = 1, No = 0.

Offbalance Disclosure – are off-balance sheet items disclosed to the public? Yes = 1, No = 0.

Disclose Risk Mngmnt – must banks disclose their risk management procedures to the public? Yes = 1, No = 0.

Sanctions – are there any mechanisms of cease and desist-type orders, whose infraction leads to the automatic imposition of civil and penal sanctions on the bank's directors or managers? Yes = 1, No = 0.

Supervisor. Employ. – how often are bank supervisors employed by the banking industry once they quit their service as bank supervisors? Recoded as 0 = never, rarely, occasionally, 1 = frequently.

Table 2B: Legal, Political, Sociologic, and Economic Institutions

Country	Legal Institutions			Political Institutions		Sociologic Institutions			Economic Institutions			Other
	Legal Origin	Property Rights 1998	Law and Order 1998	Gov't Stability 1998	Voice 1997	Ethnic Fractionali-zation	Income Inequality	Corruption 1998	Wage and Price Control 1998	Fiscal Burden 1998	Exchange Rate Regime 1998	GDP per Capita in PPP 1998
Argentina	1	2	5	9.33	0.49	0.26		2.00	2	2.0	1	10300
Australia	0	1	6	9.08	1.63	0.09	0.352	5.00	2	4.0	0	21200
Austria	1	1	6	9.75	1.45	0.11	0.231	4.00	2	4.5	1	22700
Bahrain	0	1	5	10.00	-1.04	0.50		3.00	2	2.0	**1**	13100
Bangladesh	0	4	3.25	9.58	-0.02	0.05	0.336	2.00	4	2.0	**1**	1380
Belarus	**1**	4	4	11.00	-0.78	0.32	0.217	4.00	4	4.0	0	5200
Belgium	1	1	5	10.00	1.41	0.56	0.250	3.00	2	5.0	1	23400
Bhutan	**0**				-1.25	0.61					1	1000
Bolivia	1	2	3	9.50	0.39	0.74	0.420	3.00	1	3.0	1	3000
Botswana	0	2	4	10.58	0.78	0.41		3.00	2	3.5	**0**	3600
Brazil	1	3	2	10.17	0.58	0.54	0.600	3.00	3	3.5	1	6100
Burundi	**1**	4			-1.29	0.30	0.333		4	4.0	1	740
Cambodia	**1**	4			-0.91	0.21	0.404		3	2.0	**0**	700
Canada	0	1	6	11.00	1.39	0.71	0.315	6.00	2	5.0	1	22400
Chile	1	1	5	10.33	0.62	0.19	0.565	4.00	2	3.0	1	12500
China	1	4	5	11.17	-1.29	0.15	0.403	2.00	3	2.0	1	3600
Croatia	1	4	5	11.00	-0.23	0.37	0.268	2.00	4	3.5	1	5100
Cyprus	0	3	5	10.83	1.12	0.09		4.83	3	4.0	1	13000
Czech Republic	1	2	5	9.67	1.20	0.32	0.254	4.00	2	4.5	0	11300
Denmark	1	1	6	9.58	1.63	0.08	0.247	6.00	1	4.5	1	23300
Egypt	1	3	4	11.00	-0.67	0.18	0.289	2.00	3	4.5	1	2850
Estonia	1	2	4	10.00	0.86	0.51	0.354	5.00	2	4.0	1	5500
Finland	1	1	6	9.83	1.63	0.13	0.256	6.00	2	4.5	1	20100
France	1	2	5	10.83	1.15	0.10	0.327	4.00	3	5.0	1	22600
Germany	1	1	6	9.42	1.46	0.17	0.300	5.00	2	5.0	1	22100
Ghana	0	3	3	11.00	-0.44	0.67	0.327	2.08	2	4.0	0	1800
Greece	1	2	4.17	10.17	1.05	0.16	0.327	5.00	3	4.0	1	13400
Guatemala	1	3	2	10.00	-0.57	0.51	0.596	4.00	3	2.0	1	3800
Guyana	**0**	3	4	9.58	1.01	0.62	0.402	3.00	2	4.0	1	2500
Honduras	1	3	2	11.00	-0.06	0.19	0.537	2.00	3	2.5	1	2400
Hungary	1	2	6	10.17	1.22	0.15	0.308	5.00	2	4.0	1	7400
Iceland	1	1	6	10.00	1.47	0.08		6.00	2	4.0	1	22400
India	0	3	4	8.83	0.36	0.42	0.378	3.00	4	4.0	1	1720
Indonesia	1	3	2.5	7.92	-1.13	0.74	0.365	1.25	3	2.0	1	2830
Ireland	0	1	6	10.83	1.53	0.12	0.359	3.00	2	4.0	1	18600
Israel	0	2	5	8.83	1.06	0.34	0.355	3.00	2	5.0	1	18100
Italy	1	2	6	9.08	1.28	0.11	0.273	3.67	2	5.0	1	20800
Jamaica	0	2	3	11.00	0.75	0.41	0.364	3.00	3	3.0	1	3300
Japan	1	1	6	8.42	1.14	0.01	0.249	2.17	2	4.0	0	23100
Jordan	1	2	4	10.33	0.15	0.59	0.364	4.00	3	4.0	1	3500
Kenya	0	3	2.17	9.92	-0.70	0.86	0.445	2.00	3	3.5	0	1550
Korea	1	1	4	10.00	0.91	0.00	0.316	4.00	2	3.0	0	12600
Kuwait	1	1	5	9.58	0.00	0.66		3.00	3	3.0	1	22700
Latvia	1	3	4	8.00	0.75	0.59	0.324	3.00	2	3.5	1	4100
Lebanon	1	3	4	9.33	-0.40	0.13		1.00	2	3.5	**0**	4500

Table 2B, continued.

	Legal Institutions			Political Institutions		Sociologic Institutions			Economic Institutions			Other
	Legal Origin	Property Rights 1998	Law and Order 1998	Gov't Stability 1998	Voice 1997	Ethnic Fractionali-zation	Income Inequality Gini Coefficients	Corruption 1998	Wage and Price Control 1998	Fiscal Burden 1998	Exchange Rate Regime	GDP per Capita in PPP 1998
Lesotho	0	3			-0.15	0.26	0.560		4	4.0	1	2400
Lithuania	1	3	4	8.00	0.88	0.32	0.324	3.00	3	4.0	1	4900
Luxembourg	1	1	6	11.00	1.49	0.53	0.269	5.00	2	3.0	1	32700
Malawi	0	3	4	10.00	0.06	0.67		3.00	3	4.0	0	940
Malaysia	0	2	4.92	9.25	-0.09	0.59	0.485	3.75	3	3.0	1	10300
Malta	1	2	6	10.00	1.41	0.04		4.00	4	3.5	1	13000
Mauritius	1				1.01	0.46					1	10000
Mexico	1	3	2.42	10.00	-0.11	0.54	0.537	3.00	3	3.0	0	8300
Moldova	1	3	5	10.00	0.11	0.55	0.344	2.00	3	4.0	0	2200
Morocco	1	3	6	11.00	-0.24	0.48	0.395	3.00	3	4.0	1	3200
Namibia	0	2	6	11.00	0.47	0.63		3.00	2	4.0	1	4100
Nepal	0	3			0.05	0.66	0.367		4	2.0	1	1100
New Zealand	0	1	6	8.92	1.47	0.40	0.439	5.00	2	3.5	0	17000
Nigeria	0	3	3	10.50	-1.23	0.85	0.506	1.50	2	2.0	1	960
Oman	1	2	5	10.08	-0.57	0.44		3.00	3	4.0	1	7900
Panama	1	3	3	9.25	0.67	0.55	0.485	2.00	2	3.0	1	7300
Peru	1	3	3	9.33	-0.69	0.66	0.462	3.00	2	3.0	1	4300
Philippines	1	2	4	10.25	0.63	0.24	0.462	3.42	2	2.5	0	3500
Poland	1	2	5	10.58	1.12	0.12	0.329	5.00	3	4.0	1	6800
Portugal	1	2	5	10.58	1.48	0.05	0.356	5.00	2	4.0	1	14600
Qatar	1		6	11.00	-0.78	0.75		2.00			1	17100
Romania	1	4	5	9.33	0.29	0.31	0.282	3.00	2	5.0	0	4050
Russia	1	3	3.5	9.33	-0.19	0.25	0.487	2.00	3	2.5	0	3800
Rwanda	1	3			-1.18	0.32	0.289		3	2.0	1	690
Salvador, El	1	3	3	9.00	-0.10	0.20	0.523	4.00	2	1.5	1	3000
Saudi Arabia	0	1	5	10.67	-1.10	0.18		2.00	3	3.0	1	9000
Singapore	0	1	6	11.00	0.13	0.39		4.00	2	2.0	0	26300
Slovenia	1	2	5	11.00	1.03	0.22	0.268	4.00	3	4.0	1	10300
South Africa	0	3	2.58	10.42	0.99	0.75	0.593	3.67	2	4.0	0	6800
Spain	1	2	4	9.50	1.36	0.42	0.325	5.00	3	4.5	1	16500
Sri Lanka	0	3	3	9.25	-0.16	0.42	0.344	4.00	1	3.5	1	2500
Sweden	1	2	6	9.33	1.60	0.06	0.250	6.00	2	4.5	0	19700
Switzerland	1	1	6	10.00	1.68	0.53	0.331	5.00	2	4.0	1	26400
Taiwan (China)	1	1	4	9.92	0.72	0.27		3.00	2	1.5	1	16500
Thailand	0	2	5	9.25	0.22	0.63	0.414	2.00	3	2.0	0	6100
Trinidad&Tobago	0	1	4	10.00	0.95	0.65	0.403	3.00	2	4.0	1	8000
Turkey	1	2	4	10.08	-0.88	0.32	0.415	2.00	3	3.0	1	6600
United Kingdom	0	1	6	10.92	1.51	0.12	0.361	5.00	2	4.0	0	21200
United States	0	1	6	9.33	1.52	0.49	0.408	4.00	2	3.0	0	31500
Venezuela	1	3	4	8.83	0.15	0.50	0.488	3.00	3	3.0	1	8500
Vietnam	1	5	5	9.58	-1.45	0.24	0.361	2.00	4	4.5	1	1770
Zambia	0	3	4	9.08	-0.05	0.78	0.498	3.00	2	4.0	0	880
Count	87	84	80	80	87	87	72	80	84	84	87	87
Average	0.66	2.27	4.54	9.93	0.39	0.38	0.374	3.44	2.54	3.51	0.72	10006.44
Median	1	2	5	10	0.49	0.37	0.359	3	2	4	1	6800

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Table 2B, continued.

	Legal Institutions			Political Institutions		Sociologic Institutions			Economic Institutions			Other
	Legal Origin	Lack of Property Rights 1998	Law and Order 1998	Gov't Stability 1998	Voice 1997	Ethnic Fractionali-zation	Income Inequality Gini Coefficients	Corruption 1998	Wage and Price Control 1998	Fiscal Burden 1998	Exchange Rate Regime	GDP per Capita in PPP 1998
Correlation with ShareNPL	-0.126	0.352	-0.326	-0.182	-0.390	0.134	0.105	0.428[a]	0.342	-0.325	-0.089	-0.388

     Notes: Definitions for the variables in the table are:

Legal Origin – Common Law = 0; Civil Law = 1. *Source: La Porta, et. al. (1997).*

Lack of Property Rights –- a measure of "the extent to which the government protects private property by enforcing the laws and how safe private property is from expropriation." Higher scores indicate a greater lack of protection of property rights. Scores range from 1-5. *Source: Heritage Foundation.*

Law and Order 1998 – equal weights given to "strength and impartiality of the legal system and popular observance of the law". Rating is 1-6 with higher numbers indicating higher observance of law and order. *Source: International Country Risk Guide.*

Gov't Stability 1998 – a measure of the government's ability to carry out its declared programs and its ability to stay in office. Rating is 1-12 with higher scores indicating greater government stability. *Source: International Country Risk Guide.*

Voice 1997 – Includes subcomponents related to transparency and fairness of legal system, free press, independent media, civil liberties, political rights, etc. Scores range from -2.5 to +2.5 with higher scores indicating greater voice. *Source: Kaufmann, Kraay, and Zoido-Lobaton (1999).*

Ethnic Fractionalization – measures the probability that two randomly selected individuals from a population belong to different groups. Ranges from 0 – 1 with zero indicating extreme homogeneity and one extreme heterogeneity. *Source: Alesina, et. al. (2002).*

Income Inequality – Gini coefficients measuring inequality based either on income or consumption data. Ranges from 0 – 1 with zero indicating no inequality and one extreme inequality. *Source: World Development Report.*

Corruption 1998 – a measure of corruption within the political system. Considers corruption in the form of excessive patronage, nepotism, job reservations, favor-for-favors, secret party funding and suspiciously close ties between politics and business. Rating is 1-6 with higher numbers indicating less corruption. *Source: International Country Risk Guide.*

Wage and Price Control 1998 – a measure of the "extent to which a government allows the market to set wages and prices." Scores range from 1-5 with higher scores indicate higher government intervention in the determination of wages and prices. *Source: Heritage Foundation.*

Fiscal Burden 1998 – a combined measure of the tax burden on the private sector, its progressivity, and the expenditures by the government as a percentage of GDP. Scores range from 1-5 with higher scores indicate a higher fiscal burden. *Source: Heritage Foundation.*

Exchange Rate Regime 1998 – a zero indicates managed or pure float and a 1 indicates some degree of fixity. *Source: Reinhart and Rogoff (2002).*

GDP per capita in PPP 1998 – estimate of GDP per capita measured in purchasing power dollars. *Source: CIA World Factbook.*

[a]See note 17.

Table 3: OLS Estimation of Aggregate Bank Instability and Institutions

Variable	Full Model				Model excluding Income Inequality Variable			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Constant	33.79	34.25	32.54	32.93	25.13	24.14	23.61	23.28
	(0.167)	(0.148)	(0.151)	(0.136)	(0.157)	(0.142)	(0.127)	(0.118)
SinglOwnship.	**5.93**	**5.86**	**6.09**	**6.01**	**5.29**	**5.39**	**5.42**	**5.45**
	(0.054)	(0.061)	(0.055)	(0.057)	(0.057)	(0.052)	(0.052)	(0.048)
ConcRatio5	0.05	0.05	0.04	0.04	0.05	0.05	0.05	**0.05**
	(0.192)	(0.186)	(0.169)	(0.161)	(0.146)	(0.108)	(0.135)	(0.095)
GovOwnship.	-0.00	-0.00	-0.00	-0.00	0.03	0.03	0.02	0.02
	(0.998)	(1.000)	(0.963)	(0.948)	(0.541)	(0.565)	(0.635)	(0.634)
RestrictedSEC	**-3.59**	**-3.59**	-3.47	**-3.43**	-3.23	-3.23	-3.09	-3.11
	(0.104)	(0.095)	(0.115)	(0.101)	(0.126)	(0.117)	(0.138)	(0.121)
RestrictedRE	-0.62	-0.63	-0.70	-0.75	-0.78	-0.73	-0.81	-0.79
	(0.633)	(0.620)	(0.575)	(0.534)	(0.503)	(0.513)	(0.480)	(0.475)
AuditorReport	1.42	1.47	1.39	1.49	2.44	2.39	2.46	2.44
	(0.704)	(0.674)	(0.698)	(0.666)	(0.419)	(0.407)	(0.412)	(0.401)
AssetDiverse	-2.35	-2.28	-2.34	-2.18	-1.68	-1.74	-1.63	-1.67
	(0.377)	(0.381)	(0.371)	(0.383)	(0.461)	(0.436)	(0.458)	(0.439)
Deposit Insur.	**6.19**	**6.13**	**6.11**	**5.94**	**5.37**	**5.40**	**5.13**	**5.17**
	(0.052)	(0.046)	(0.048)	(0.042)	(0.053)	(0.050)	(0.046)	(0.039)
Offbal.Disclose.	-2.11	-2.12	-1.88	-1.79	-1.65	-1.69	-1.33	-1.38
	(0.621)	(0.615)	(0.651)	(0.656)	(0.667)	(0.654)	(0.711)	(0.689)
Dis. Risk Mng.	-0.24	-0.22	-0.22	-0.16	-0.11	-0.06	0.01	0.02
	(0.940)	(0.944)	(0.942)	(0.956)	(0.966)	(0.982)	(0.997)	(0.992)
Sanctions	0.82	0.81	0.92	0.94	0.83	0.87	1.02	1.02
	(0.723)	(0.713)	(0.660)	(0.644)	(0.717)	(0.697)	(0.620)	(0.615)
Sup. Employ.	0.53	0.53	0.32	0.22	-0.15	-0.26	-0.44	-0.46
	(0.853)	(0.849)	(0.907)	(0.934)	(.947)	(.905)	(.849)	(.835)
Legal Origin	1.42	1.36	1.43	1.30	1.77	1.80	1.71	1.73
	(0.619)	(0.618)	(0.606)	(0.614)	(0.432)	(0.420)	(0.430)	(0.416)
Lack of Property Rights	-0.55	-0.68			-0.73	-0.58		
	(0.842)	(0.775)			(0.740)	(0.778)		
Law and Order	-0.53	-0.53	-0.39	-0.32	0.09	0.10	0.31	0.29
	(0.738)	(0.733)	(0.784)	(0.816)	(0.949)	(0.938)	(0.780)	(0.785)
Gov. Stability	-0.85	-0.90	-0.87	-0.99	-1.18	-1.11	-1.22	-1.18
	(0.640)	(0.594)	(0.626)	(0.549)	(0.387)	(0.381)	(0.370)	(0.416)
Voice	0.33		0.61		-0.47		-0.21	
	(0.919)		(0.826)		(0.821)		(0.916)	
Ethnic. Frac.	9.32	8.99	9.12	8.29	7.55	**7.72**	7.15	**7.28**
	(0.210)	(0.166)	(0.207)	(0.175)	(0.106)	(0.096)	(0.113)	(0.102)
Income Inequal.	-0.18	-0.18	-0.17	-0.16				
	(0.333)	(0.307)	(0.342)	(0.335)				
Corruption[a]	**2.89**	**2.84**	**2.88**	**2.74**	**2.44**	**2.56**	**2.40**	**2.46**
	(0.048)	(0.051)	(0.043)	(0.041)	(0.054)	(0.039)	(0.048)	(0.027)
W&P Control	1.12	1.13	1.02	0.99	1.11	1.17	1.05	1.08
	(0.549)	(0.538)	(0.578)	(0.580)	(0.515)	(0.469)	(0.535)	(0.496)
Fiscal Burden	-1.90	-1.81	-2.06	-1.87	-1.50	-1.60	-1.72	-1.74
	(0.404)	(0.331)	(0.340)	(0.295)	(0.371)	(0.286)	(0.271)	(0.230)
Ex.Rate Regime	-2.31	-2.35	-2.18	-2.21	-2.81	-2.69	-2.62	-2.58
	(0.441)	(0.428)	(0.452)	(0.443)	(0.311)	(0.311)	(0.323)	(0.314)
Growth	-0.44	-0.44	-0.44	-0.44	**-0.50**	**-0.50**	**-0.50**	**-0.50**
	(0.178)	(0.171)	(0.171)	(0.161)	(0.100)	(0.087)	(0.098)	(0.088)
Adjusted R^2	0.39	0.41	0.41	0.43	0.42	0.43	0.43	0.45
No. of Countries	52	52	52	52	57	57	57	57

Note: Marginal significance levels (p-values) reported in parentheses. Heteroskedastic-consistent standard errors are used in calculating p-values. For interpretation of coefficient signs, please see notes to Tables 2A-2B.

[a]See note 17.

Table 4: OLS Estimation of Aggregate Bank Instability and Institutions excluding E. European Transition economies

Variable	Full Model				Model excluding Income Inequality Variable			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Constant	28.97 (0.172)	28.37 (0.165)	30.25 (0.146)	30.47 (0.144)	18.35 (0.289)	16.62 (0.316)	14.56 (0.322)	14.72 (0.336)
SinglOwnship.	2.17 (0.494)	2.35 (0.440)	2.10 (0.518)	2.31 (0.452)	3.05 (0.240)	3.65 (0.156)	3.11 (0.222)	3.64 (0.149)
ConcRatio5	0.05 (0.231)	0.05 (0.190)	0.05 (0.196)	0.06 (0.107)	0.05 (0.231)	**0.05** (0.099)	0.04 (0.220)	**0.05** (0.072)
GovOwnship.	0.09 (0.240)	0.09 (0.249)	0.09 (0.215)	0.09 (0.235)	0.07 (0.200)	0.04 (0.350)	0.06 (0.177)	0.04 (0.339)
RestrictedSEC	**-3.59** (0.099)	**-3.50** (0.092)	**-3.65** (0.081)	**-3.66** (0.063)	-3.66 (0.114)	-3.54 (0.120)	-3.42 (0.134)	-3.42 (0.115)
RestrictedRE	0.15 (0.923)	0.14 (0.929)	0.20 (0.893)	0.22 (0.883)	0.39 (0.764)	0.60 (0.620)	0.35 (0.776)	0.57 (0.620)
AuditorReport	1.51 (0.685)	1.40 (0.699)	1.59 (0.650)	1.49 (0.664)	3.28 (0.283)	3.25 (0.296)	3.25 (0.279)	3.24 (0.286)
AssetDiverse	-3.13 (0.234)	-3.28 (0.193)	-3.15 (0.223)	-3.42 (0.156)	-2.45 (0.330)	-2.88 (0.234)	-2.28 (0.316)	-2.77 (0.185)
Deposit Insur.	**6.94** (0.015)	**7.07** (0.012)	**6.93** (0.010)	**7.10** (0.007)	**5.54** (0.022)	**5.62** (0.022)	**5.39** (0.017)	**5.54** (0.014)
Offbal.Disclose.	-5.40 (0.234)	-5.25 (0.237)	-5.64 (0.234)	-5.61 (0.221)	-5.75 (0.130)	-5.61 (0.160)	-5.21 (0.147)	-5.34 (0.138)
Dis. Risk Mng.	0.62 (0.879)	0.59 (0.883)	0.50 (0.888)	0.35 (0.918)	-0.02 (0.995)	0.09 (0.978)	0.40 (0.890)	0.30 (0.916)
Sanctions	0.01 (0.997)	0.05 (0.984)	0.00 (0.999)	0.06 (0.981)	0.82 (0.751)	1.20 (0.620)	0.91 (0.714)	1.23 (0.605)
Sup. Employ.	4.30 (0.250)	4.34 (0.236)	4.34 (0.216)	4.45 (0.191)	1.22 (0.571)	0.77 (0.725)	0.99 (0.634)	0.67 (0.754)
Legal Origin	2.85 (0.352)	2.98 (0.321)	2.78 (0.358)	2.90 (0.334)	1.63 (0.477)	1.49 (0.531)	1.74 (0.439)	1.56 (0.501)
Lack of Property Rights	0.37 (0.907)	0.59 (0.827)			-0.89 (0.695)	-0.44 (0.842)		
Law and Order	-0.51 (0.755)	-0.51 (0.745)	-0.60 (0.666)	-0.70 (0.616)	0.07 (0.959)	0.04 (0.976)	0.39 (0.740)	0.21 (0.855)
Gov. Stability	0.35 (0.840)	0.37 (0.826)	0.33 (0.842)	0.35 (0.830)	-0.26 (0.850)	-0.19 (0.891)	-0.23 (0.865)	-0.17 (0.897)
Voice	-0.59 (0.858)		-0.75 (0.786)		-1.96 (0.439)		-1.76 (0.443)	
Ethnic. Frac.	**15.28** (0.036)	**15.85** (0.013)	**15.23** (0.034)	**16.05** (0.010)	**8.21** (0.059)	**8.78** (0.046)	**8.01** (0.058)	**8.65** (0.039)
Income Inequal.	**-0.41** (0.060)	**-0.42** (0.043)	**-0.41** (0.046)	**-0.42** (0.038)				
Corruption[a]	**2.38** (0.076)	**2.48** (0.048)	**2.40** (0.068)	**2.57** (0.032)	**2.14** (0.079)	**2.64** (0.031)	**2.04** (0.065)	**2.56** (0.013)
W&P Control	0.49 (0.784)	0.51 (0.771)	0.49 (0.780)	0.52 (0.763)	-0.39 (0.829)	-0.23 (0.896)	-0.35 (0.845)	-0.22 (0.900)
Fiscal Burden	-1.73 (0.428)	-1.86 (0.300)	-1.64 (0.387)	-1.75 (0.305)	0.01 (0.993)	-0.33 (0.828)	-0.20 (0.896)	0.42 (0.761)
Ex.Rate Regime	**-7.52** (0.043)	**-7.34** (0.042)	**-7.56** (0.035)	**-7.31** (0.037)	**-5.50** (0.091)	**-4.32** (0.141)	**-5.40** (0.083)	-4.33 (0.133)
Growth	-0.39 (0.289)	-0.39 (0.287)	-0.39 (0.289)	-0.39 (0.282)	**-0.74** (0.032)	**-0.77** (0.010)	**-0.74** (0.025)	**-0.77** (0.008)
Adjusted R^2	0.48	0.51	0.51	0.53	0.47	0.48	0.49	0.49
No. of Countries	45	45	45	45	50	50	50	50

Note: Marginal significance levels (p-values) reported in parentheses. Heteroskedastic-consistent standard errors are used in calculating p-values. For interpretation of coefficient signs, please see notes to Tables 2A-2B.

[a]See note 17.

Table 5: OLS Estimation of Bank-Specific Bank Instability and Institutions

Variable	Full Model				Model excluding Income Inequality Variable			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Constant	**25.07** (0.048)	**26.50** (0.035)	**21.91** (0.049)	**20.69** (0.062)	8.92 (0.349)	13.89 (0.109)	8.07 (0.346)	12.23 (0.132)
SinglOwnship.	1.70 (0.293)	-0.06 (0.962)	**2.53** (0.054)	1.11 (0.337)	**3.11** (0.033)	**1.90** (0.064)	**3.30** (0.016)	**2.23** (0.032)
ConcRatio5	**0.07** (0.061)	0.05 (0.128)	**0.06** (0.089)	0.03 (0.279)	0.03 (0.353)	0.02 (0.614)	0.03 (0.358)	0.01 (0.723)
GovOwnship.	**-0.09** (0.014)	**-0.07** (0.066)	**-0.11** (0.009)	**-0.08** (0.038)	**-0.10** (0.020)	**-0.07** (0.031)	**-0.10** (0.018)	**-0.08** (0.027)
RestrictedSEC	**-4.53** (0.000)	**-4.73** (0.000)	**-4.09** (0.000)	**-3.92** (0.000)	**-4.51** (0.000)	**-4.61** (0.000)	**-4.37** (0.000)	**-4.16** (0.000)
RestrictedRE	**2.47** (0.000)	**2.35** (0.000)	**2.29** (0.000)	**1.97** 0.000)	**2.23** 0.000)	**2.10** (0.000)	**2.20** 0.000)	**1.97** 0.000)
AuditorReport	-0.03 (0.981)	0.74 (0.571)	-0.03 (0.981)	0.93 (0.487)	-1.55 (0.452)	-1.27 (0.517)	-1.50 (0.469)	-1.04 (0.587)
AssetDiverse	-1.24 (0.520)	0.10 (0.961)	-1.29 (0.502)	0.34 (0.869)	-1.47 (0.259)	-0.89 (0.476)	-1.48 (0.252)	-0.79 (0.532)
Deposit Insur.	**5.32** (0.000)	**4.65** (0.001)	**4.90** (0.001)	**3.67** (0.003)	**3.18** (0.005)	**3.22** (0.004)	**3.00** (0.006)	**2.64** (0.013)
Offbal.Disclose.	**-12.04** (0.007)	**-11.74** (0.008)	**-11.23** (0.009)	**-10.08** (0.014)	**-9.15** (0.006)	**-9.05** (0.006)	**-8.93** (0.006)	**-8.29** (0.006)
Dis. Risk Mng.	-1.76 (0.120)	-1.28 (0.244)	**-1.88** (0.097)	-1.40 (0.211)	**-3.95** (0.019)	**-3.77** (0.019)	**-3.95** (0.020)	**-3.72** (0.019)
Sanctions	**-2.15** (0.055)	**-2.34** (0.040)	**-1.97** (0.075)	**-2.05** (0.065)	**-2.71** (0.038)	**-2.86** (0.034)	**-2.63** (0.040)	**-2.64** (0.039)
Sup. Employ.	**3.44** (0.045)	2.57 (0.145)	**3.09** (0.052)	1.68 (0.293)	2.41 (0.264)	2.45 (0.257)	2.30 (0.271)	2.10 (0.304)
Legal Origin	**-3.89** (0.034)	**-4.03** (0.027)	**-3.84** (0.034)	**-4.05** (0.026)	**-3.43** (0.028)	**-3.32** (0.028)	**-3.46** (0.027)	**-3.40** (0.027)
Lack of Property Rights	-1.52 (0.258)	**-2.68** (0.025)			-0.47 (0.646)	-1.35 (0.136)		
Law and Order	0.79 (0.511)	1.22 (0.357)	1.19 (0.247)	**2.11** (0.084)	**1.45** (0.105)	1.33 (0.122)	**1.57** (0.036)	**1.70** (0.029)
Gov. Stability	1.15 (0.316)	0.40 (0.740)	1.04 (0.373)	-0.01 (0.994)	**1.30** (0.103)	0.91 (0.211)	1.28 (0.117)	0.73 (0.327)
Voice	**3.81** (0.019)		**4.31** (0.004)		2.30 (0.186)		2.46 (0.124)	
Ethnic. Frac.	**9.68** (0.005)	**8.08** (0.019)	**8.66** (0.009)	**5.69** (0.076)	**6.13** (0.021)	**6.23** (0.018)	**5.82** (0.026)	**5.26** (0.043)
Income Inequal.	-0.16 (0.184)	-0.05 (0.748)	-0.15 (0.212)	0.01 (0.967)				
Corruption[a]	**2.74** (0.001)	**1.49** (0.028)	**2.64** (0.002)	0.98 (0.112)	**1.72** (0.029)	0.88 (0.175)	**1.70** (0.033)	0.62 (0.352)
W&P Control	**2.83** (0.041)	**2.87** (0.039)	**2.46** (0.061)	**2.16** (0.090)	**2.71** (0.063)	**2.56** (0.067)	**2.63** (0.069)	**2.25** (0.081)
Fiscal Burden	**-4.68** (0.000)	**-3.97** (0.000)	**-4.95** (0.000)	**-4.31** (0.000)	**-3.10** (0.005)	**-2.73** (0.006)	**-3.22** (0.001)	**-3.05** (0.001)
Ex.Rate Regime	1.42 (0.648)	-0.36 (0.900)	1.87 (0.546)	0.07 (0.982)	1.11 (0.728)	-0.07 (0.981)	1.23 (0.697)	0.07 (0.980)
Growth	**-1.34** (0.000)	**-1.33** (0.000)	**-1.35** (0.000)	**-1.35** (0.000)	**-1.52** (0.000)	**-1.48** (0.000)	**-1.52** (0.000)	**-1.47** (0.000)
Adjusted R^2	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
No. of Countries	52	52	52	52	57	57	57	57
No. of Banks	1881	1881	1881	1881	1985	1985	1985	1985

Note: Marginal significance levels (p-values) reported in parentheses. Heteroskedastic-consistent standard errors are used in calculating p-values. For interpretation of coefficient signs, please see notes to Tables 2A-2B.

[a]See note 17.

Table 6: OLS Estimation of Bank-Specific Bank Instability and Institutions excluding E. European Transition economies

Variable	Full Model				Model excluding Income Inequality Variable			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Constant	**35.09**	**36.91**	**31.32**	**30.10**	10.76	11.02	5.90	6.07
	(0.039)	(0.028)	(0.034)	(0.040)	(0.350)	(0.284)	(0.491)	(0.467)
SinglOwnship.	-2.90	**-3.99**	-2.47	**-3.51**	1.01	0.91	1.36	1.09
	(0.179)	(0.039)	(0.187)	(0.051)	(0.510)	(0.382)	(0.329)	(0295)
ConcRatio5	**0.07**	**0.06**	**0.07**	**0.05**	0.01	0.01	0.01	0.01
	(0.045)	(0.059)	(0.064)	(0.088)	(0.696)	(0.674)	(0.705)	(0.750)
GovOwnship.	**0.08**	**0.10**	**0.07**	**0.10**	-0.01	-0.01	-0.02	-0.01
	(0.058)	(0.009)	(0.009)	(0.010)	(0.827)	(0.843)	(0.650)	(0.781)
RestrictedSEC	**-5.14**	**-5.46**	**-4.73**	**-4.75**	**-5.76**	**-5.77**	**-5.28**	**-5.27**
	(0.000)	(0.000)	(0.000)	(0.000)	0.000)	0.000)	0.000)	0.000)
RestrictedRE	1.02	1.00	0.91	0.79	**2.15**	**2.14**	**2.09**	**2.04**
	(0.265)	(0.274)	(0.296)	(0.370)	(0.001)	(0.001)	(0.001)	(0.001)
AuditorReport	2.14	**2.69**	2.01	**2.64**	-1.12	-1.11	-1.08	-1.05
	(0.177)	(0.086)	(0.179)	(0.090)	(0.631)	(0.639)	(0.646)	(0.651)
AssetDiverse	-1.70	-0.91	-1.67	-0.56	-1.96	**-1.92**	-1.81	-1.65
	(0.290)	(0.574)	(0.302)	(0.733)	(0.136)	(0.097)	(0.187)	(0.160)
Deposit Insur.	**4.90**	**4.43**	**4.80**	**4.07**	1.57	1.56	1.29	1.22
	(0.000)	(0.001)	(0.000)	(0.001)	(0.159)	(0.166)	(0.243)	(0.270)
Offbal.Disclose.	**-16.34**	**-16.80**	**-15.53**	**-15.36**	**-12.24**	**-12.26**	**-11.37**	**-11.30**
	(0.003)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.000)	(0.000)
Dis. Risk Mng.	**-1.05**	**-1.08**	**-0.81**	**-0.61**	**-6.02**	**-6.02**	**-5.64**	**-5.59**
	(0.440)	(0.426)	(0.554)	(0.649)	(0.002)	(0.002)	(0.003)	(0.002)
Sanctions	**-4.75**	**-4.94**	**-4.66**	**-4.85**	**-4.28**	**-4.31**	**-4.12**	**-4.20**
	(0.011)	(0.009)	(0.012)	(0.010)	(0.019)	(0.023)	(0.023)	(0.025)
Sup. Employ.	**7.19**	**6.64**	**7.12**	**6.31**	**4.16**	**4.16**	3.93	3.93
	(0.006)	(0.012)	(0.006)	(0.015)	(0.091)	(0.091)	(0.106)	(0.106)
Legal Origin	0.06	-0.10	0.24	0.18	**-2.16**	**-2.12**	**-2.09**	**-1.97**
	(0.962)	(0.941)	(0.860)	(0.891)	(0.079)	(0.078)	(0.088)	(0.093)
Lack of Property Rights	-1.13	-1.96			-1.28	-1.33		
	(0.459)	(0.126)			(0.351)	(0.232)		
Law and Order	2.07	2.31	**2.33**	**2.92**	**1.92**	**1.92**	**2.31**	**2.36**
	(0.116)	(0.112)	(0.047)	(0.037)	(0.036)	(0.037)	(0.001)	(0.003)
Gov. Stability	1.19	0.84	1.22	0.78	**1.91**	**1.90**	**1.93**	**1.88**
	(0.371)	(0.545)	(0.357)	(0.572)	(0.025)	(0.019)	(0.023)	(0.019)
Voice	2.25		**2.65**		0.17		0.50	
	(0.209)		(0.087)		(0.929)		(0.765)	
Ethnic. Frac.	**16.14**	**15.13**	**15.87**	**14.25**	**7.86**	**7.88**	**7.35**	**7.36**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.002)	(0.003)	(0.003)
Income Inequal.	**-0.28**	-0.21	**-0.29**	-0.21				
	(0.006)	(0.107)	(0.006)	(0.111)				
Corruption[a]	**3.54**	**2.88**	**3.45**	**2.48**	**1.80**	**1.75**	**1.68**	**1.48**
	(0.002)	(0.003)	(0.002)	(0.003)	(0.043)	(0.014)	(0.064)	(0.018)
W&P Control	2.17	1.95	2.09	1.73	1.68	1.67	1.65	1.60
	(0.208)	(0.244)	(0.224)	(0.295)	(0.376)	(0.364)	(0.387)	(0.383)
Fiscal Burden	**-5.44**	**-4.98**	**-5.70**	**-5.34**	**-2.10**	**-2.08**	**-2.42**	**-2.37**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.085)	(0.046)	(0.021)	(0.014)
Ex.Rate Regime	**-5.82**	**-7.16**	**-5.60**	**-7.20**	-3.26	-3.40	-3.07	-3.47
	(0.026)	(0.001)	(0.023)	(0.001)	(0.254)	(0.139)	(0.268)	(0.132)
Growth	**-1.02**	**-1.03**	**-1.01**	**-1.01**	**-1.55**	**-1.54**	**-1.55**	**-1.53**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Adjusted R^2	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03
No. of countries	45	45	45	45	50	50	50	50
No. of Banks	1781	1781	1781	1781	1885	1885	1885	1885

Note: Marginal significance levels (p-values) reported in parentheses. Heteroskedastic-consistent standard errors are used in calculating p-values. For interpretation of coefficient signs, please see notes to Tables 2A-2B. [a]See note 17.

Notes

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[i] For more, see Santomero (2002).

[ii] See Lin and Nugent (1995), Mauro (1995), Knack and Keefer (1995), Temple and Johnson (1998), Hall and Jones (1999), Acemoglu, et. al. (2002), and Rodrik, Subramanian, and Trebbi (2002).

[iii] The foundation for these studies is the work Douglas North and Mancur Olson had been advancing since the 1970s that emphasizes institutions are the framework within which economic transactions transpire. As such, the design of the institutions may impact the outcome of the economic transactions by altering the transactions themselves.

[iv] Arrow (1972, p. 357) says "Virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time."

[v] Obviously, the categories may overlap depending on the factor considered.

[vi] Banerjee's (1997) theoretical work explores similar problems in the relationship between a benevolent government, a bureaucrat interested in his own welfare, and people outside the government vying for slots to a good provided by the government. Banerjee says "…a conflict of interest within the government is key to the story."

[vii] It is assumed throughout that the principal's interests are 'good' and that the agent's interests may be 'good' or 'bad.' They are 'good' to the extent that the agent shares the interest of the principal and 'bad' to the extent they depart from the interest of the principal. For a case in which the principal shares the (bad) interests of the agent, see La Porta, Lopez-deSilanes, and Zamarripa (2002) which explores the case of related lending.

[viii] Beck, Demirguc-Kunt, and Levine (2003) summarize four views on bank regulation and supervision. These views are 'official supervision', 'political/regulatory capture,' 'independent supervision,' and 'private empowerment.' Each of these views implicitly assumes a potential conflict of interest between parties involved.

[ix] A related example is found in the story of the manager of the Mozambique bottle-making factory discussed in Shleifer and Vishny (1993). While it is not stated whether the manager's salary was set by the government, it would provide a good rationale for why he chose a less efficient process over a more efficient one. In Acemoglu and Verdier (2000, p. 206), they show that all corruption could be avoided if the wages of government bureaucrats were high enough to deter them from accepting bribes.

[x] Reinhart and Rogoff's database is based on what countries do in practice with respect to their exchange rate and not what type of exchange rate arrangement they report that they maintain to the IMF.

[xi] The Barth, Caprio, and Levine database shows that countries provision loans differently. Many report 30, 60, 90, or 180 days past due as the point at which loans are classified as 'nonperforming.' Many countries reported no information on provisioning.

[xii] Since the concentration ratios are based only on 'banking services' rather than 'financial services', the degree of competition may be stronger than indicated.

[xiii] See question 2.1.1 in the Barth, Caprio, and Levine database.

[xiv] Government ownership data was not reported by six of the countries in the sample. For these countries, I rely on data from La Porta, et. al. (2000). I use their GB50 variable which is the ratio of assets in banks that are more than 50% government owned to the assets of the ten largest banks. The correlation between GB50 and the government ownership variable from Barth, Caprio, and Levine is 0.76.

[xv] All countries except China, Italy, and Taiwan report that an external audit of banks is required.

[xvi] Civil law-based countries decide legal matters based on a codified set of laws based on scholarly work whereas common law countries decide legal matters based on interpretation of the law. In a sense, common law countries decide legal matters based on circumstance and civil law countries much more narrowly. Because common law is based on the English tradition, many common law based countries have historic ties to Britain.

[xvii] Since the corruption index is scored such that higher scores mean less corruption, a negative correlation between corruption and bank instability as measured by the share of assets that are non-performing loans should be expected. However, since the casual reader may overlook this detail, I have taken the liberty of replacing the negative sign with a positive sign. This presents much less confusion regarding the interpretation of corruption's effect on bank instability.

[xviii] When I exclude socialist countries from the analysis, the correlation coefficient is -0.166.

[xix] For five countries, data was not available (based on the April 2003 IFS CD ROM) for 1998-99. For those countries, I use the 1997-98 data. For Moldova, no data was available on real GDP so I used nominal GDP data deflated by the CPI as an approximation.

[xx] The test-statistic (λ_{LM}) is $[(nT_{har})^2/2] [A_1^2/(\Sigma T_i^2 - nT_{har})]$ where n is the number of countries and T_i are the number of banks per country. T_{har} is the harmonic mean of the number of banks in the sample where $T_{har} = n/(\Sigma_i(1/T_i))$. $A_1 = 1 - [\Sigma_i(\Sigma_t v_{it})^2]/[\Sigma_i\Sigma_t v_{it}^2]$ and v_{it} are the residuals from OLS on the panel. The test statistic is distributed chi-squared with one degree of freedom.

[xxi] Countries excluded are: Belarus, Croatia, Estonia, Latvia, Lithuania, Moldova, Romania, and Russia.

[xxii] The fifty-two countries are: Australia, Belarus, Bolivia, Brazil, Canada, Chile, Croatia, Czech Republic, Denmark, El Salvador, Estonia, Finland, Germany, Greece, Guatemala, Honduras, Hungary, India, Indonesia, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kenya, Korea, Lithuania, Mexico, Moldova, Morocco, New Zealand, Nigeria, Panama, Peru, Philippines, Poland, Portugal, Romania, Russia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Taiwan (China), Thailand, Turkey, United Kingdom, United States, Venezuela, and Zambia.

xxiii When 'income inequality' is excluded from the regression analysis, five more countries become part of the data set – Argentina, Iceland, Kuwait, Oman, and Saudi Arabia.

xxiv See Mauro (1995) for the negative effects of corruption on economic growth and Wei (2001) for corruption's effect on capital flows.

xxv To see if the weak performance of "legal origin" in many of the panels and specifications was because the banking institutions were masking its effect, I re-estimated the equations without any of the banking institution variables. In no case did the legal origin variable achieve significance.